

# The Relationship of Environmental Migration and Human Trafficking Concerning Natural Hazards at the Affected Regions of Africa<sup>1</sup>

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## Abstract:

It is beyond dispute that the effects of climate change can be experienced more frequently at all parts of the of the ecosystem. The current change of our environment including soil erosion and the decrease of water supply contributes significantly to unpredictable natural disasters, that results increased number of children victims by human traffickers at the devastated areas, which mostly affected some parts of Sub-Saharan Africa. As the overwhelming natural hazards destroy the education system and other social services, human traffickers may take their victims for mainly sexual exploitation. Determination the trauma of the minor trafficked persons that has developed as a result of the exploitation and introducing Sendai Framework as a treatment suggestions. Furthermore as a theoretical background, introducing the significances of some natural hazards and human trafficking. Mixed method, quantitative content analysis and comparative document analysis as a desk review by the used documents were applied. The study proved that its hypotheses that there is a strong and undisputed relationship between human trafficking and environmental migration at some regions of Africa intended to natural hazards. The Sendai Framework, ratified in 2015 can produce solution to this global challenge that affects millions of children. The highlights of the framework clearly summarizes the opportunities to reduce vulnerability and risk concerning the orphaned by natural disasters and who can easily become exploited persons by human traffickers.

## Keywords:

Climate change, human trafficking, natural hazards, resilience, exploitation, soil erosion, water supply.

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## 1. Introduction

Based on research on environmental migration, it can be stated that by the 2050s, the number of the world's population will increase significantly (IEP), by which years the population may reach ten million. Due to this fact, competition for different types of energy sources will increase significantly, and due to this, the number of cultural tensions and conflicts will increase significantly. Furthermore, the mentioned study emphasizes that during environmental migration that increases as a result of climate change, up to 1.2. billion people are forced to leave their country, the majority of which will presumably come from the Middle East and Africa, as these regions are the most affected by climate change. According to the results of recent research, roughly 30 million people have been displaced in 2019 due to circumstances arising from climate change disasters.

These conditions will intensify significantly in the future, leading to mass environmental migration, which refugees can easily become victims of human trafficking. The emerging phenomenon will pose a great challenge and burden in social and geopolitical terms. It is important to highlight that not only developing countries are exposed to these risks and challenges, as climate change significantly affects water resources globally, so even developed countries may face a large shortage by the 2050s (IEP, 2020).

As the climate warms, droughts and floods will become more frequent and crops will be destroyed more and more often. Furthermore, the moisture in the air and soil decreases, leaving less water for the plants. As a result, tens of millions of acres of arable land at some parts of Africa are becoming useless. The term of the growing season will change as it is going to be shorter due to the warming of 4 degrees Celsius in most parts of Africa, or even more. As a result, tens of millions of acres of arable land at the affected areas that becoming significantly drier. The pests that destroy the crop have already infected a larger area because they are facing more favorable conditions. The growing season will be shorter, with a warming of 4 degrees Celsius in most parts of Africa, or even more (Chapman et al., 2020).

For those who can already live, any such change will be a disaster. In the absence of a set-aside reserve, the crop is destroyed and the farmers concerned are unable to take more seed. And this factor implies the clear consequence that food prices will skyrocket for hundreds of millions due to climate change and soil erosion. The increasing frequency of natural disasters in the coming years will definitely generate an increase in environmental migration, as there will be less and less access to arable land and food. Even more and more actors of environmental migration can become victims of human traffickers, of whom women and children are primarily sexually exploited (Wiederkehr et al., 2018). The aim of the study is to fill this research gap by addressing the following objectives:

1. Determination of the relationship between human trafficking and environmental migration on the basis of the Sendai Framework and interviews concerning trafficked persons who became preys because of the environmental migration;

2. Proving the trauma of the minor environmental migrants that has developed as a result of the exploitation committed by the human traffickers and suggesting the possible treatments. The objectives of the study are demonstrated by reviewing the theoretical background of human trafficking in the next chapter of the research. After this section we describe the data and the results of the analysis, adding the appropriate details, figures of the outcome of the study. The research ends with a discussion and conclusion of the results and suggestions of Sendai Framework as a resilience based management tool of human trafficking at devastated areas.

### ***1.1. Research Methods and Data Analysis***

In the course of the research I applied mixed method, quantitative content analysis (MAXQDA, SPSS) and comparative document analysis as a desk review by the used documents because the complexity of the subject and its content of heterogeneous feature did not enable the use of the method of one kind. As an additional tool, snowball method was used in order to refer the members of non-governmental organizations (NGOs), government organisations managing the humanitarian response at the affected areas. As the main tool of the 16 individual interviews were made in Budapest in 2016, the length of the process was about 30-40 minutes.

In the course of the content analysis, the analysis codes were made on the basis of interviews in a two-stage coding system. Besides building-up the structure of the category system I used a combined logical method, I produced the main categories in a deductive aspect and I developed the sub-categories based on an inductive method. On the basis of the deductive method fitting the content to the system of the main category I used the parts of text as research units which refer to the following subject matters: human trafficking, sexual exploitation, human rights.

## ***2. Theoretical Background***

### ***2.1. The Relationship between Soil Loss and Climate Change***

The soil loss on Earth today can be 16 times or even 300 times the capacity of the soil to regenerate. The process of soil formation is extremely slow on a human scale, it is thickening by an average of 2.5 cm in 200-1000 years under normal agricultural use. There are many possible climatic and anthropogenic causes of soil degradation. Together, they could lead to a permanent, irreversible deterioration of the soil, leading



to a global agricultural crisis. It can be particularly dangerous if events occur during soil erosion that can contribute to short but high-intensity disasters (UN, 2015). Large-scale logging in mountainous areas does not lead to large-scale changes in runoff conditions due to the lack of proper afforestation. Without the vegetation that retains melt and rainwater, the surface watercourses in the mountains are otherwise incapable of draining the rushing water mass and destroying the floods leaving the riverbed. The increase in the water content of the soil facilitates the movement of the soil layers and mudslides and landslides can start. In the case of loose soils, these processes may intensify even more (Salt and Cerdá, 2020).

During deforestation, which significantly affects soil erosion, the stored carbon is released into the circle in the form of carbon dioxide. The primary reason for deforestation is the more profitable production and export of food, the most common means of which is the establishment of pastures. Food is a global commodity that is consumed by one country and it can cause a change in the land use of another. An important factor is that the world is eating more and more meat, which is accelerating deforestation. In some parts of the world, however, deforestation is not caused by the huge amount of meat consumed. In Africa, for example, the goal is to clean up the farmland to provide food and fuel to meet the continent's growing population. Nigeria, which boasts one of the highest deforestation rates in the world, has lost more than 60 percent of its forest area since 1990, and is one of the world's largest exporters of charcoal obtained by burning wood (UN, 2015).

