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☐ **The Decision to Act: Political, Legal, Social, and Economic Aspects**

Geopolitical, Socio-Economic and Legal Aspects of the 2024PDC25 Event

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Abstract

The virtual object of the 2025 PDC exercise assumes an asteroid of up to 200 meters in diameter, approaching Earth at 14 km/s with a possible impact in 2041. The risk corridor is a north-south line from northeastern Europe across the Mediterranean, the Sahara, and central Africa towards South Africa. Even though the exercise assumes that attempts will be made to deflect 2024PDC25, the probability of an impact at some point in the risk corridor remains. It is evident that the threat of an impact of this nature will have serious consequences, starting several years before the actual event.

As it is very difficult to extrapolate from 2025 across 16 years in this what-if exercise, we decided to bring the scenario forward to 2031 and examine it with today's global background. Today would be T-6yrs and the threat is becoming immediate. On Aug 1, 2024, the International Asteroid Warning Network, (IAWN) would have notified the Space Missions Planning Advisory Group (SMPAG) and the United Nations Office for Outer Space Affairs (UNOOSA), who in turn would have warned all countries. As IAWN and SMPAG report to the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), its Scientific and Technical Subcommittee would have started discussions in February 2025 on the implications of an impact along the risk corridor and its Legal Subcommittee would have done so in April of the same year. The discussions would have included the need for reconnaissance and deflection missions, mitigation strategies, including the use of nuclear explosive devices (NEDs), and evacuation options. The United Nations Security Council would have been alerted by COPUOS of the possible need to convene. Most importantly, the global economy will have started to react to the threat of a possible major impact.

This paper examines the geopolitical, economic and legal consequences, based on the current (i.e. 2025) geopolitical situation, for four possible impact areas.

1. Introduction

As it is very difficult to extrapolate from 2025 across 16 years, we bring the scenario forward to 2031 and examine it with today's global background. The exercise asteroid is a body initially estimated to be about 50 to 200 meters in diameter. Due to insufficient information on the orbit of the asteroid, the risk corridor extends from the Arctic to the Antarctic passing over populated areas from northern Europe to South Africa. More land- and space-based observations are needed. In the 2041 impact time frame, several reconnaissance missions would be launched to determine the size, shape and possible composition of the asteroid. Even in the reduced time frame that we are considering, reconnaissance missions could be launched several years before the possible impact. These additional observations and missions will help determine the

site of impact within a few kilometers and yield information on the morphology and structure of the object. The goal is to determine the optimal mitigation strategy.

In 2024, the risk corridor runs more or less in a slanted line between 30 degrees and 20 degrees east from the Arctic to the Antarctic (see Figure 1)

