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Introduction

It is our great pleasure to deliver another volume of Research Papers on Asia-Pacific economic issues. Each year we present you multiple points of view on that topic, trying to show how much the processes in Asia & Pacific affect the world economy. After nine years of hosting international scientific conference dealing with that region's affairs, we are still confident that these issues are important not only for the countries of the region, but also for economies worldwide.

This year we have chosen for you 15 articles. All of them were submitted for this year's conference entitled "Asian Economies in the Context of Globalization". Seeing that some authors describe the issues of countrywide importance and others of those having regional or global meaning, we have decided to group them according to the criterion of impact range.

The first chapter – Asian Economies in the Global Context – is a collection of papers on general regionalization or globalization issues. T. Sporek is trying to refresh the view of the globalization processes occurring at the crossroads of economy and politics. M. Bartosik-Purgat is analyzing sources of information about products and services in the light of cross-cultural research. E. Majchrowska is using Regional Comprehensive Economic Partnership case to show the importance of mega-regional blocks in global trade. In addition, we decided to add to this part the articles the subject of which is not so general, but it applies to trade relationships of a global nature. This will be the EU-India trade and investment agreement (G. Mazur), Poland-ASEAN agri-food products trade (K. Kita) or anti-dumping procedures against China under WTO rules (J. Skrzypczyńska).

Articles in the second chapter are – as the title implies – embedded in a regional context. P. Pasierbiak deals with trade regionalization in East Asia. S. Bobowski offers an insight into ASEAN-Japan Economic Partnership. A. Kuropka and A.H. Jankowiak analyse the impact of natural disasters on production networks in the region. As the last in this section we have placed the article about Singaporean Competitiveness Model applied in European economies (M. Żmuda). It may be not strictly connected with Asia & Pacific, but its concept is to transfer Asian experience to Europe at the regional level.

The last chapter – Asian Economies in the Local Context – is mostly about domestic matters of Asian countries. You will find there three articles about China (J. Bogołębska writing about Chinese monetary policy, A. Klimek describing cross-border mergers and acquisitions by Chinese state-controlled enterprises, S. Stępień and A. Sapa showing Chinese pork sector), one about Indonesia (*Development of Islamic banking in Indonesia* by I. Sobol) and one about North Korea (M. Kightley applying game theory in prediction of political changes in that state).

We think it is an interesting set of papers you will find valuable in your studies. We also hope that your scientific interests will continue to be associated with Asia and that is why we invite you to the 10th anniversary conference which will be held at the Wrocław University of Economics in November 2017.

We appreciate your time and consideration, as also time and effort of our peer reviewers. We look forward to the further submissions of interesting papers on Asia & Pacific. Thank you!

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THE IMPACT OF NATURAL DISASTERS ON ECONOMY AND PRODUCTION NETWORKS IN ASEAN

WPLYW KATASTROF NATURALNYCH NA GOSPODARKE I SIECI PRODUKCYJNE W ASEAN

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Summary: The region in which ASEAN countries are located is relatively often plagued by natural disasters, which is directly reflected on the economic situation of member countries. Most ASEAN countries are developing economies, and therefore any economic slowdown caused by the natural disaster has a significant impact on economic and social development of individual countries. The main aim of the paper is to present the interpretation of the concept of human security adopted by the ASEAN states and the influence of natural disasters on the local economy. The incentives in the field of counteraction will be presented as well. The situation will be showed on the example of impact of natural disasters on the production networks located in the region. The occurrence of natural disasters may contribute to the decline in production networks, which may result in the economic security of the inhabitants of ASEAN.

Keywords: natural disasters, ASEAN, production networks.

Streszczenie: Region, w którym zlokalizowane są kraje wspólnoty ASEAN, jest stosunkowo często nawiedzany przez katastrofy naturalne, co bezpośrednio przekłada się na sytuację ekonomiczną krajów członkowskich. Większość krajów ASEAN to gospodarki rozwijające się, zatem każde spowolnienie gospodarcze spowodowane klęską naturalną ma ogromne znaczenie dla rozwoju ekonomicznego i społecznego poszczególnych krajów. Celem artykułu było zaprezentowanie interpretacji pojęcia bezpieczeństwa człowieka w krajach ASEAN oraz wpływu katastrof naturalnych na bezpieczeństwo ekonomiczne w regionie państw ASEAN ze szczególnym uwzględnieniem wpływu zjawisk naturalnych na funkcjonujące w regionie sieci produkcyjne. Przedstawiono również interpretację pojęcia bezpieczeństwa człowieka (*human security*) przyjętą przez państwa ASEAN. Występujące katastrofy naturalne mogą przyczynić się do spadku produkcji w sieciach, co w konsekwencji może przełożyć się na bezpieczeństwo ekonomiczne narodów ASEAN.