Soil erosion in Africa threatens food and fuel supplies and may contribute to climate change. At present, the quality of Africa's soil has deteriorated so much that 40% of it is uncultivable. Degraded soils reduce food production and lead to soil erosion, which in turn contributes to desertification. This is particularly worrying as, according to the Food and Agriculture Organization of the United Nations, the livelihood of some 83% of sub-Saharan African people depend on land, and African food production needs to grow by almost 100% by 2050 to keep pace with the needs of the population. In this sense, the concept of soil erosion has become an extremely important social, economic and environmental challenge for many African countries. 1.2 billion hectares of the world are threatened by soil erosion to varying degrees. Soil destruction and degradation is caused by the erosion effects of water and wind, which are caused by agriculture, overgrazing, deforestation and firewood collection. The causes of erosion are roughly evenly distributed between overgrazing by farmed animals, agriculture, and forestry. In some places, soil erosion results from excessive fuel collection.

To a small extent (1%), industrial activity is responsible, for example, because of landfilling or excessive use of insecticides. As a part of sub-Saharan, Somalia will become a desert over the next 50 years. This problem threatens more than a third of Africa's land. Desertification is due not only to natural, dry, drought years but also to poor landscape management resulting from the overgrazing and excessive use of firewood

mentioned above. Only 11 percent of the world's soils can be cultivated without requiring any human intervention (UN, 2015).

In the next 50 years, more and more areas will have to be cultivated, which will mainly use areas with less productive soils, which are still too expensive to produce. Special efforts are needed to maintain productivity in these areas. One of the agricultural factors of soil degradation is the upset of the normal water balance of a given soil, which can also be triggered by improper irrigation. Unnecessary water replenishment saturates the soil with water, flushing out nutrients, soil air and indirectly leading to toxic accumulation of salinity and soil salinization processes. 10-15 percent of irrigated land suffers from supersaturation and secondary salinization, which in turn affects crop yields, world agricultural productivity. In order to prevent the occurrence of similar unforeseen events, it is expedient to install a monitoring and alarm system for the continuous monitoring of land movements in the endangered areas, which gives an alarm in the event of extreme ground acceleration, allowing the affected roads and railways to be closed in time (Borrelli et al., 2017).

### ***3.The Importance of Water on the Environment***

Water is a prerequisite for life on earth, a maintainer of health, which is an indispensable substance in agriculture and industry, and therefore a commodity whose value is thus a determining economic driver. At the same time, it is a risk factor for the safety of life and property. Clean water is one of the most crucial resources in all regions of Somalia, especially for vulnerable part of the population, where less than 30 percent of people have regular access to clean water. The urban water infrastructure in particular has suffered a lot of damage, making most of the water supply systems in urgent need of rehabilitation. As a result, water resources are insufficient in both quantity and quality. This is due to the high price of water as a result of water scarcity in addition to the dry climate. In the current situation, water is unfortunately the most expensive for those who can't afford it at all. The vast majority of the Somali population accesses water from deep or near-surface wells.

The water in these wells is often polluted by nearby digestion pits, and the effects of the climate change that are already present and perceptible will further degrade water quality in the near future that is a main part of the security challenges of the area (Kiss-Álmos, Besenyő, Resperger, 2014, p.158). The largest natural disaster in the world is caused by floods and droughts. According to a current study in 2021 examining the links between climate change and migration, drought is a moderate cause of environmental migration, as opposed to intense floods, which significantly affect the rate of migration (Cottier- Salehyan, 2021). Beyond all this, water is a limited, vulnerable resource that we have inherited from our predecessors, so we need to make sure it is used sustainably.

Based on these, there is no doubt that water is of strategic importance in the life of mankind.

The science that deals with the relationship between Earth and water in a broader sense is hydrology, which deals with the global transport of water masses within and between spheres. Hydrogeology studies the relationship between the Earth and water below the surface in the lithosphere. The processes and phenomena that result from the interaction of groundwater and the rock body are included in its scope of study (Ichoku et al., 2016). By groundwater we mean all the water below the surface of the earth to the depth that free water can occur. The total water on Earth is 1,400 million km<sup>3</sup>, of which about 97.2% is saline seawater. Freshwater, with a dissolved solids content of less than 1000 mg / l, accounts for 35 million km<sup>3</sup> and is only 2.8% of the total water mass. What is perhaps surprising is that 98% of all mobilizable freshwater on land is below ground (Figure 1). However, this cannot be used indefinitely, only to the extent of replenishment. Surface water is 0.009% on land, soil moisture is 0.005%, and atmospheric water is 0.001% (Figure 2).