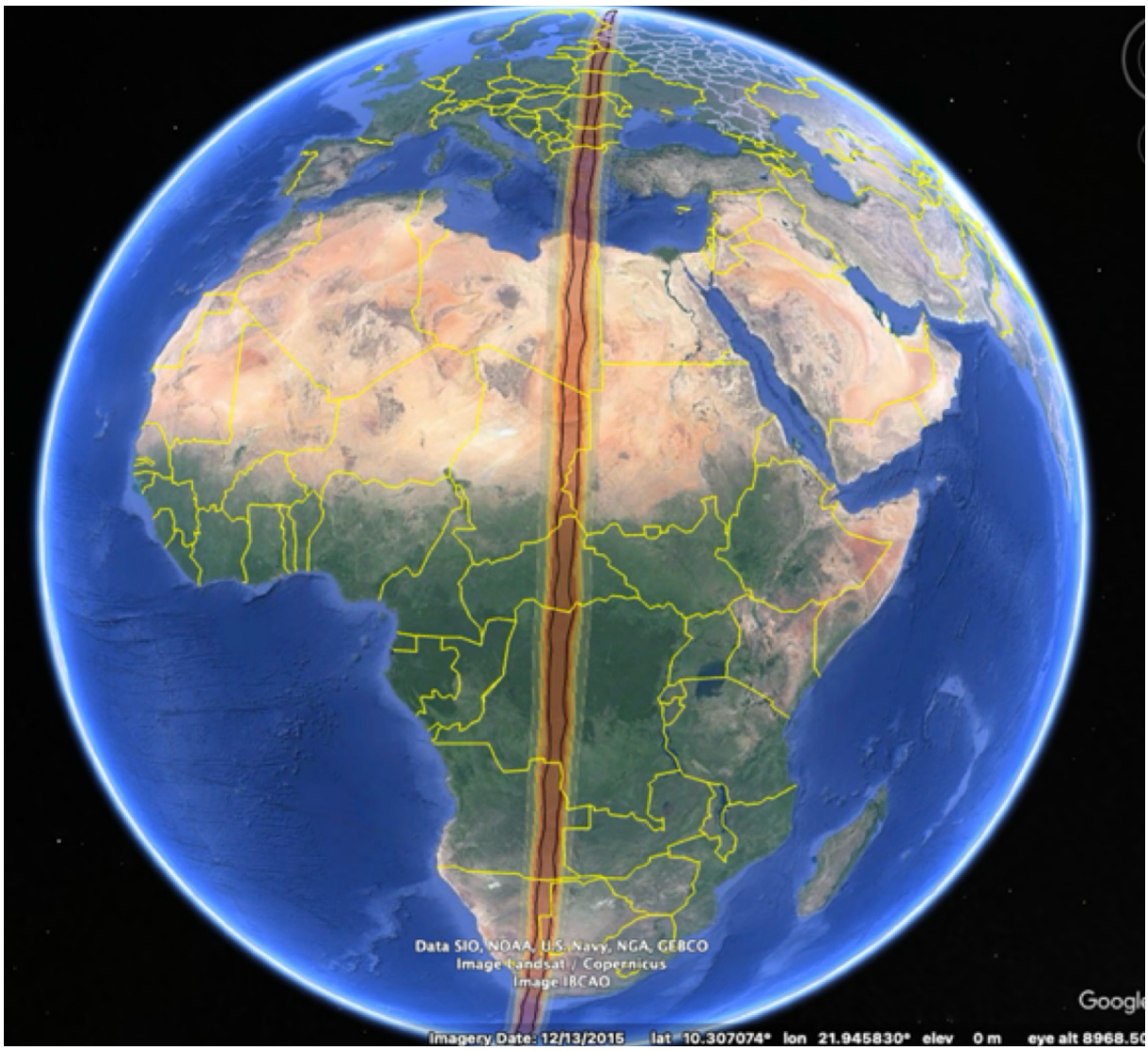

Figure 1: Risk corridor for asteroid 2024PDC25

In case the impact cannot be avoided, the object will deposit a from 3 to 720 Megatons of energy onto the impact site. While the object is not large enough to cause global and long lasting or irreversible geological and meteorological effects, it will have dramatic consequences for the immediate area: in a worst case scenario a crater of up to 3 km in diameter and up to 500 meters deep will be excavated, and an area of up to 200 km in diameter will be devastated.

When the mitigation of an asteroid impact is being considered, the immediate measures which come to mind are the deflection or the destruction of the object, plus

the evacuation of the population at risk, as well as humanitarian aid and reconstruction in case of an impact.

In the case of an object like 2024PDC25 which was “discovered” in 2024 and deemed dangerous, with the level of danger increasing, the global population will become acutely aware of the danger. In particular, the population in the risk corridor will be faced with making decisions as to their continued existence in their particular locations.

This need will become obvious several years before the predicted possible impact. If matters proceed according to current plans, there will be an extensive observation campaign, using all available assets, the largest and most important telescopes will continuously observe the object, and the space agencies of Space Mission Planning Advisory Group (SMPAG) will be launching reconnaissance missions and planning mitigation missions.

In the media there will be intense speculation about the chances of mitigation, the possibility and the problems of evacuation of large areas, and the feasibility of using a nuclear explosive device. As we have seen during the COVID-19 pandemic, the discussions will not always be rational, particularly the discussions in the social media.

In other words, the attention of the global public will be riveted on the event. With a predicted encounter in 2041, this period of intense discussion will begin some 10 years before the event, it will probably decrease after the first few years and increase again as more information on the impact site becomes available. However, this means that the initial discussions will be held in the framework of the geopolitical situation of the late 2020s and early 2030s.