Słowa kluczowe: klęski naturalne, ASEAN, sieci produkcyjne.

1. Introduction

Phenomena occurring in the global world determine life of individual societies and nations, both those who are directly affected, as well as related indirectly. Globalization, as a process, opened for the people unprecedented opportunities for development, but at the same time exposed the humanity to new threats. Some of the risks stem from the development of technology, while others are related to the “flattening” of the world in which the boundaries of countries and cultures are erased. Human security is an extremely wide concept which could be interpreted variously and may include a variety of phenomena. As a fundamental issue the economic security can be considered which enables human development. The development which not only focuses on providing individual subsistence, but also on their efforts to contribute to the economic growth of countries, for example by building knowledge-based economy. But still in a world of many armed conflicts major challenge for governments is to ensure military security, allowing for the preservation of the sovereignty of the state and its citizens.

During the Cold War, when the world for many years stood in the face of an open military conflict between the superpowers, the security was clearly defined as the absence of conflict. However, with the end of this period, the concept of security has taken on a different dimension. The new paradigm perception of security was based primarily on minimizing the negative effects experienced by society. There has been a shift from conventional thinking about security, which goes beyond the traditional perception in terms of defence against military conflicts. Over the years there has been evolution in the direction of the growing importance of an individual. Human security came to be seen more broadly than just as a military security, expanding its understanding of political security, economic and social. The main aim of the paper is to present the interpretation of the concept of human security adopted by the ASEAN states and the influence of natural disasters on the local economy. The incentives in the field of counteraction will be presented as well. The situation will be showed on the example of impact of natural disasters on the production networks located in the region. Production networks are very well developed in the ASEAN block, and are responsible for the significant amount of local production, trade and GDP of member countries, that is why the impact of natural disasters on networks is the issue in this article. The occurrence of natural disasters may contribute to the decline in production networks, which in turn may result in the economic security of the people of ASEAN.

2. Understanding of human security in ASEAN countries

ASEAN, as the international community, has a common policy in the selected areas linking member states, being their common interest, assuming first of all, respect for the sovereignty and diversity of its members. It is this diversity among countries

that has become the foundation for the development of specific actions aimed at identifying common ways of dealing with the threats characteristic for the region. Characteristic behaviour, so called ASEAN Way, stems from the nature of social relations in the region, above all, respect for collectivism over individualism. The principle is the lack of leadership and involvement in the internal affairs of the association members [Łązniewska, Deszczyński 2001, pp. 357, 358]. ASEAN Way is the concept of relying on focus on non-political aspects of the security, i.e. ensuring socio-economic development and human resources, poverty eradication, implementation of economic, social and educational reforms. Here the following elements can be distinguished:

- it is primarily the state that stands on guard to ensure safety,
- action, that are taken, does not cause inhibition of the economic development of the community members,
- focusing on local projects,
- taking preventive measures, aimed at preventing the occurrence of a situation threatening the human security,
- long-term nature of activities, voluntary cooperation between member states to ensure a stable environment,
- reeducation, giving people the conditions for stable development, which in future is to eliminate the behaviour posing a threat to others and their security,
- cooperation of all member states in order to achieve objectives,
- respect for the principle of peaceful settlement of disputes,
- consultations as a way of finding a satisfactory solution for all member states [<http://www.asean.org/resources/2012-02-10-08-47-56/speeches-statements-of-the-former-secretaries-general-of-asean/item/the-asean-way-and-the-rule-of-law>].

Special attention in the politics of the ASEAN countries on environmental issues stems from the specific geographic location. The ASEAN countries are particularly threatened by extreme weather phenomena such as floods, typhoons, storms, earthquakes, droughts, cyclones and tsunamis. Boxing Day, the tsunami caused by the earthquake in the Indian Ocean in 2004, was a phenomenon so powerful that it caused havoc in Asia and the Pacific and came down to the coast of East Africa. At the same time it reveals another gap of in the strategies in the face of natural disaster on such a huge scale. Environmental degradation is a result of rapid economic growth. It should be stressed that the region of Southeast Asia is an area of typical raw materials, dependent on exhaustible natural resources (tin – Malaysia, Thailand, copper – Philippines, natural gas – Vietnam). Irrational management of natural resources, pollution, and urbanization have caused irreparable damage. Climate change will negatively impact the regional economy, causing destabilization in the countries and in the region.

