

Chapter 2

INFORMATION SECURITY

2.1. Human Security – the Main Concern of the 21st Century

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Security environment is usually diagnosed with the following indicators: opportunities, threats, risks, uncertainties and vulnerabilities. Sometimes in the literature these terms are used interchangeably.

The NATO handbook presents the following explanation of these concepts and differences among them.

Risks encompass threat and opportunity. Risk is a source of variability of positive and negative consequences. An opportunity is also an uncertain event since it is a possible future event. So, both threats and opportunities are covered by this same description of risk as “uncertainty that matters”. Yet, the opportunities are favorable events (good risks) whereas threats unfavorable ones (bad risks).

Frank H. Knight in his book “Risk, Uncertainty, and Profit” distinguishes risks from uncertainties. Risk is present when future events occur with measurable probability. Uncertainty is present when the likelihood of future events is indefinite or incalculable¹.

The impact of events (threats):

Threat – An unfavorable condition or situation, a negative set of circumstances, a negative set of events, a risk that will have a negative impact on a project objective if it occurs, or a possibility for negative changes.

Vulnerability – T. O’Riordan defined vulnerability at the societal level as: “the incapacity to avoid danger, or to be uninformed of impending threat, or to be so politically powerless and poor as to be forced to live in conditions of danger.

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¹ NATO Risk Management Guide for Acquisition Programmes, 2012.

G. Wilches-Chaux identified 11 types of vulnerability: natural, physical, economic, social, political, technical, ideological, cultural, educational, ecological and institutional vulnerability.

D. Nathan distinguishes two types of vulnerability:

– a tendency to undergo damages, i.e. a state of fragility, or a set of conditions, that raise the susceptibility of a community to the impact of a damaging phenomenon;

– an incapacity to anticipate, cope with, resist to, adapt to and recover from hazards. Vulnerable units are either not resistant, i.e. not capable to withstand the shock (without adapting); and/or not resilient, i.e. not capable to absorb the shock and adapt to come back to an acceptable state¹.

The global security environment is full of natural risks and man-made ones called by N. Bostrom anthropogenic existential risks (threats) – that is, those arising from human activity and mostly linked to future technological advances that may dramatically expand our ability to manipulate the external world or our own biology².

Yet, N. Bostrom emphasizes that existential catastrophes are not especially bad because they would occur causing a precipitous drop in world population or average quality of life but because they would destroy the future³.

Consequently, human vulnerability should be measured in terms of the damage to future livelihoods, and not just as damage to life and property at the time of emergency⁴.

Moreover, there is the connection between the risks people face and the reasons for their vulnerability, which is mainly their well-being. Disasters (risks) should be dealt with within the socio-economic context. Yet, there is a danger in concentrating too much on the disasters themselves, and not nearly enough on the surrounding social environment¹.

¹ Brauch H. G. Threats, challenges, vulnerabilities and risks in environmental and human security. United Nation University. Germany. P. 34.

² Bostrom N., Existential Risk Prevention as Global Priority. Global Policy. Vol. 4. Issue 1. February 2013. OUP. P. 15–16.

³ Ibid.

⁴ Wisner B., Blaikie P., Cannon T. and Davis I. At Risk: natural hazards, people's vulnerability and disasters. UNDP follow up to the Hyogo Framework for Action. 2005. P. 9.

¹ Ibid.

The argument of anthropogenic nature of contemporary risks (threats), which are a resultant of disaster and human vulnerability determined by social frameworks and their crushing impact on future life in general, create the huge area of research and activity for human security. As H. G. Brunch indicates individuals and mankind are the reference object of human security; survival and quality of life are values at risks and sources of threats, namely, state, globalization, nature, terrorism¹. The recent security reports list also cybercrime and nuclear weapon.

According to the recent Globalization report by *Credit Suisse Research Institute (CSRI)* globalization is changing and gradually replaced by a multipolar world, which involves the shift of power in terms of trade, GDP, foreign direct investment (FDI), budget size and population. These powers will be less concentrated in a specific region and will be shared across different regions. Three main poles are: the US, Europe and China centric Asia, regions distinct in terms of their economies, laws, cultures and security networks.

The report identifies 10 trends that pose a threat to globalization. These are:

1. The health of trade.

The Trans Pacific Partnership (TPP) between the US, Japan and a group of Asian countries as well as the Transatlantic Trade and Investment Partnership (TTIP) between the US and the EU may not be approved. Trade obstructions across the world are growing.

2. Debt.

Zero and negative interest rates mean that more debt can be taken on.

3. Immigration.

Immigration is a big problem in Europe and is one of the contributing factors that led to the UK voting to leave the EU.

4. The next recession.

Given high debt levels in China and low corporate margins the recession is lurking.