For this paper, and the 2024PDC25 “What-If” exercise at the Planetary Defense Conference 2025, on which this paper is based on, we decided to move the “What-If” scenario from 2041 to 2031, which means that today, in 2025, we would be at T-6 years. While the situation in a T=2041 scenario will be different from the situation today, we can assume that the nature of the geopolitical, socio-economic and legal issues, which will unfold at T-6 years, will be very similar. This is also true for the role of COPUOS and of the UN Security Council and for the interests of the major actors, so our considerations will be indicative of the issues which we have to expect.

This assumption means that all the developments described above would be happening right now (2025), and decisions will have to be made in the current geopolitical climate and with the current governments in the US, in Russia, in China, and elsewhere. This makes our considerations much more realistic.

To narrow the scope, we examined four different eventual possible impact areas:

1) Russia and Western Ukraine
2) Mediterranean Sea vicinity
3) Sub-Saharan Africa
4) South Africa

For these potential impact areas, we explore different consequences, including displacement/evacuation of large groups, military and civil conflicts, humanitarian

issues, effects of a possible Tsunami, disruption of important trade routes and supply chains, the impact on the global commodity market and on the global financial markets.

2. Geopolitical and economic consequences

As sated, it is impossible to predict how the geopolitical environment will have evolved by 2041 or even 2031. However, even though the situation might be different from the situation today, it is likely that there will be similar boundary conditions: the war in the Ukraine might have ended, but there might be a similar war elsewhere. The Gaza conflict might have ended, but the area will still be in ruins. The civil unrest in South Sudan might have abated, but there might be a civil strife elsewhere in the region.

Likewise, it is not possible to predict the global economic situation. Will the economy be growing, or will there be a global recession? How will it react to the possible shutdown of supply lines? How dependent will the world be on oil in 2035? What kind of government will Russia and the United States have in 2035?

We do not know all this for 2035. But we do know it for 2025, i.e. right now.

2.1. Russia and Western Ukraine

If the area threatened by an impact is Western Ukraine, where would the population go- towards Poland, Slovakia, Hungary, Romania? Would Russia oppose or support the evacuation to some of these countries? From St. Petersburg and smaller cities, evacuation is possible to Finland, the Baltic States and to Belarus. Evacuation from Belarus would be expected to be towards the east, but that depends on whether the Belarus government will remain in power through the unfolding scenario.

The European northeast is, at this time, a very volatile region. As a consequence of the conflict in Ukraine, Sweden and Finland have joined NATO. The Baltic States have been members for years. How will NATO react to a possible weakening of its northeastern flank?

The Baltic States are near the risk corridor. They are wedged in between Russia, Belarus and the North Sea. This makes a possible large scale evacuation extremely difficult. At the same time, a de-populated area will make a tempting target for predatory action.

The only part of Russia which is under threat is St. Petersburg. There, evacuation to the east and south east is easily possible. Likewise, evacuation is possible for Belarus.

In the current geopolitical environment, the confirmation of an impact in western Ukraine will have immediate consequences for the ongoing conflict. Would Russia see an impact in Ukraine as a military advantage? To what extent would the shaky

economic system be kept going if the workforce is either evacuating, or in the military, is not certain. Agriculture will slow down considerably, with grave consequences for the food situation in several African, Latin American and European countries. Commodity prices will rise globally.

The probability of an impact in the Black Sea is low, but even a perceived threat will have consequences for shipping, and might lead to the preparatory ramp-down of important harbors because of a possible tsunami. Even if in the end there is no impact there will be a period of at least two years during which the Ukrainian economy will bottom out. This might happen, even though hardly any part of the Black Sea is in the risk corridor.

Will the international community come to the aid of Ukraine? Several of the major spacefaring powers, which can launch mitigation missions, are outside of the immediate risk corridor: the United States, Russia, China and India (the latter two being BRICS countries). Will any of these countries participate in mitigation missions? As far as Russia Federation is concerned, it is, from purely military considerations, not in its interest to assist any European State, let alone Ukraine.