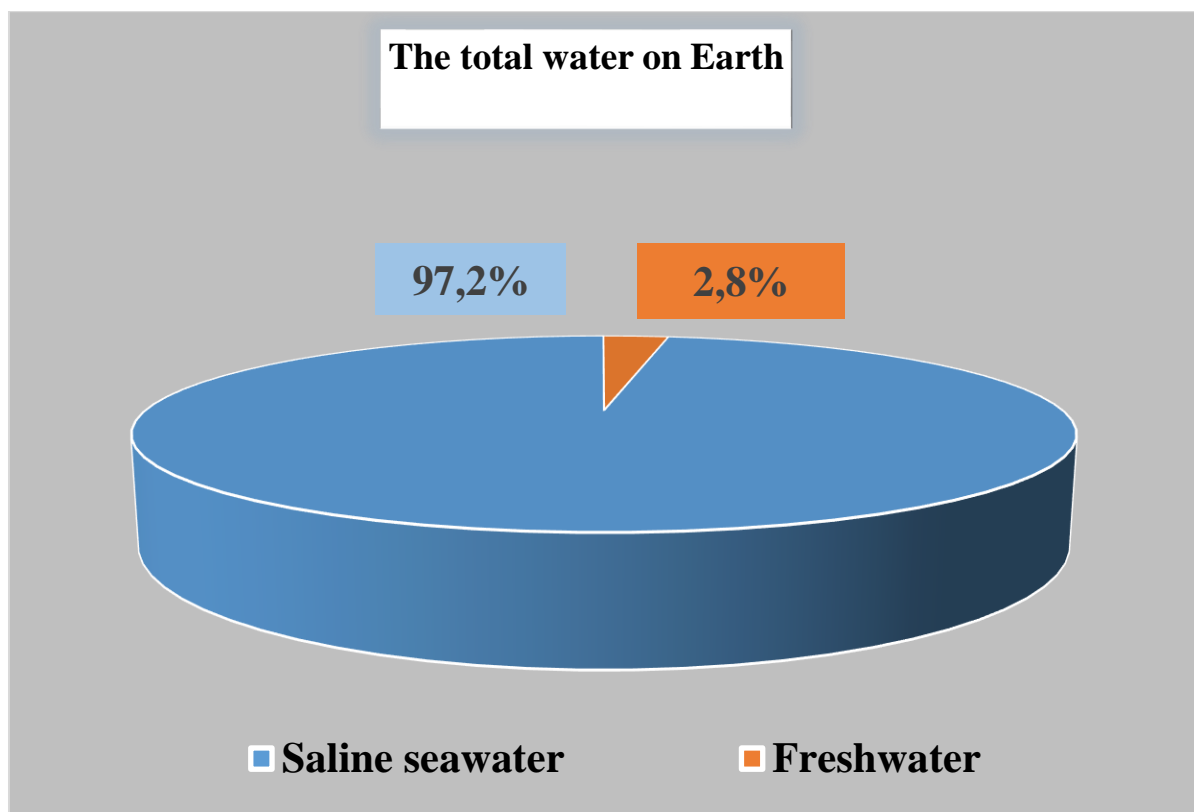


Figure 1. The total water on the Earth. (Source: Own construction based on Fetter, 1994).

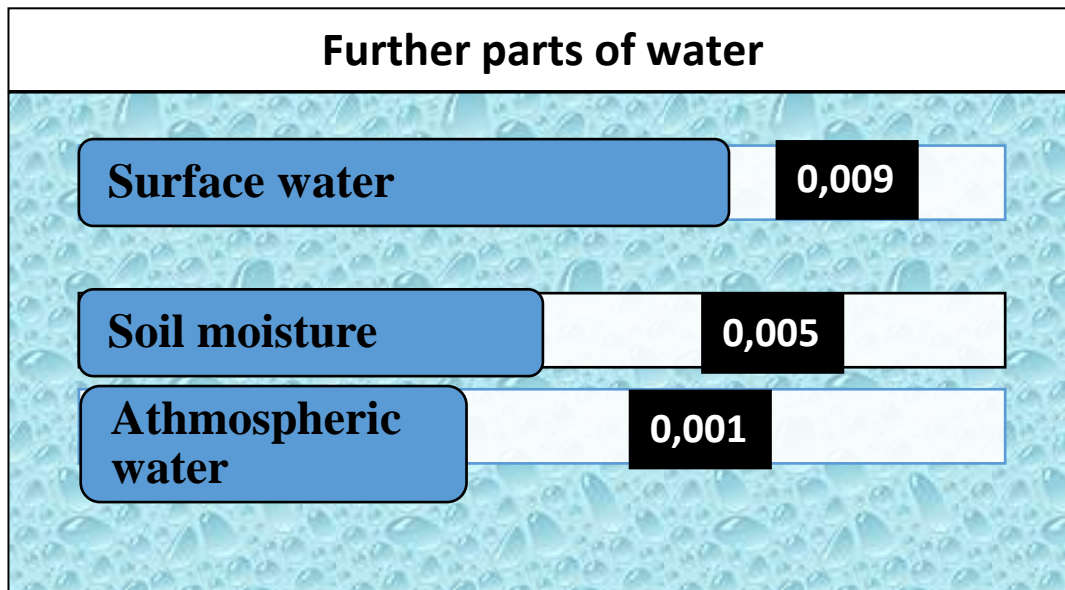


Figure 2. Further parts of the water (Source: Own construction based on Fetter, 1994).

The extreme inequality of the spatial and temporal distribution of water resources is a problem in the distribution of water resources. 99% of the 4,000 km<sup>3</sup> of annual global water use is estimated to come from renewable sources. We use less than 1%, or 30 km<sup>3</sup>, from nonrenewable sources, mainly aquifers in Algeria, Libya and Saudi Arabia. In these regions, however, it is the main source of water (UNESCO, 2009). Globally 18% of total water use comes from groundwater, renewable and nonrenewable sources. This share is growing rapidly, especially in water-poor areas. Groundwater use increased fivefold in the 20th century. This has led to declining water levels in several places and has called into question sustainability where groundwater has been relied upon. This uncertainty makes it difficult to develop long-term water management plans, increasing the frequency of weather extremes and related natural disasters, floods and droughts. There is no doubt that the number of documented natural disasters is also increasing due to the availability of information. What can certainly be read from the data, however, is that the number of floods and cyclones is increasing relative to earthquakes (Hughes et al., 2011, pp. 97-117).

Urbanization is primarily a problem in developing countries. The urban population could reach 60% of the total population by 2030. The fast-growing megacities with tens of millions of inhabitants are proliferating without planning, and their infrastructure is opaque and unable to keep pace with demand. Due to the nutrient enrichment caused by the high organic matter load of the waters, the oxygen household may be overturned, as a result of which eutrophication may occur. Through human activity, inorganic and organic persistent micropollutants can enter the water, which can be toxic and carcinogenic even at  $\mu\text{g} / \text{l}$ .

Pathogenic bacteria and parasites that enter the living organism with water can cause serious epidemics. As urbanization increases, so does the need for irrigation to

supply the urban masses. Currently, 70% of water demand is attributable to agriculture, industry to 20%, and household consumption to around 10%. We often hear that water will be the determining factor in the development of the 21st century. Overall, there is an emerging global water crisis that is difficult to recognize and is associated with other crises such as the food crisis, the energy crisis, and the general economic crisis (Figure 3).

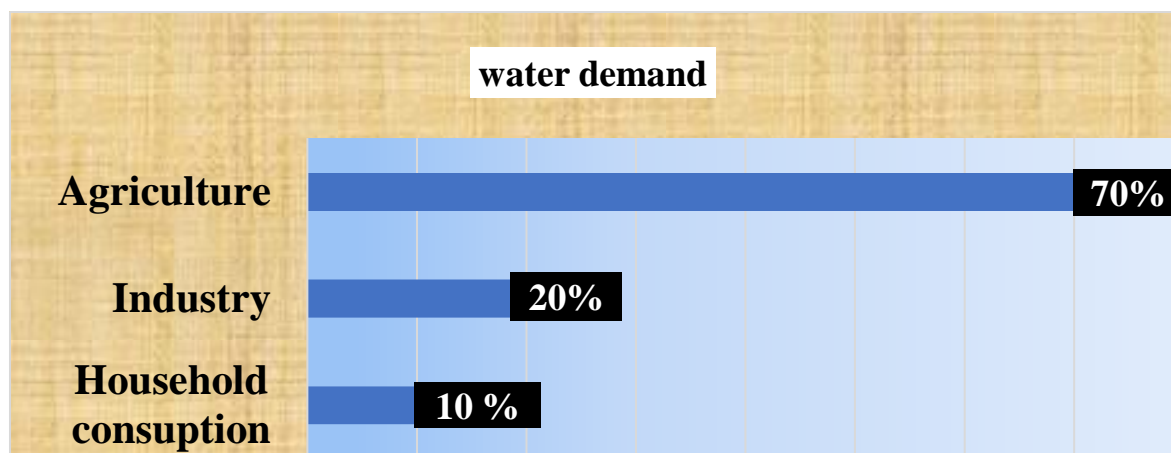


Figure 3. The parts of water demand. (Source: Own construction based on UNESCO, 2009).