5. Military confrontation by accident or design.

The South China Sea is frequently mentioned as a theatre for large power confrontation. Other areas that may also spark conflict are Japan and Syria, where the conflict is becoming even more complex.

¹ Brauch H. G. Threats, challenges, vulnerabilities and risks in environmental and human security. United Nation University. Germany. P. 30–33.

6. Stealth attacks or cyber war.

Cyber-attacks on companies are becoming more common and they may start having more far-reaching effects.

7. Central banking accidents.

A policy move causes a central bank to lose credibility, e. g.: a central bank push for inflation may cause the currency exchange increase.

8. People tire of consumerism.

The decline in consumer demands and changing preferences are observed. Difficult labor market conditions in developing countries where consumers were less optimistic about their income outlook, and growing wealth inequalities may reduce consumer demand for material acquisitions.

9. Multipolar jurisdictions harden.

In order to maintain geopolitical and economic power, more countries may ignore international law. Different regions may start adopting “their own way of doing things” to the detriment of trade and potentially human rights.

10. Climate events.

The year 2016 was the hottest year since 1880, the repeat of this may strain farms, food supply chains and could provoke a humanitarian crisis¹.

In the multipolar world *Credit Suisse Research Institute* predicts considerable changes in the area of human security: increased restrictions on immigrants, selective skill-based movement of labor, rural-urban migration to dominate cross country movement, more unequal living standards, local economies wealthier in aggregate, in emerging market economies rising consumer (income, consumption and wealth)².

The expanding system of global security governance in its current stage of development remains inchoate, disputatious, inefficient, and prone to tragic mistakes¹. In the multipolar world it will be charac-

¹ Getting over globalization – Outlook for 2017. The Credit Suisse Research Institute. URL: https://www.credit-suisse.com/corporate/en/articles/media-releases/_getting-over-globalization---what-to-watch-for-in-2017--201701.html (access.: 22.07.2018).

² Ibid (access.: 27.08.2018).

¹ Human Security Report: War and Peace in the 21st Century. URL: <http://gsdrc.org/document-library/human-security-report-war-and-peace-in-the-21st-century> (access.: 27.08.2018).

terized by more competitiveness, regional hegemony, covert conflicts, and new institutions with exclusive membership. Yet, some Human Security Reports have argued, the evidence suggests that it has also been effective in driving down the number and deadliness of armed conflicts¹.

Yet, the pattern of conflicts has changed. According to the *Human Security Report 2012*, the number of high-intensity conflicts – those causing 1,000 or more battle deaths a year – has declined, but the number of low-intensity conflicts has increased. Also, organized and transnational criminal violence has increased. Death rates in some countries exceed those in the deadliest wars currently being waged around the world². Civilian fatalities in wartime have climbed from 5 per cent at the turn of the century to more than 90 per cent in the wars of the 1990s. “Any and all tactics are employed, from systematic rape, to scorched earth tactics that destroy crops and poison wells, to ethnic cleansing and genocide”³. Even humanitarian activities, relief convoys, health clinics and feeding centers that were once safe from attack are now treated as legitimate military targets.

Cybercrimes⁴.

“There are two main kinds of cyberattack currently present – those targeting individuals, and those targeting the state”, claims T. Uren, a cybersecurity expert at the *Australian Strategic Policy Institute*.

Criminals, usually based in Eastern Europe or Indonesia employ all sorts of ransomware, straight-up fraud, blackmail and sometimes credential threats to steal people’s money, yet banks and other corporations would also come under victims.

Cyberespionage is another kind of cybercrime, which poses a specific threat not to individuals themselves but to global security.

¹ Human Security Report 2013. The Decline in Global Violence: Evidence, Explanation, And Contest, Human Security Press. URL: https://www.files.ethz.ch/isn/178122/HSRP_Report_2013_140226_Web.pdf (access.: 27.08.2018).

² Ibid.

³ Patterns in conflict: Civilians are now the target. UNICEF. URL: <https://www.unicef.org/graca/patterns.htm> (access.: 27.08.2018)

⁴ URL: <https://www.thesun.co.uk/news/5600173/dangerous-threats-world-2018-nuclear-weapons-cyber-criminal-terrorism> (access.: 27.08.2018).

The big states, China, Russia and Iran are mostly concerned with getting information on advancing the national interest¹.

Nuclear weapon.

CIA Director M. Pompeo estimates there was “no indication there’s any strategic change” in North Korean leader Kim Jong-un’s desire to remain a nuclear threat. Yet, T. Uren states that the probability of a nuclear strike isn’t likely at this stage as the impact on the world economy would be devastating.

Terrorism.

Islamic State militants have lost significant power in Iraq and Syria, but they most likely attempt to regroup.

The threat to the UK from terrorism is currently ranked as “severe”.

T. Uren convinces that the IS is a “non-existential” threat as it is not capable of destroying the world economy².

Natural disasters.