At the Asian Leadership Conference in 2005 in Seoul the attendants summarized tragic event which was Boxing Day and declared to take action aimed primarily at: joining the international initiatives, joint actions at the national, regional and

international levels, the creation of databases on the risks of natural disasters and early warning systems, the creation of strategies to mitigate the effects of natural disasters. In the context of human security they declared that a human takes on the dimension of the disaster and that he should be the subject of actions: “Disaster is measured by its damaging impact on human lives and properties. Since people, particularly those facing high vulnerability and with low capacities, are the one who would suffer most from natural disasters, they are also the main stakeholders in disaster reduction and management. That said, the leadership in Asia must give the assurance that unless otherwise required, all investment on disaster reduction and management must be vested on its people. These include continued emphasis on progressive development and poverty elimination” [<http://www.asean.org/resources/2012-02-10-08-47-56/speeches-statements-of-the-former-secretaries-general-of-asean/item/leadership-in-asia-after-tsunami>].

ASEAN Charter from the years 2007–2009 clearly defines the relationships between the member countries. In the context of human security the following objectives can be distinguished:

- to maintain and enhance peace, security and stability and further strengthen peace-oriented values in the region,
- to enhance regional resilience by promoting greater political, security, economic and socio-cultural cooperation,
- to respond effectively, in accordance with the principle of comprehensive security, to all forms of threats, transnational crimes and transboundary challenges,
- to promote sustainable development so as to ensure the protection of the region’s environment, the sustainability of its natural resources, the preservation of its cultural heritage and the high quality of life of its peoples [Asean Charter 2007.

Under the Vientiane Action Programme (2004–2010), ASEAN is committed to the creation of a socio-cultural community with particular emphasis on the following issues:

- promoting human rights and obligations,
- combating transnational crimes and other transboundary problems through regional cooperation activities,
- strengthening humanitarian assistance by providing safe havens in conflict areas,
- drawing on the diverse strength of ASEAN member countries in creativity and innovation,
- raising the standard of living of marginalized, disadvantaged groups by strengthening the capacity of officials in rural development and poverty alleviation administrations and promoting approaches that engage these groups in society,
- ensuring a region of disaster-resilient nations by minimizing the adverse effects of disasters in pursuit of safer communities and sustainable development,
- effectively addressing global environmental issues without impinging on competitiveness, or social and economic development based on the principle of common but differentiated responsibility [2004 *Vientiane...* 2004, pp. 15–18].

The aim to be achieved is to ensure the conditions for sustainable development by ensuring ecological balance, conscious management of natural resources, so that they can meet the needs of residents now and in the future.

3. Natural disasters and the impact on ASEAN economies

“Natural disasters” is a term widely understood and interpreted differently by experts on the subject. Y. Sawada classified disasters which can be experienced by human into three main groups: natural, technological and manmade. The first group consists of natural disasters which could include hydro-meteorological disasters (like floods, storms, and droughts), geophysical disasters (earthquakes, tsunamis and volcanic eruptions) and biological disasters such as epidemics and insect infestations. The second group consists of industrial accidents such as chemical spills, collapses of industrial infrastructures, fires, and radiation and transport accidents by air, rail, road or water means of transport. The third group is composed of two more subcategories – economic crises including growth collapse, hyperinflation, and financial, and/or currency crisis, and violence such as terrorism, civil strife, riots, and war [Sawada, 2007, p. 60]. In the article the analysis has been subjected to only the first group of disasters, i.e. natural disasters.

The entire ASEAN region is relatively often plagued by natural disasters which directly influence the economic situation of the member states. Most ASEAN countries are developing economies, and therefore any economic slowdown caused by a natural disaster has a significant impact on economic and social development of particular countries. Natural disaster causes both fatalities and the destruction of the environment and infrastructure, therefore, the impact of this disaster is felt by a wide circle of people in the region. The greatest natural disasters and their consequences for the inhabitants of the countries of the ASEAN community and human security in general are presented in Table 1.