2.2. Mediterranean Sea vicinity

Although the probability is very low, an impact in the water will produce a tsunami. It is difficult to estimate the size and the effects of the tsunami, as it depends on the exact size of the object and on the depth of the water at the impact site. It is justified to assume that the decision-makers will consider a worst case scenario in order to best protect their assets.

An impact in the Aegean Sea will threaten several major cities. A tsunami rushing through Istanbul would be catastrophic. A sizable tsunami hitting the Nile Delta will severely damage Egyptian agriculture. Shipping through the Suez Canal might be severely affected, with consequences for global supply lines. An impact south of Crete could threaten the coastlines from Syria to Egypt.

Some Greek islands might get severely devastated. The population will want to evacuate, taking their most valuable assets along. This might lead to a problem with the required shipping capacity. Investments would slow down and stop. Tourism is a major Greek industry that will be heavily affected.

The Hellenic Arc is an area of severe geological stress (Fig. 2). Could earthquakes and/or volcanic eruptions be triggered by the impact? This is a particular issue that falls beyond the scope of this article, but that deserves proper attention in the preparatory strategy due to the potential additional consequences.

A significant problem is presented by the Gaza area: if people try to evacuate, where would they go? Who would render them humanitarian assistance?

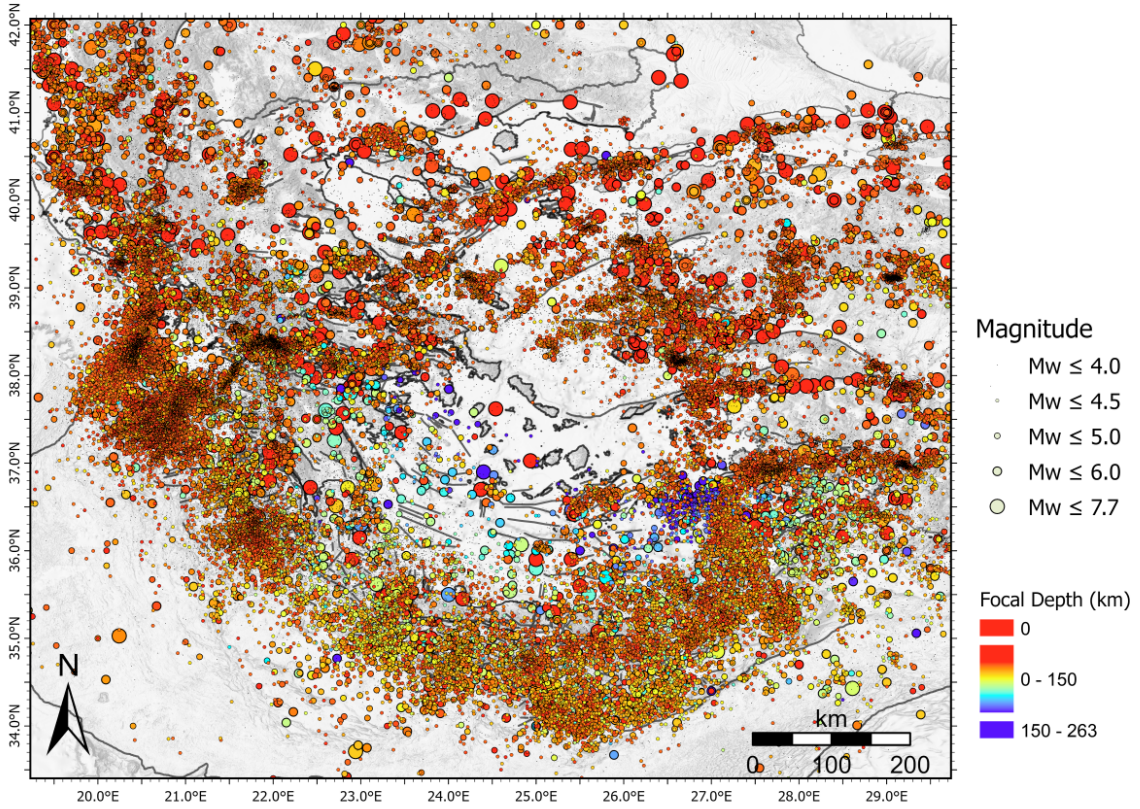

Fig. 2: Epicenters of earthquakes around Greece (Karpetanidis, et al., 2020)