The retreat of groundwater levels to deeper layers can have serious consequences for the protection of the population, where the supply of drinking water to the population can only rely on this source to meet demand. In exceptional water scarcity situations, therefore, the supply of drinking water, which is essential for subsistence, must be provided with temporary solutions provided by the reserve's water purification capacity and other resources. However, the prolonged outage of the service is also expected to increase demand (Nagy, 2017, p. 161).

#### 4. Definition of human trafficking

One of the biggest challenges in Sub-Saharan Africa, which has been hit hardest by climate change, is the decline in the amount of arable land that has changed as a result of climate change and unexpected natural disasters. These processes are exacerbating both internal and external trafficking in human beings, i.e. the unfavorable situation is exacerbating environmental migration and the exploitation of orphaned children. According to available data, 3.7 million people live as slaves in sub-Saharan Africa, with a net income of \$ 13.1 trillion for traffickers in the region. In countless cases, the victim knows the trafficker, who comes from relatives, distant family members. It is interesting to note that the traffickers in this area are mostly women, a factor which refutes the public belief that the majority of traffickers using the tool of exploitation are men (UNODC, 2014).



It is acknowledged that South Africa - that is currently struggling with the consequences of climate change- is a source, transit as well as destination for human trafficking in Africa. Human traffickers also use South Africa as a transit route to other countries, especially in Europe. Based on data from 2003- 2007 gained by UNICEF and UNODC the biggest challenge is the domestic trafficking of children, where young girls were trafficked for sexual exploitation purpose not only from poor rural areas to wealthy urban areas, but also between major cities. Findings carried out by HSRC emphasize the seriousness of domestic trafficking in South Africa. This research summarized the rural domestic human trafficking flows and destinations, which are the following: Pretoria and Johannesburg, Rustenburg and Bloemfontein. Other major trafficking routes and destinations include Durban and harbour, Cape Town and harbour, Port Elizabeth and surroundings, Musina and Barberton (Ironya, 2018).

In the absence of this important factor, a proper definition of the concept of trafficking in human beings complicates the process of identification and prevention. Despite the fact that most countries in the sub-Saharan region adopted and applied the definition declared by the UN in 2000, a number of definitions that contradict the provisions of the Convention are still used. The elimination of the problem is greatly complicated by the fact that the countries of the region have a different concept of exploitation, the most common tool used by traffickers. Among the sub-Saharan countries, Angola and the Congo recognize and accept the form of sexual exploitation of trafficking in human beings, while other countries include forced marriage and forced participation in military struggles (IOM, 2008).

Studies in the West African region show that the majority of underage victims who (63%) come from Burkina Faso and Nigeria (10%), some people of African descent work as prostitutes choose to make a living from prostitution, while the majority are victims of global human trafficking (Hounmenou, 2016, pp. 26-35). Thus, it can be clearly stated that the definition of trafficking in human beings is also determined by the social, political and cultural specificity of the country, which makes it extremely difficult to find answers to the end of human trafficking. Another factor complicating both prevention and rehabilitation is that traffickers are part of criminal gangs using the most sophisticated tools, in this sense, tackling the problem requires complex solutions, to which local organizations can make a significant contribution (ILO, 2014).

It is essential to clarify the definitions of human trafficking and human smuggling, whereas in most cases, due to misidentification, victims of human trafficking are defined by the authorities as prostitutes who voluntarily choose this way of life. Human traffickers forcibly remove their victims from their homeland or they are sold by their own parents but there are many cases too in which they flee from poverty in search of reliable work, much of which unfortunately proves to have been only a false promise. Of course, in this case, we are no longer talking about human smuggling, but human trafficking.



In contrast, the main point of human smuggling is that people who want to emigrate pay the human smugglers for the transportation to the desired destination country (Piotrowicz et al., 2018). Most of the victims originated from vulnerable populations and the traffickers often promise false promises of safety, a better life in order to control these vulnerabilities. In view of the control by traffickers, later survivors need extensive supplies, such as safety, housing, medical care, legal assistance, job training, employment, education and counseling (Dalla et al., 2021).

Emigrants become indebted from one to one for the rest of their lives to pay for the cost of the trip, in the hope of a new, free life while remaining slaves for the rest of their lives. This part of migrants works as a slave for their smugglers and in case of the women the most common form of exploitation is prostitution. Many young girls are being seduced by false promises from their country, encouraging them to be able to support their families in this way, but in reality, this work means only and exclusively prostituted work (Aronowitz, 2001, pp. 163–195). Unfortunately, despite experience in practice, research and studies in sub-Saharan African countries do not cover the exploitation of underage boys. Most of the researches refer to underage boys as exploitative traffickers and not as victims, which makes it significantly more difficult to combat trafficking. Experiences have shown that, with a higher rate of exploitation of underage girls, a significant number of victims come from underage boys who have been severely abused in the past. What is common in the life history of these traumatized minors is that most of them are children of divorced parents or minors raised with foster parents (Adjei and Saewyc, 2017, pp.14-23).

The methods of human traffickers are various. Due to the complexity of the concept of human trafficking and the different perceptions of the countries, it is difficult to define the concept of human trafficking precisely. Pursuant to Article 3 of Regulation 55/25 of the United Nations Office on Drugs and Crime, concluded in Palermo on 12 December 2000, the following definitions apply to human trafficking: victim collection-recruitment, transportation, hiding, coercion, restraint, seduction, physical abuse (UNODOC, 2000, p. 42.).

Human trafficking can be interpreted as a crime whose victims for prostitution are mostly women and children. However, the scope of subsequent conventions already extends to both sexes - therefore, both women and men can be victims of human trafficking -, however, political statements and research emphasize that most victims are women and girls of human trafficking for material sexual exploitation (UNODC, 2020). Commercial sexual exploitation can be defined as extended of tools including sexual abuse or exploitation for the financial profit of any person. According to this, sexual exploitation means mainly sex trafficking, which is defined as recruitment and transportation (Fedina et al., 2019).