In the countries of ASEAN, over 10 years (2005–2014), natural disasters killed nearly 175 thousand people and more than 330 million people were affected by these disasters. Most deaths were the consequence of storms which occurred 135 times in all countries of the group and caused the death of nearly 156 thousand of people, and the consequences were severe for more than 93 million people. The second the most tragic natural phenomenon that has affected the human security in the region were the earthquakes (40 events in the past 10 years) which resulted in deaths of 10 thousand people, and the effects were felt for more than 10 million people in ASEAN. The surveyed countries are also exposed to massive floods that haunt the individual countries quite often. In the period 2005–2014 floods were recorded 252 times in the countries of ASEAN and killed a total of almost 5 thousand people, and the effects were felt for nearly 62 million people. An important phenomenon is the drought that did not cause the death of any of the inhabitants of ASEAN, but its effects were felt for more than 167 million people. A country that has not suffered

Table 1. Victims of natural disasters in the countries of ASEAN* in the years 2005–2014

	Drought		Earthquake		Epidemic		Flood		Landslide		Storm		Volcanic activity		Natural Disasters Country Total	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Cambodia	0	60	0	0	189	213	537	3,798,000	0	0	19	178	0	0	745	3,798,451
Indonesia	0	0	9,565	6,883,300	490	36	216	3,489,000	823	24	25	14	367	430	11,486	10,372,804
Laos	0	0	0	0	77	36	82	1,049,000	0	0	12	92	0	0	171	1,049,128
Malaysia	0	2,200,000	0	0	53	0	88	525	16	6	0	0	0	0	157	2,200,531
Myanmar	0	0	112	225	30	0	190	411	125	146	138,445	2,725,000	0	0	138,902	2,725,782
Philippines	0	0	344	3,576,000	823	135	802	17,693,000	1,283	22	15,763	79,447,000	0	214	19,015	100,716,371
Singapore	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thailand	0	165,000,000	2	18	29	39	1,711	28,400,000	0	0	28	1,004,000	0	0	1,770	194,404,057
Vietnam	0	410	0	0	43	83	1,277	7,510,000	13	1	1,378	9,868,000	0	0	2,711	17,378,494
ASEAN total	0	167,200,470	10,023	10,459,543	1,734	542	4,903	61,939,936	2,260	199	155,670	93,044,284	367	644	174,957	332,645,618

1 – total deaths; 2 – total affected; *no data for Brunei Darussalam

Source: author's own work based on [EM-DAT, *The International Disaster Database*].

any losses among its population and did not suffer natural disasters in its economy was Singapore, but other countries, to smaller or greater extent, were exposed to losses related to the operation of nature.

Human security was the most vulnerable in Myanmar, where almost 139 thousand people died as a result of the storm. The event took place in May 2008, when the cyclone Nargis hit the coast of Myanmar with a force exceeding 230 km/h. The inhabitants of the country were informed of the arrival of the storm, but according to forecasts, its strength was to be significantly less. Catastrophic was also the flood which was created together with the hurricane, because the waves off the coast of Myanmar reached a height of 3.5 m. Cyclone Nargis is considered the most tragic storm in the history of Myanmar and Asia in general, and its effects are compared to Katrina hurricane that hit the United States. Storm is a phenomenon that has affected the security of the Philippines, where killed nearly 16 thousand people in studied years. The most tragic year in the period was 2013, when storm Super Typhoon Haiyan killed almost 7.5 thousand residents. The effects were felt for 18 million citizens whose human security has been shaken for many years. Natural disaster, which brought many human casualties, was the earthquake in Indonesia in May 2006. As a result of this disaster 6.5 thousand residents were killed, and more than 3.2 million have experienced its effects [EM-DAT, *The International Disaster Database*].

The data for both fatalities and residents of particular regions, who have been affected by natural disasters, shows that ASEAN countries are located in a dangerous part of the world. Phenomena such as earthquakes, floods, hurricanes occur relatively more frequently than in other countries of the world. It can be concluded that the inhabitants of the ASEAN countries are exposed to the lowering of the level of human security just because of the geographical location. Natural disasters have an impact on the social and economic situation of individual ASEAN economies. The situation is illustrated by the data on the economic costs incurred by the ASEAN countries in connection with natural disasters (Table 2). In the analysed period 2005–2014 the countries belonging to the ASEAN suffered losses caused by natural disasters in the amount of approximately 85 billion USD. Taking into account their economic development level, these losses are a significant blockage in the further development. This is particularly acute for the ASEAN countries, most of which are developing countries with relatively low GDP. Most damage to the economies of ASEAN countries caused floods which brought losses for all countries of the group up to a total of 53 billion USD. The second group of the strongest natural disasters affecting the economy were storms – nearly 23.5 billion USD, while the third was earthquakes, with losses exceeding 7.5 billion USD. All countries from the group were economically affected by disasters with the exception of Singapore, whose economy is highly developed, and the country has not been affected by any of the disasters. The impact of natural disasters on the economy and thus also on human security was seen most strongly in the studied period of time in Thailand, the