2.3. Sub-Saharan Africa

There are currently twelve states with high intensity armed conflicts: Burkina Faso, Cameroon, the Central African Republic (CAR), the Democratic Republic of the Congo (DRC), Ethiopia, Mali, Mozambique, Niger, Nigeria, Somalia, South Sudan and Sudan. Low-intensity, subnational armed conflicts occurred in six states: Benin, Burundi, Chad, Kenya, Madagascar and Uganda. Eleven of these 18 eighteen states suffered higher estimated conflict-related fatalities in 2021 than in 2020, with the total increase for the region standing at about 19% (Davis, L., 2022). Would countries not in the risk corridor aid those countries affected by the impact or allow the evacuation of people to their territories?

Almost all the armed conflicts have been internationalized due to the involvement of external state actors and/or the trans-national activities of armed groups and criminal networks. Africa accounts for 60% of all terrorist casualties (https://press.un.org/en/2025/sc15971.doc.htm)

There is considerable room for evacuation, but there is also a lack of transportation, infrastructure and other resources. Evacuation will present a massive humanitarian problem: for a 2031 threat scenario preparations would have to be made very soon.

Large sections of the area would cease agricultural production for at least two years, even assuming that the threat did, in the end, not materialize and that the population can be re-settled.

The most serious problem is how to coordinate decision-making with the local holders of power: there are governments, war lords, insurgents, the military and foreign interests. It will be tempting for some of these groups to use the event for political advantage and/or military intervention. A state of emergency might have to be declared in some countries to maintain law and order.

As the real estate prices will have fallen there might be predatory buying of large areas of land by organizations or countries. For instance, the total area of land that China owns in Africa is approximately 186,000 square miles (465,000 square kilometers). This is around 7% of the total land area in Africa. (African Land, 2023)

There is the very real possibility that evacuation problems, and civil strife and humanitarian problems could cause more casualties than an actual impact.

2.4. South Africa

The tip of Africa is a confined area. Evacuation is only possible to the northwest or to the northeast. Of the cities in the risk corridor, Cape Town has the largest population (5 million). The existing infrastructure and transport capabilities will not allow an evacuation of this magnitude.

South Africa is the world's largest producer of platinum, chromium and manganese. Also, significant amounts of many other natural resources, like gold and diamonds are being produced there. The production facilities rely heavily on migrant workers. In a threat situation, it is highly likely that they will want to return to their families. The disruption of the production will have a severe impact on the global commodity market.

Tourism is a major factor of the South African economy. It will stop as tourists avoid the area and the resorts close down in response to a mounting threat, and as the infrastructure declines. Agricultural and industrial production might soon slow down. Those who can afford it will evacuate soon (i.e. 2025). The economy will suffer as the skilled workforce leaves.

If the agriculture slows down in response to a perceived threat there might be a need for substantial humanitarian aid,

3. Legal considerations

Taking into consideration the potential consequences already addressed in the previous section, in this section we will focus on specific aspects that are regulated by international law in general, human rights law and space law.

3.1. Applicable general international law and space law to the 2024PDC25 scenario

In case of an asteroid impact, it is to be assumed that no single State will be able to prepare itself, its population and address the consequences individually. International cooperation thus becomes of utmost importance, both as a principle of international law in general and as an important obligation under space law. It is the United Nations the organization that has the central and unique leading role in coordinating international cooperation in disaster prevention, preparedness and relief.[1] Complementing the coordination table, the UN Emergency Relief Coordinator is the central focal point with States and humanitarian assistance.[2]

The considerations laid out below reflect the current situation. However, most of them will still be valid for the 2041 scenario.

International cooperation is foremost a purpose under the United Nations Charter, which in Article 1(3) provides that on that "[t]*o achieve international co-operation in solving international problems of an economic, social, cultural, or humanitarian character"* is one of the guiding principles of the organization.

A few years later, in 1965 the General Assembly (UNGA) passed the Resolution 2625 (XXV), which proclaimed a number of principles, one of which is "[t]*he duty of States to co-operate with one another in accordance with the Charte*r". On the basis of that resolution, Rüdiger Wolfrum defined the concept of 'international cooperation' as 'the voluntary co-ordinated action of two or more States which takes place under a legal regime and serves a specific objective' [3].