Since the countries have different criminal laws and cultural traditions, many cases are not recognized as human trafficking, but instead, the exploited victims are

produced and convicted as criminals. Due to the globalization of the world and the differences between fast-developing and slow-developing countries, different industrial environments and labor requirements are emerging.

This creates a higher standard of living and produces increased labor demand in some places, in contrast, it means a significant free supply of labor in poor regions, which flows in organized or unorganized, legal or illegal ways into key and attractive labor markets, which is intensified by natural disasters due to climate change (Póczyk and Dunavölgyi, 2008). In this sense, we can state emphatically that the problem of human trafficking is a synthesis of many problems.

One such problem is environmental migration, which is part of the concept of illegal migration and which arises in the event of a hopeless situation resulting from natural disasters. In other words, many people leaving the disaster-stricken area become victims of human trafficking, as they find themselves in a vulnerable position where they can no longer shape their own destiny, their lives depend on the decisions of the traffickers.

The diseases caused by the current COVID-19 pandemic could further exacerbate this migratory pressure from the region and, through it, the involvement of organized crime, exploiting the vulnerability of those wishing to leave their homeland. The successful cessation of this and the elimination of the processes of the expansion of criminal organizations presuppose, first of all, the cooperation of the neighboring countries and the countries affected by the migration routes, as well as the international organizations. A country affected by these diseases will have to bear the extra burden of curbing the further transmission of infections. And developed countries, including the European Union, as well as international organizations, must support this with financial resources (Nagy, 2021).

It is estimated that more than one million children are placed on the sex market worldwide each year, mainly from developing countries, mostly from areas from which they are fleeing for environmental migration reasons such as unexpected natural disasters triggered by the climate crisis. The same proportion of human traffickers exploit children as factory and farm workers. According to accurate data, 170 million minors perform forced labor by human traffickers in unworthy conditions (Holt, 2018). There are several other ways of exploiting minors, such as being held in a brothel, on the streets, looking for coffins, providing out-of-home services, or there are victims who, in parallel with other forms of exploitation, are only occasionally used for sexual exploitation. Thus, due to the diverse nature of human trafficking, it is a significant economic factor in the African region (Bamgbose, 2002).

We must mention the participation of children in armed struggles and their active role in drug trafficking, which is also operated and controlled by human trafficking networks (Tiefenbrun, 2007). In addition, it is extremely common to train children from



areas affected by environmental migration to be pickpockets in western, more developed countries such as the United Kingdom. It is also not uncommon for children to be considered domestic servants later (Jones, 2012, pp. 77-94). It is difficult to find a uniform definition of the exploitation of vulnerable children, which has a place in all cultures and social conditions and is of equal importance, as the practices of child labor vary from culture to culture. A good example of this is the fate of children in the third world who, despite their minority, regularly do heavy, strenuous physical work. Nevertheless, this does not cause outrage in local communities and authorities, as it has long been a common practice for children to participate in work (Bhalotra & Tzannatos, 2003). Forced child labor can be defined as a process that results in a significant deterioration in a child's ability at school and to concentrate, which work is done in the child's spare time or is degrading to the child (ILO, 2012). From these clear signs it is easy to deduce the forced labor done with children.

According to the ILO, child prostitution and pornography are among the worst forms of forced labor required by traffickers, which, due to its complex nature, is the most horrific form of human trafficking (ILO, 2009). That is, children are repeatedly injured both physically and mentally, as in many cases, in addition to working around the house or in agriculture, they are also required to provide sexual services (Fehér et al., 2004, p. 91). In defining the concepts of human trafficking in minors, it is essential to define the types of sexual exploitation, which are: sex tourism, forced marriage, prostitution, sexual exploitation of children through intermediary's pornography, production, distribution of pornographic video, film, photo or sound recordings of children (UN, 2017, pp. 4-7).

The commercial exploitation of children knows no borders, especially in areas where there is a particular demand for this terrible business and where this is ensured by the economic, social and legal situation, of which areas affected by natural disasters are extremely good examples. It is an unfortunate fact that we do not always know for sure the exact age and number of children exploited, which makes it fundamentally difficult to define the problem. Due to natural disasters, human traffickers in these areas do not always export children to more developed countries, but many clients also travel to these less developed regions (Southeast Asia, Africa, Eastern Europe, Latin America, and the Caribbean) to take advantage of child traffickers. The younger a child is, the more easily he or she is mentally impaired, as he or she does not yet have adequate mental protective and intellectual functions. In this sense, the younger a child underwent sexual exploitation, the more difficult it is to heal his or her mental wounds. Or, it can be said that the rehabilitation of a child with a more stable mental state is a much easier process (UNODC, 2020). Clearly, the fact that the child has had to endure exploitation also matters a lot in terms of prevention. It is also an interesting fact that girls experience greater trauma as a result of sexual exploitation than boys. The relationship between the perpetrator and the child is also an important factor (Kovács, 1997).

Regarding the “success” of offenders, it is important to note organized businesses, which, with their well-coordinated operation, can handle their “turnover” smoothly. Organized networks acquire marketable children in two ways. One such method is the false promise given to families that they will offer the child homework that can be done in appropriate conditions. Of course, in many cases, parents are aware of sexual exploitation and pass it on to their child. And in the case of children orphaned by natural disasters and war events, the most common means is the already mentioned tempting promise and abduction without consent (Vermeulen, 2005). It is a frequent phenomenon that some of traffickers considers themselves as caretakers of their victims, as Austin Choi-Fitzpatrick mentioned in his book “If I don’t look after their needs, what will become of them? They have no alternatives. I care for them. They need me.” (Austin Choi-Fitzpatrick, 2017). Therefore at the regions of Africa there is still a question whether traffickers are helpers as the national governments and local police refuse the fact that in fact this old practice is trafficking.

Thus, children remained invisible for the authorities who were legally transported by traffickers through the borders all over Africa and abroad. According to this practice children are sent away by their parents from home at a very young age to learn a trade where they are disciplined. Most of the parts of Africa it is commonly believed that punishment is the essential feature of parenting that can motivate children to work or learn better. Due to this practice, after a natural disaster the abandoned children can easily trust and commit themselves to traffickers (Kielland, 2013).