Table 2. Economic losses caused by natural disasters in the ASEAN countries* in the years 2005–2014 (in thousands of USD)

	Drought	Earthquake	Epidemic	Flood	Landslide	Storm	Volcanic activity	Country Total
Cambodia	0	1,092,000	0	0	0	0	0	1,092,000
Indonesia	0	6,371,850	0	5,084,033	42,943	1,000	186,000	11,685,826
Laos	0	0	0	121,000	0	100,000	0	221,000
Malaysia	0	0	0	1,274,000	0	0	0	1,274,000
Myanmar	0	1,530	0	1,700	0	4,057,000	0	4,060,230
Philippines	0	63,693	0	2,653,657	2,281	14,646,721	0	17,366,352
Singapore	0	0	0	0	0	0	0	0
Thailand	420,000	62,000	0	41,520,284	0	20,246	0	42,022,530
Vietnam	42,120	0	0	2,323,702	0	4,659,180	0	7,025,002
ASEAN Total	462,120	7,591,073	0	52,978,376	45,224	23,484,147	186,000	84,746,940

*No data for Brunei Darussalam.

Source: author's own work based on [EM-DAT, *The International Disaster Database*].

Philippines and Indonesia. Huge financial losses, suffered by the Philippines, were the result of the storm described earlier. Indonesia also incurred high economic costs in the earthquake of 2006 (with losses exceeding 3 billion USD), and the flood of 2013 (with losses amounting to 3 billion USD) [EM-DAT, *Disasters List*].

Many countries in the region and in the world (including Japan, the United States, European Union) addressed to the ASEAN region their assistance in various forms and for various purposes, and the stream of this aid is significant. ASEAN also try to give each other mutual assistance designed to cover losses in the economy and minimize the consequences of natural disasters for the population. In December of 2009 all Member States have ratified the ASEAN Agreement on Disaster Management and Emergency Response (AADMER). In accordance with Article 2 of the Agreement „The objective of this Agreement is to provide effective mechanisms to achieve substantial reduction of disaster losses in lives and in the social, economic and environmental assets of the Parties, and to jointly respond to disaster emergencies through concerted national efforts and intensified regional and international co-operation. This should be pursued in the overall context of sustainable development and in accordance with the provisions of this Agreement” [ASEAN Agreement..., p. 5]. The AADMER Work Programme adopted for the years 2010–2015 covers all aspects of disaster management and the four strategic components are as follows.

1. Risk Assessment, Early Warning and Monitoring.
2. Prevention and Mitigation.
3. Preparedness and Response.
4. Recovery [ASEAN Agreement..., p. 4].

The aim of the AADMER program is to improve the ability of ASEAN countries for early warning of impending disasters, improve the effectiveness of emergency response and risk mitigation. These elements are to be connected through effective policy, planning system, procedures and mechanisms adopted and implemented on the regional and national levels. The aim of the programme is the improvement of the technical capacity and the development of institutional rules between the members of ASEAN. Within the ASEAN many initiatives to improve human security of inhabitants have been undertook on a smaller or larger scale. Also worth mentioning are non-governmental organizations which have formed a joint ASEAN Partnership Group (APG) to support the institutions of ASEAN in strengthening the response to humanitarian disasters [Carreon 2011].

4. The influence of natural disasters on production networks in ASEAN countries

A favourable economic situation in the countries of the ASEAN and the integration processes taking place there influenced the development of production networks in the region. Initially, the networks functioned only in selected countries of the region, but with the increasing integration and a variety of equipment in the factors of

production, production networks covered more and more of the economy, contributing to their integration. The nature of the network in ASEAN is diversified. In the region there are located production networks of the IT industry (e.g. production network computer disks), the automotive industry (for example, production of cars and parts to Toyota) and labour-intensive industries which do not require large expenditures for the technologies (for example, network production in the textile industry). The specificity of production networks in ASEAN countries is the fragmentation of individual network elements which are located in different countries of the region. The prerequisite development of the network is a stable environment and the environment, including the natural environment. The data analysed above relating to natural disasters in the ASEAN group of countries clearly show that this region is exposed to the forces of nature, which is also reflected in the production networks.