Likewise, international cooperation is embedded in several resolutions and instruments of space law. As a principle, it is embedded in several UNGA resolutions starting by Resolutions 1348 (XIII),[4] 1472 (XIV),[5] 1721 (XVI)[6] and 1962 (XVIII).[7] Moreover, the annual COPUOS resolution is entitled "International Cooperation in the Peaceful Uses of Outer Space". The principle of international cooperation is also contained in the space treaties. Of particular relevance to this work is to mention that it is contained in the preamble and operative part of the Space Treaty (in Articles I, III, IX, X and XI), and in the preamble and Article 4.2 of the Moon Agreement. It is also to be found in the preamble of the Agreement of Rescue of Astronauts and the Liability Convention.

COPUOS and its two Subcommittees –assisted by the Office of Outer Space Affairs (OOSA)– is the unique platform at the global level for international cooperation in space activities.[8] In 1996, the General Assembly passed the renowned resolution containing the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries,[9] which has been described as an interpretative instrument of the Outer Space Treaty.[10] Furthermore, international cooperation was also the subject matter of a particular working group established under the Legal Subcommittee of COPUOS in 2014.

Moreover, international cooperation is an underlying guiding principle and necessary prerequisite for the proper functioning of IAWN and SMPAG. SMPAG links Member States with space agencies and other relevant entities in the mitigation tasks. As part of its responsibilities, it lays out the framework, timeline and options for starting and carrying out a space mission response as well as promoting opportunities for international collaboration on research and deflection.

There are two moments in which international cooperation becomes crucial: before the asteroid impact and after it hits the Earth. In the former situation, space law and the obligations under the space treaties become relevant on three counts: under Article XI, State Parties to the Outer Space Treaty shall inform the Secretary-General, the public and the international scientific community of the result of their space activities. This means that when a State receives information about a possible asteroid impact, it should make this information available in accordance with elementary considerations of humanity [11]. In addition, space actors might agree to undertake a joint mission to divert the direction of the asteroid or destroy it. In case a space object causes damage to the space object registered with another State, the liability regime of Article VII of the Outer Space Treaty and the Liability Convention will apply. In addition, and regardless of the causation of damage in flight or on Earth, space activities entail State responsibility pursuant to Article VI of the Outer Space Treaty.

In the latter case, i.e. after the asteroid hits the Earth, the framework of international law in general applies to the coordination of relief and protection of populations. Thus, first and foremost human rights law applies and –eventually- a specific regime might also apply if appropriate as it will be further developed in the following sections.

3.2. Clarification of the legal concepts: refugees, migrants and displaced persons

In the context described in the exercise of the PDC 2025, refugees, migrants and displaced people may coexist; however, it is necessary to set the clearly the differences among these three concepts and identify the relevant applicable law in each case.

Pursuant to the 1951 Refugee Convention and the 1961 Protocol thereto, refugees are persons who have been forced to flee their own country due to "*well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion*". In the Latin American region, the definition of refugee was broadened by the Cartagena Declaration which provides that refugees are also those who have fled "*because their lives, safety or freedom have been threatened by generalised violence, foreign aggression, internal conflicts, massive violation of human rights or other circumstances which have seriously disturbed public order*".[12] The final part of the reproduced text tends to be interpreted as a catch-all provision, which allows for natural disasters to come under the concept.

Since 1985, the expression “environmental refugee” commenced to be employed upon the release of a report so entitled and produced by the Egypian Professor Essam El-Hinnawi for the UN Environment Programme. He defined this newly created category of refugee as those people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental natural or man-made disruption that jeopardized their existence and/or seriously affected the quality of their life.[13]

Despite this category of refugee created by the doctrine, it should be underscored that it is not a legal concept and that there is as now no international instrument recognizing that type of refugee. Moreover, the high commissioner on human rights, Filippo Grandi, has warned against the expansion of the 1951 definition beyond any persecution or violence,[14] and therefore is reluctant to the idea of “climate refugees”. The United Nations High Commissioner for Refugees (UNHCR) –whose headquarters are in Geneva- is mandated to provide international protection, under the auspices of the United Nations, to refugees pursuant to Article 35 of the 1951 Refugee Convention and Article II of its Protocol, and UNGA Resolution 428 (V).[15] The UNHCR is also the UN agency called upon to provide protection and assistance to the internally displaced persons.[16]