Another essential source of trafficking is having patriarchal cultures for instance in Nigeria, acquiring a father’s property or lands is impossible for girls, due to this fact they are disregarded concerning of any employment. Therefore, leaving home by the help of traffickers is common for these vulnerable girls, the potential for this fact is multiplied after a natural disaster or the outcomes of climate change as an environmental migrant, as being the only solution for the residents at the devastated areas (Mbakogu and Hanley, 2019, pp. 953-968).

It is a well-known fact that terrorist organizations cover most of the financial resources they need for their activities through human trafficking. One of the best examples of this is the Lord’s Resistance Army of Uganda and the Revolutionary United Front of Sierra in sub-Saharan Africa, whose main source of income is the exploitation of mostly minors. A significant factor is that the human trafficking activities of these organizations further exacerbate the chaos that arises during a conflict or unexpected disaster (Bowersox, 2018, pp. 267-280).

As trafficking of human beings is linked to terrorist groups in the African region, it is essential to mention that the chaos caused by natural disasters contributes significantly to the activities of these organizations, that is, using a number of their proven tools, they are intensively present in the countries concerned, thus generating significant security risks. The data registered between 2001 and 2015 also prove this,

which clearly shows that the main target in this area is the civilian population, who is clearly becoming a larger target in a chaos situation caused by a natural disaster. The current activities of terrorist groups are characterized by the fact that they create chaos within society, and this is exacerbated in a situation where the population is full of fear and insecurity in a situation of chaos as a result of natural disasters.

It is further typical that they work from an ever wider and more diverse range of tools, i.e. they use a number of tools as weapons, which will make terrorist attacks smaller but more frequent in the future (Besenyő, 2017, pp. 83-100). The solution for the problem would be a degree of prevention in which countries adopt a uniform criterion that they would treat the perpetrators to the same extent in all countries. A good example of this is convention of the European Commission of 2011 with the title "Report on the progress made in the fight against trafficking in human beings", which lays down the same criteria for each Member State for the tracing and conviction of the perpetrator and the rehabilitation of the victim, which was completed in 2016 with further additions (COM (2016) 267 final, 2016).

## 5. Results

Proving and demonstration of the hypothesis and objectives of the publication developed by the content of interviews that made with the leaders, members, and art therapists of the relevant international and domestic humanitarian aid organizations, which due to space limitations I will report in detail but quoted verbatim.

**Do you agree that with regard to children who have fled disaster areas, they are the most vulnerable and voiceless group of refugees in terms of human trafficking, as they are defenseless and invisible?**

„I strongly agree, as a member of a humanitarian aid organization and as a private person, I share this position.”

**Programs organized by aid organizations, counselling, etc. can promote pre-integration among these vulnerable groups?**

„In the case of transit countries, the arriving refugees do not spend a lot of time there, and thus it is impossible to start a long-term integration program, since the onward journey of those fleeing disasters after obtaining the status takes even weeks. However, in this short period of time, it is possible to start introducing specific social values and customs through the programs, which clearly facilitates the later, final integration, which is why I consider it extremely important to organize social activities among refugees.

The answers highlight that the role of trauma processing sessions is extremely significant, as it clearly helps the integration process. The absence of this, the traumatized personality clearly carries a security risk. Therapeutic sessions definitely reduce the trauma experienced by both parents and children.”

**Can the trauma that occurs during the sexual exploitation of human traffickers be seen in the act?**

„Clearly, since a large number of them come here from areas hit by disasters by people smugglers and human traffickers. Thus, this situation causes great trauma, and the tools used by human traffickers and the situation they create are characterized by a feeling of insecurity and confinement, when the person in question does not know anything in advance.”

**Can the trauma and sexual exploitation be discovered in the children’s drawings? What do you think about the role of resilience-based methods such as art therapy in trauma treatment and processing?**

„All kinds of art activities have a therapeutic character thanks to the means of immersion and expression. Primarily, it fulfils a function of pastime, since doing nothing during a stay of several months is the worst thing to bear, which is greatly facilitated by the art occupation. Of course, the drawings can also be made for therapeutic purposes, as I often find that children describe the traumas they have experienced, e.g. the experienced disaster is put on paper, or the person figurative desires also appear, e.g. a ship labelled.

Based on the result of the analysis, one can state that some members of the NGOs have emphasized in their answers the topics of human trafficking, sexual exploitation concerning environmental migration while most of the members have referred to the human rights in their answers several times. It means that the human traffickers make a really intense advantage of environmental migration, as a result of which many environmental migrant under age and young women fall victim of the human traffickers through sexual exploitation (Figure 4).

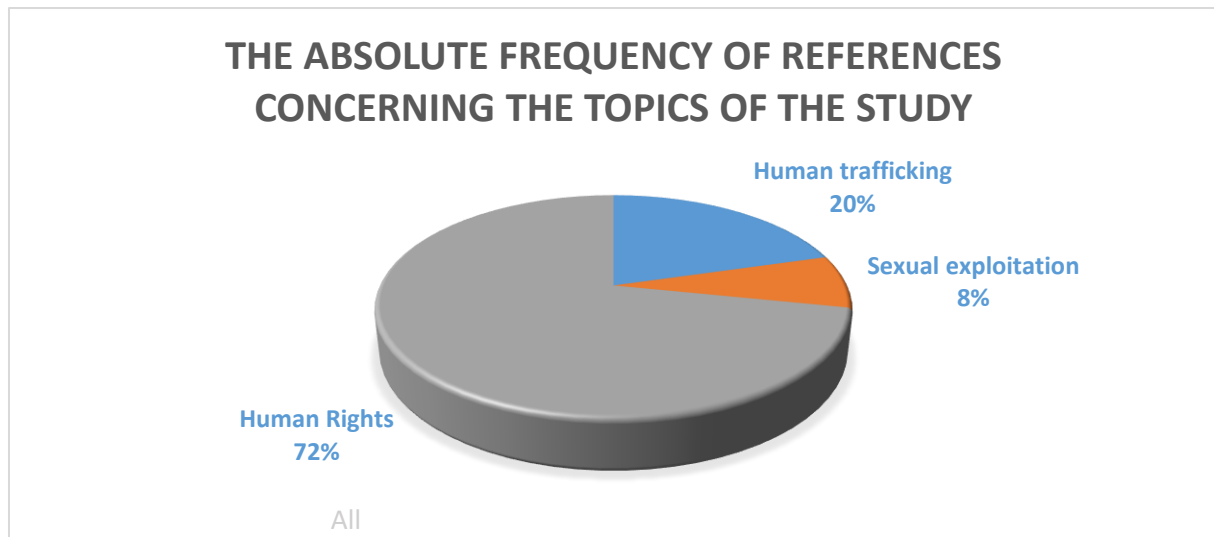


Figure 4. The absolute frequency of references concerning the topics of the study. (Source: Own construction based on the interviews).