An example of the devastating impact of natural disasters on production networks may be the situation in Thailand. Thai economy suffered losses exceeding 42 billion USD [http://www.emdat.be/advanced_search/index.html] (according to the World Bank data, it was 45.7 billion of USD [The World Bank 2011]), which was mainly a consequence of the floods that hit the country in 2011, and which can be an example of the devastating impact of the nature on human security. As a result of the monsoon rains much of the country was under water. Local floodings caused by rainfalls are nothing extraordinary in Thailand, but the scale of this disaster was the highest for over 50 years and it is clear that it surprised the authorities of the country. Over 3/4 of provinces of the country were under water, or felt the direct effects of the flood. The reason for such large-scale devastation was poor infrastructure, poor urban planning and lack of floodwater management systems [Ye, Abe, 2012, p. 14]. According to the Centre for Research on the Epidemiology of Disasters, as a result of this natural disaster, 877 people were killed and 10.2 million people have felt its effects [http://www.emdat.be/advanced_search/index.html]. In a developing country like Thailand, any slowdown in production and services caused by natural disasters is reflected in the economic condition of the country. According to the National Economic and Social Development Board the flood lowered real GDP growth rates by about 4% [Economic Outlook 2012, p. 2]. 2.32 million of jobs were lost as a result of this disaster [Thai Business Council].

Sector of the economy, which has suffered the most, was the manufacturing sector, in which, according to the World Bank data, the loss reached 32 trillion USD [The World Bank 2011]. Thailand is located in the centre of the production network of many components and final goods in the electronics industry, hence the production chains have been broken as a result of flooding. Not only local producers suffered losses, but also their partners from all over the world. Production processes in the global economic and transnational corporations implementing these processes are extremely flexible, therefore, there was a huge risk that the production of electronics (e.g. HDD) will be transferred to other regions of ASEAN or will be moved outside

ASEAN. Immediately after the flood prices in the electronics market, especially hardware products, began to increase rapidly due to the lack of supply from producers in Thailand and this situation could not last long (prices of some drives increased up to three times). However, the situation in Thailand relatively quickly returned to normal, and at the end of 2012, Thai producers further strengthened their position in the global production networks in the IT industry. This was possible thanks to the actions undertaken directly by the companies involved in the production networks, which sought to maintain the production flow between the network units [Ando 2011, p. 339].

Thailand is also the centre of production networks operating in the automotive sector and in this sector the impact of the floods of 2011 was strongly noticeable. The factories of Toyota and Nissan located in Thailand did not suffer directly, but production in these plants had to be closed due to the lack of supply of the Thai local enterprises. Toyota was forced to look for alternative production capacity at its factories in Malaysia, Vietnam, Pakistan, as well as in Canada and the United States [Ye, Abe 2012, p. 14]. Although only 20% of Japanese manufacturing firms located in Thailand directly suffered from the floods, the remaining 80% were affected in an indirect manner [Hayakawa et al. 2015, p. 248].

The flood of 2011 was also a threat to agriculture, especially rice production (losses exceeding 1.3 trillion USD) and tourism of this country (losses of approximately 3 million USD [The World Bank 2011]). The consequence of the floods also reduced the investment attractiveness of Thailand which in the eyes of potential investors was less competitive.

5. Conclusions

Undoubtedly, natural disasters are changing the face of social and economic development of countries in which they occur. They affect the sense of security and future life of the population. Disasters expose people to extreme risk and because of that the human security is a challenge for governments and organizations especially in poor, developing countries.

Natural phenomena and their consequences shown in the article on the example of Thailand, and in other ASEAN countries, still fit into the character of the region and its economic situation. The consequence of this is a disorder in human security and lack of social and economic stability of the ASEAN residents. Threats from the forces of nature have an impact on the functioning of the network of production, but the impact is greater in the short term. Production in networks is based on the diversification of risks, as it is located in many countries of the examined region. An example of Thailand shows that a huge natural disaster slows the growth of the entire national economy, but in the long term, production networks operate consistently. The risk for the network in ASEAN countries, due to the existence of natural phenomena in the region, is greater than in other regions of the world, but the

economic benefits are also higher. Access to factors of production, including cheap labour, is a prerequisite for the further development of production networks in the ASEAN region.

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