A completely different concept is that of “migrant”. Although there is no internationally agreed upon definition and no international legally binding instrument establishing the scope of the concept, it is generally understood as encompassing people who move by choice rather than to escape persecution or violence. To the contrary, the reasons for the change of residence range from better life conditions, family reunification, new job opportunities or even environmental conditions. Their rights are protected under human rights law in general (see next section).The International Organization for Migration (IOM) –whose headquarters are in Geneva as well- is the leading intergovernmental agency which –according to its constitution *“makes arrangements for the organized transfer of migrants, for whom existing facilities are inadequate or who would not otherwise be able to move without special assistance, to countries offering opportunities for orderly migration*”.[17] It should be highlighted that the IOM also plays a role in the organized transfer of refugees and displaced people.[18]

Now, internally displaced people (IDP) are “*persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized state border*”.[19] Unlike the concept of refugee which is defined in a universal treaty, this term is defined in the Guiding Principles on IDC, a non legally binding instrument developed by the Representative of the Secretary-General on Internally Displaced Persons, Mr. Francis M. Deng. On another note, since 2010, the Human Rights Council –based in Geneva likewise- appoints a Special Rapporteur on the human rights of IDC. On the occasion of the 20th anniversary of the Guiding Principles on IDC, the Special Rapporteur introduced the GP20, a report with a compilation of practices to prevent, address and resolve internal displacement.[20]

On 1st November 2022, Ms. Paula Gaviria Betancur (Colombia) assumed that position. The mandate of the Special Rapporteur was renewed by Resolution

A/HRC/RES/50/6, which acknowledges different reasons for internal displacement, "*including violations and abuses of human rights, violations of international humanitarian law, armed conflict, persecution, violence and terrorism, as well as disasters and the adverse effects of climate change*".[21]

Since one of the possible impact areas is Africa, the Kampala Convention for the Protection and Assistance of International Displaced Persons in Africa will be relevant in this particular case. According to Article IV.(4).(f), people have the right to be protected against arbitrary displacement, including from "*forced evacuations in cases of natural or human made disasters or other causes if the evacuations are not required by the safety and health of those affected*."[22]

In the case of Europe, specifically Protocol No. 4 to the European Convention on Human Rights applies as the general regional framework on the right to freedom of movement, regardless of other relevant provisions that might be applicable [23]. In addition, the Council of Europe adopted Recommendation Rec(2006)6 of the Committee of Ministers to member states on internally displaced persons. One of the preambular paragraphs of those recommendations interlinks the three concepts under study in the following terms: "*Aware that mismanagement of internal displacement may not only lead to human rights violations but also feed into international migration and refugee movements across the continent*" [24].

In summary, while migrants voluntarily leave a country, refugees and displaced people lack the volitional element to abandon their homes or permanent residences. While migrants move across the borders, internally displaced people move within them. It should be avoided using these concepts interchangeably. There is so far no single instrument –neither legally or non legally binding- specifically dealing with asteroid impacts as a natural disaster.

3.3. Evacuations and human rights law: what if population cannot be voluntary relocated?

In case of a disaster caused by an asteroid impact and following the potential nefarious consequences predicted in this article, it is apparent that there will be important migratory flows. Those with the necessary resources to abandon their residences by themselves and with the funding to start a new life somewhere else will probably dispense with the State assistance. However, that is not the case in many of the countries along the impact corridor in the Sub-Saharan Africa, with an average of 50% of the population below the poverty line, with countries where that percentage reaches almost 90%.