As a further result of the analysis, the absolute frequency of the words used in the interviews regarding sexual exploitation committed by human traffickers that is mostly relevant from the point of view of the research – the number of minimum frequency is 20 (Figure 5).

migrants	127	women	30
human	83	welcome	25
refugees	83	solidarity	24
migration	61	child	23
church	56	integration	23
social	42	migrant	23
countries	36	forced	22
country	32	help	20
children	31	violence	20
rights	30		

Figure 5. The absolute frequency of the words. (Source: Own construction based on the interviews).



Overall, the clear answers given to the central question of the research, the question concerning human trafficking, definitely confirm the connection between human trafficking and environmental migration. These answers of the interviews confirm the undeniable fact that nowadays the concepts and tools used in practice of environmental migration and human trafficking are closely related, the boundaries of the two processes are blurred. As a result, most of the environmental migrants- mainly women and children- become victims of human traffickers during the journey, which leads to significant trauma.

## **6. Discussion**

### **6.1. Applying of the Sendai Framework as a Management of Environmental Migration and Human Trafficking**

Developing resilience based method on the Sendai Framework can be one of the most effective tools for reducing environmental migration and the intensity of human trafficking as a result of natural disasters. From the numerous definitions of resilience, after one most well-known interpretations, that of Holling's (2001), resilience refers to the adaptability of a system, which can be seen as the "opposite of the vulnerability of a system." Based on this theory, we distinguish four stages of adaptation, such as exploitation, protection, dissolution, and reorganization, which denote continuous, alternating, shorter, and longer stages (Holling, 2001, pp. 390–405). Further essential features of resilience based methods on the Sendai Framework could be the "resilience of what, to what, and for whom?" process that highlights the deficiency of resilience policies (Meerow, 2016, pp. 309-329).

Sendai "Framework Convention on Disaster Risk Reduction 2015-2030," approved by the UN General Assembly in 2015, summarizes one of the most important global tasks concerning the disaster prevention and mitigation. This convention set countless important goals for the next 15 years. The main goals of the framework is reducing of mortality, economic damage, and the impact of critical infrastructure caused by disasters. A further aim is for the most vulnerable states to develop the best possible disaster prevention strategies, increase international cooperation with countries with similar risks and, ultimately, develop early warning systems and ensure widespread access to them. In addition to the above, the Sendai Framework Convention sets out priorities for participating states.

It is extremely important that each state understands its exposure to risks, the degree of its vulnerability, and the threats to its population and assets. Strengthening public bodies which are responsible for disaster risk prevention and management, as well as increasing resilience to disaster risk exposure, disaster preparedness and response, should be a priority. Putting of experience to the framework is extremely adaptable in



addressing the challenge of human trafficking, a phenomenon which is particularly prevalent in areas affected by natural disasters. The impact of climate change is clearly felt on both global and regional levels.

The features and risks of forest fires poses continuous challenges for the regional and international disaster management. Due to the global climate change the number of forest fires have increased in the whole of Europe. The major factor of it that the dry seasons are an increasingly common part of our lives, therefore the biomass can catch fire easily (Bérczi and Bodnár, 2018, pp. 102-110).

One of the main problems is the shortcomings of the “early warning system”, one reason for which is that the climate is an extremely complex phenomenon that is difficult to interpret, such as the uncertainty of the relationship between clouds and warming or the impact of excess heat on the ecosystem. In addition to uncertainties, however, we have enough knowledge and data to establish that there is only one mean of halting climate change, namely carbon neutrality. The Earth is constantly warming because of harmful human activities, with serious consequences, including unexpected and unpredictable natural disasters.

Compared to the pre-industrial age, there has already been a warming of at least 1 degree Celsius, which, if not stopped, will probably lead to a warming of between 1.5 and 3 degrees Celsius by the middle of the century and between 4 and 8 degrees Celsius by the end. This drastic rise in temperature will bring about various changes in our climate, causing more frequent droughts, earthquakes, floods, hurricanes. As for hurricanes, it is not clear whether the increase in the number of storms is due to the warming of the oceans, but there is growing evidence that climate change will intensify and the number of severe storms will increase (Missirian and Schlenker, 2017, pp. 1610-14).

There is a clear link between the growing climate crisis and human trafficking, as climate change is causing extraordinary, unexpected natural disasters. This phenomenon creates a chaotic situation in which the general infrastructure that ensures everyday life and maintains a sense of security is lost. As a result, residents of areas affected by natural disasters can voluntarily choose to leave their country with the help of traffickers in the hope of a better life, i.e., become part of environmental migration. We have witnessed this series of events from 2015, when an intense wave of migration began, mainly from the Mediterranean, in which, in addition to the causes of war, significant environmental factors also played a role. Climate change has resulted in a degree of drought in one the home country of the largest numbers of migrants, Syria, that has triggered an internal migration, meaning that people living from agriculture have migrated to urban areas. Although no clear link can be established, it is clearly indisputable that the climate crisis is a “threat multiplier” that contributes significantly to war and other security conflicts in the region (Colin et al., 2015).

Other victims of natural disasters are orphaned minors who are forcibly deported from their home countries due to a lack of school infrastructure for border control and registration. In both cases, traffickers use the tool of exploitation, which is mostly forced labour of a sexual nature for minors and women (Cecchet et al., 2014, pp. 482- 493). Based on the regular cases experienced by humanitarian organizations and other disaster relief agencies, we can state with certainty that the immediate response to life-threatening situations in areas affected by natural disasters and the priority of the reconstruction phase show a significant lack of protection and rehabilitation of minor victims of trafficking (Hopper, 2017, pp. 12-30). Proper application of the guidelines set out in the Sendai Framework could significantly fill these gaps. These gaps can be defined as vulnerabilities of the affected communities. The definition of vulnerability cannot be described with complete precision without examining the sources of risk or threat in a given community environment.

Direct threats, but also factors which have a direct or indirect impact on communities have to be taken into consideration, such as the economic and social situation, the existence and availability of a social network, health status, the availability and accessibility of health services, needs responsiveness of specific governmental and non-governmental organizations. In order to turn vulnerabilities into capabilities, many factors need to be considered, from community resilience measures through resilience development programmes to ongoing impact monitoring of resilience status. The priorities set out in the Sendai Framework Agreement confirm that effective vulnerability and disaster risk reduction cannot be achieved without prior measurement of population resilience.