Kh. Zarin lists top 10 natural disasters of 21st century in the order with the greatest number of casualties on the top.

2010 Haiti earthquake – the worst natural disasters with approximately 220,000 casualties and more than 300,000 injured. More than 3 million people become homeless.

2004 the Indian Ocean – Tsunami epicenter was under the ocean in the earth and it violently shook the ocean that resulted into destructive waves that were up to meters high. On the first day more than 150,000 people were killed and millions were missing.

2005 Kashmir Earthquake – according to the government of Pakistan statistics 100,000 people died, more than 70,000 injured and more than 4 million people became homeless. This is considered to be the deadliest natural disasters ever happened in the region.

2003 European heat wave – the deadliest in last 500 years’ time. Death toll was more than 70,000 in Europe including France, Portugal, Germany, Netherland, Spain and Italy. Usually these countries do not have a hot summer but during the heat wave average temperature was over 45 °C.

¹ Fernando G., Danger Zone, Most Dangerous Threats to the World In 2018. The Sun. URL: <https://www.thesun.co.uk/news/5600173/dangerous-threats-world-2018-nuclear-weapons-cyber-criminal-terrorism> (access.: 29.08.2018).

² Ibid.

2001 Gujarat Earthquake – the epicenter was near a village in the district of Gujarat. Earthquake also affected some areas of Bangladesh and approximately 20,000 people were killed in the natural disaster. Nearly 167,000 were injured and more than 400,000 homes and buildings were collapsed.

2011 Tohoku Earthquake, Japan – earthquake was followed by the Tsunami that caused waves of height up to 40 meters. According to Japan's National Police Agency 15,889 deaths were confirmed. Nearly 6,152 people were injured and more than 2,600 were missing. Millions of buildings were completely collapsed.

2005 Hurricane Katrina – on average it was a category 4 storm. It hit the state Florida and some of the most damaged cities were Mississippi, New Orleans, Biloxi and Gulfport. Approximately 1833 people were died. This natural disaster caused more than 100 billion USD property damage.

2008 Afghanistan Blizzard – it reduced the temperature up to -30 °C. Death toll was about 1000 according to government figures but it mainly disturbed the animals. More than 315,000 cattle, 100,000 sheep and goat died in this deadliest disaster. Lack of transportation and poor health conditions in the affected areas forced the people to walk barefoot in the freezing temperature.

2011 East Africa drought – Somalia, Kenya, Djibouti and Ethiopia were the main victims. Lives of more than 9 million people were threatened. A large number of people migrated from Somalia to Kenya and Ethiopia which became overcrowded. That caused a lot of issues like unsanitary conditions and malnutrition problems as well and further followed to thousands of deaths. Food crisis spread even up to Sudan and Uganda.

2000 Mozambique Flood – a flood in Mozambique made thousands of people homeless. More than 800 people died in the disaster and about 20,000 herds of cattle were lost. It was the deadliest natural disaster in the country in last 50 years. It started in South Africa but major damage was in Mozambique. Government spent more than 15 million USD for citizens but even in 2015 many of them were still living in recovery shelters¹.

¹ Zarin K. 10 Deadliest Natural Disasters of the 21st Century. Scienceve. URL: <http://www.scienceve.com/10-deadliest-natural-disasters-of-21st-century> (access.: 29.08.2018).

Currently in 2018 the following most serious disaster including man-made ones were reported:

05-07 Kilauea: Hawaii volcano destroys dozens of homes;

04-23 Toronto: van attack: 10 pedestrians killed;

04-19 Puerto Rico hit by first island-wide blackout since Hurricane Maria Puerto Rico;

04-17 Southwest Airlines engine explosion linked to prior accident in Philadelphia;

04-11 Algeria military plane crash: 257 dead near Algiers Boufarik, Algeria;

04-07 Canada hockey team crash: entire country in shock, Saskatoon, Saskatchewan, Western Canada;

04-07 Trump Tower fire: a man dies in blaze, Trump Tower, Manhattan;

04-02 Elephants loose on motorway in Murcia, Spain, Albacete, Murcia, Spain¹.

People suffer from different natural disasters floods, droughts, earthquakes as well as man-made ones in all region of the world. They lose their lives and property. Some of them have not recovered yet, even though a quite long time has passed since the disaster happened.

R. Glasser, a United Nations disaster risk official, said: “If we do not succeed in understanding what it takes to make our societies more resilient to disasters, then we will pay an increasingly high price in terms of lost lives and livelihoods”².

J. J. Bogardi and H. G. Brauch, building on a UN Secretary General Kofi Annan’s human-centered perspective¹ and perspective of

¹ URL: <http://www.mapreport.com/disasters.html> (access.: 27.08.2018).