In such circumstances, it is appropriate to look into human rights' law to seek answers regarding the legality of State measures to relocate affected peoples or individuals that might be affected by the ensuing consequences of an asteroid impact. Pursuant to Article 12 of the International Covenant on Civil and Political Rights (ICCPR), everyone lawfully within the territory of a State has the right to liberty of movement and freedom to choose his residence. In addition, everyone shall be free to leave any country, including his own, and nobody shall be arbitrarily deprived of the right to enter

his own country. The only restriction provided for by the law is in case it is necessary to protect national security, public order, public health or morals or the rights and freedoms of others. Restrictive measures to the enjoyment of such rights must conform to the principle of necessity and proportionality, i.e. they must be appropriate to achieve their protective function; they must be the least intrusive instrument amongst those which might achieve the desired result; and they must be proportionate to the interest to be protected [25].

In addition to the general framework set out above, it is appropriate to look into the more specific regulation in case of natural disasters. The Inter-Agency Standing Committee adopted the Operational Guidelines on the Protection of Persons in Situations of Natural Disasters, which specifically addresses situations where persons are unwilling to leave. Under those circumstances and pursuant to those guidelines, people should not be evacuated against their will unless such forced evacuation is absolutely necessary under the circumstances to respond to a serious and imminent threat to their life or health, and less intrusive measures would be insufficient to avert that threat; and is, to the extent possible, carried out after the persons concerned have been informed and consulted [26].

It should be borne in mind that in such a disaster scenario, international and non-governmental organizations providing protection and aid would also play an important role in the provision of assistance and the delivery of aid means. Likewise, they should not carry out or participate in forced evacuations, unless an imminent and serious threat to the lives, physical integrity or health of the evacuees cannot be averted without the involvement of the organizations concerned [27].

3.4. International collaboration: Is there any legal basis for mandatory assistance?

One of the bedrock principles of international law on which the international order is built is that States are not compelled to any obligation unless they have freely consented to be bound thereto. Such obligations may arise from legally and standing international instruments -as we have already reviewed above- or there might be political commitments arising from *ad hoc* initiatives or agreements. We will provide two examples of the latter.

One of the recent global crises that the international community had to face was the COVID-19 pandemics. In April 2020, the Access to COVID-19 Tools (ACT) Accelerator was launched by the Health World Organization and the President of France to seek international collaboration to accelerate development, production, and equitable access to COVID-19 tests, treatments, and vaccines. Under that initiative, a multilateral effort called COVAX Facility aimed to speed up the development and production of vaccines and to guarantee fair and equitable access for everybody. At that time, the General Assembly passed Resolution 76/257, which *urged* States to increase international collaboration and coordination on pandemic prevention, preparedness and response at the highest political level [28].

Another recent example is the Initiative on the Safe Transportation of Grain and Foodstuffs (Black Sea Grain Initiative) from Ukrainian Ports as a response to the international concerns regarding food insecurity, in particular in the least developed countries.[29] The initiative aimed at facilitating the safe navigation for the export of grain and related foodstuffs and fertilizers, including ammonia from the Ports of Odesa, Chernomorsk and Yuzhny [30]. That was a quadripartite initiative (United Nations, Türkiye, Ukraine and Russia) to counteract the negative impact on international trade of grains caused by the hostilities following the Russian aggression against Ukraine. Once one of the parties whose contribution is critical to the goals, refuses to comply with its commitments, the implementation of the initiative becomes difficult if not impossible. That is precisely what happened in this particular case and thus the initiative expired on 17 July 2023.

4. Conclusions

At T-6 years we know that there will be an impact, if the object cannot get deflected. We also know the approximate impact area, which, however might change at short notice in case of an insufficient deflection. We do not know whether NEDs will, in the end, have to be employed. Regardless of whether or not the impact will happen, geopolitical and economic consequences will occur. In the case of the 2031 scenario, this would be right now (2025).

In the Ukraine and Russia, the activities triggered by the imminent threat of an impact could be decisive should the war still be going on. For the Aegean Sea the combined threats of the impact, and the possibility of earthquakes or volcanic eruptions would severely damage the economy of Greece.

In Sub-Sahara Africa local forces (government, warlords, insurgents) might attempt to exploit the situation. Coordination with and between these actors will be very demanding. The rather low average educational level of the population will make this very difficult.

Although the economic consequences of the event will be smaller than the consequences of COVID, the countries and the populations under threat will be severely affected.

All, if not most of these considerations will also apply to the 2041 scenario, albeit in an analogous and indicative manner.

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