To prepare proper contingency plans, it is important to carry out a vulnerability and capacity assessment during emergency relief planning, knowing which communities are most at risk, where relief should be a priority in the response process, and what other measures are needed to support the population. Analyzing the usefulness of vulnerability and capacity assessment, two primary functions were found: on one hand, it is a measurement method that reveals and shows the weaknesses and resources of each community, and on the other hand, it is an excellent basis for future strategic and program planning (Sáfár, 2020). In order that resilience-based treatment be as successful as possible, factors based on an ever-changing cultural system must be taken into account too. This is particularly relevant in some system-based cases that reinforce the fight against modern slavery, which involves tools such as the media or parts of business. Ignoring these causes of exploitation leads to the failure of resilience-based intervention, resulting in the circular process being repeated over and over again (Gardner et al., 2020, pp. 338-353).



## **6.2. The features of Sendai Framework**

Following the Hyogo Action Plan that was established and adopted in 2005 and expired in 2015, the Sendai framework came into force. At the 2015 UN International Conference on Disaster Risk Reduction in Japan, it adopted its document “Sendai Framework for Disaster Risk Reduction” for the period 2015-2030.

The formulated strategic goals are in the interests of all mankind. By 2030, the Convention has seven such global goals:

1. Significantly reduce the proportion of fatalities in disasters compared to 100,000 per capita in the period 2005-2015 by 2020-2030. Also reduce the direct economic losses caused by disasters in proportion to GDP by 2030.
2. Also reduce direct economic losses caused by disasters in proportion to GDP by 2030.
3. Significantly reduce disaster damage to critical infrastructures and disruptions to basic service delivery, among others in health and education institutions, including the development of resilience by 2030.
4. Substantially increase the number of countries with some kind of national or regional disaster response strategy by 2020.
5. Increase international cooperation with developing countries, with direct appropriate and sustainable support, to enable them to transpose the Framework into national procedures by 2030.
6. Significantly increase people’s access to and connectivity to multi-hazard prediction, multifunctional alert systems and disaster risk information, and disaster risk assessments by 2030 (UNDR, 2015).

### **Highlights of Sendai Agreement:**

1. Disaster risk management must be integrated into sustainable development strategies.
2. Prevention of new risks.
3. Coherence for sustainable development - disaster management – environment - climate change to reduce disaster risks.
4. More attention needs to be paid to understanding climate change.
5. More attention should be paid to the development of weather forecasts.
6. Switching from disaster management to disaster risk management.
7. Increased involvement of science and technology in policy making.

8. Pay more attention to the recovery and reconstruction period.

The framework is a kind of guideline for international disaster response systems, setting out what needs to be done, opportunities for development and the goals to be achieved for successful disaster management. The document is decisive for international disaster management, and can be seen as a kind of statute for global emergency response. What is included in the framework can be considered as a kind of ideological foundation for disaster relief, and its guidelines are of general application.

**In addition, the International Community Sets out four Priorities for Action:**

1. Understand disaster risk,
2. Strengthen disaster management to manage disaster risk,
3. Invest in disaster management to increase resilience,
4. Increase preparedness to implement effective responses and the Build Back Better concept (UN, 2015)

## **7. Conclusion**

The analysis and results of the research data explored clearly proved and demonstrated the main objectives of the study. On the basis of the analysis of the interviews one can clearly state that in our days there is a close connection between the human trafficking and the question of environmental migration. The second objective of the study was demonstrated too by the results collected by the content analysis which was carried out with the means of absolute frequency, whereas the interviews formulate clearly that the minor environmental migrants are mostly exposed to the exploitation of the human traffickers, first of all that of sexual character.

Developing resilience based on the Sendai Framework can be one of the most effective tools for reducing environmental migration and the intensity of human trafficking as a result of natural disasters. The essence of this ability is to adapt to the challenges of the changed environment at several points in addition to some preventive steps. A concrete action plan could be to make buildings and important infrastructure weatherproof, which can significantly reduce the risks of climate change. Political and economic solutions are needed to stop deforestation, which directly contributes to soil erosion, for example, to use financial support to motivate the region's governments to protect their forests, enforce rules to protect certain areas, and provide other economic



opportunities for farming communities so that they do not have to exploit their natural resources for their survival. In addition, it is essential to draw the attention of the inhabitants of the area concerned to the abandonment of areas that have already become uninhabitable for farming and other purposes. The Sendai Framework places great emphasis on preparing for and responding to emergencies. An important part of this early warning system could be to develop and use it as often as possible. And in the aftermath of natural disasters, there is a need for temporary displacement, which requires well-equipped and trained preparedness units and a system that includes recognizing and managing the specifics of human trafficking. In the recovery phase, it is extremely important to plan temporary services for the displaced population, such as health care systems and schools, whereas one of the most useful tools for curbing human trafficking is the school system, which provides a safe, registered system for minors.

The widest and most frequent application and incorporation of the priorities and tasks established by the Sendai Framework into existing policies, especially in the regions of developing countries, could significantly reduce the number of victims of trafficking, both as part of both preventive and rehabilitative measures. Within the framework of the “risk definition” defined among the priorities, attention should be drawn to the vulnerability of children at the global and regional level, and priority should be established. One of the most useful tools for determining and addressing the risk and specificities of disaster risk, including cybercrime, could be the establishment of a registration system for minors based on age, gender and disability, complemented by registration of injuries and deaths. Building resilience-based capacity, marked as disaster risk reduction, is easily achieved by building a stable school and health care system that is able to perform this function during and after the disaster period. The tool of resilience defined by the Sendai system plays an important role in the preventive management of disasters, as it can prepare and raise awareness in children of the specifics and consequences of disasters and human trafficking. As a result, affected children and their relatives can more easily manage the harmful consequences of future disasters and help identify and avoid exploitation by traffickers. Building and strengthening a system of risk-sharing at international and regional level is an essential part of successful rehabilitation and reconstruction. In my opinion, in the current international situation, it is not enough to curb climate change or to help environmental migrants, in this sense, the application of the priorities and principles set out in the Sendai Framework could be considered in addressing human trafficking generated by natural disasters, which could save millions of orphaned children.

The aforementioned demonstrates that foreign policies do not only establish trade relations, but it affects political goals and strategies. In the light of this understanding, energy diplomacy becomes one of the mechanisms to achieve these goals.

The available scientific literature on the topic showed that too often the meaning of the word ‘crisis’ is taken for granted. Therefore, a generic weakness could be

highlighted in terms of broadness of the subject. As the analysis of the mentioned above authors points out, crises not only lead enmity between the parties involved (in the event their interests diverge during crises) but they also potentially lead to the strengthening of ties between the actors.

### ***Conflict of Interest***

The authors hereby declare that no competing financial interest exists for this manuscript.

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