² Galvin G. 10 of the Deadliest Natural Disasters of 2017. U. S. News URL: <https://www.usnews.com/news/best-countries/slideshows/10-of-the-deadliest-natural-disasters-of-2017> (access.: 27.08.2018).

¹ For UN Secretary General Kofi Annan (2001) “human security can no longer be understood in purely military terms, rather, it must encompass economic development, social justice, environmental protection, democratization, disarmament, and respect for human rights and the rule of law” [...]. “freedom from want, freedom from fear, and the freedom of future generations to inherit a healthy environment – these are the interrelated building blocks of human – and therefore – national security” / H. G. Brauch. Threats, challenges, vulnerabilities and risks in environmental and human security. United Nation University. Germany. 2001. P. 34.

the UNDP (United Nations Development Program, 1994), argue that societal vulnerability should be reduced through poverty eradication programmes (UNDP 1994; CHS 2003); vulnerability to hazards – by enhancing coping capabilities of societies (UNU-EHS 2004); and vulnerability to extreme weather events – by reducing the probability that hazards may pose a survival dilemma (UNESCO, HSN)¹.

The *Sustainable Development Goals* (SDGs 2016–2030) defined in the *United Nation Development Program* are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. They include such new areas as climate change, economic inequality, innovation, sustainable consumption, peace and justice, among other priorities. The goals are interconnected – tackling one problem often needs dealing with another. Achieving these goals requires also the engagement and cooperation of governments, private sector, civil society and citizens².

B. Wisner (et all) answers that resilience to disasters of different groups of people is determined by the context of global and national political and economic systems³. This applies not only to natural but all kinds of risks also military and nonmilitary conflicts.

Pinker calls the gentle commerce to have the pacifying effect of economic interdependence – the rule known long ago in the Middle Ages and still working in the 21st century, which means the growth of the positive-sum economics of trade and the division of labor that create new behavior pattern of avoiding violence when pursuing economic gain: When it is cheaper to buy something than to steal it, that changes the incentives, and you get each side valuing the other more alive than dead. Other factors like democratization, the growth of international institutions and increasing levels of education bring about centuries-long socio-cultural, violence-constraining changes¹:

¹ Brauch H. G. Threats, challenges, vulnerabilities and risks in environmental and human security. United Nation University. Germany. P. 34.

² URL: <http://www.undp.org/content/undp/en/home/sustainable-development-goals.html> (access.: 20.08.2018).

³ Wisner B., Blaikie P., Cannon T. and Davis I. At Risk: natural hazards, people's vulnerability and disasters. UNDP follow up to the Hyogo Framework for Action. 2005. P. 9.

¹ Human Security Report: War and Peace in the 21st Century. URL: <http://gsdrc.org/document-library/human-security-report-war-and-peace-in-the-21st-century> (access.: 27.08.2018).

Social and economic factors also determine vulnerability to natural disasters. B. Wisner (et al) present the example of the earthquake of 1976 in Guatemala: “Slum dwellers in Guatemala City and many Mayan Indians living in impoverished towns and hamlets suffered the highest mortality. The homes of the middle class were better protected and more safely sited, and recovery was easier for them. The Guatemalan poor were caught up in a vicious circle in which lack of access to means of social and self-protection made them more vulnerable to the disaster. The social component was so apparent that a journalist called the event a ‘class-quake’”¹.

Yet, U. Beck claims that for ecological risks and terrorism that are global problems, no political or economic systems on the national level work: “Trying to solve these transnational problems on a national level by locking the national territory is like raising a garden fence to avoid the smog in town – you simply cannot escape it by doing so”². We need global governance to resolve them.

All types of risks, ecological, natural disasters or the ones provoked by human activity, no matter whether they have local, regional or global range, all of them affect a human being. The combination of economic, political, social factors and the particular characteristics of a person or group and their situation determine their capacity to predict, prepare, respond, resist and recover from the impact of threats they experience.

On the one hand, the technological, economic and social development brings about the changes and risks (opportunities and threats), make the security environment less and less predictable and people more vulnerable to all hazard. On the other hand, the same technological economic and social development is indispensable to resolve, as U. Beck claims, the side-product of man-made actions¹.

¹ Wisner B., Blaikie P., Cannon T. and Davis I. *At Risk: natural hazards, people’s vulnerability and disasters*. UNDP follow up to the Hyogo Framework for Action. 2005. P. 16.

² Wimmer J., Quandt T. *Theory Review Living in the Risk Society*. An interview with Ulrich Beck. *Journalism Studies*. 7:2. P. 336–347. DOI: 10.1080/14616700600645461.

¹ Ibid.

These intricate dependencies between security, development and human rights and well-being are the realm of human security which is reflected in its strategic goals, research, practical programs and projects on global scale. The human-centric approach in security seems the most effective as all these risks we should respond to are detrimental to human population and to a future in general.