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DISPLACEMENTS WITHIN THE FRAMEWORK OF ENVIRONMENTAL AND CLIMATE JUSTICE:
CONCEPTS, DEBATES, AND CASES

2/8

Climate Mobility: Climate Change and Displacements

Climate change is the leading global crisis which threatens all species' lives. Humans' production and consumption activities, primarily fossil fuel usage and the increase in the atmosphere's greenhouse gasses, cause the planet to heat at a never-before-seen level and speed. With the climate balance being disrupted, the ecosystem is destroyed, habitats are eradicated, and gradually irreversible biological, geological, and geographical transformations emerge. Together with all other species, humans are also one of the biggest victims of this ecological crisis that they caused. The level of climate change, its extensions, and its intensity, the effects of which are increasing day by day, threaten the lives, health, houses, lands, and livelihoods of human communities. Climate change-related risks which threaten human life can be listed as:[1]

- Health risks, such as loss of lives, injuries, or diseases, for people living on sea coastlines and island states due to rising sea levels, floods, spates, and extreme weather events,
- Risk of losing health and livelihoods for the majority of urban dwellers due to floods in some regions,
- Health risks, such as loss of life and becoming ill for the urban poor; lacking adequate air conditioning in their housing and working places, and workers in both rural areas and cities working in the open air, against heat waves,
- Risk of disruptions in the global food chain and extinction of food security for the poor in both cities and the rural due to the adverse effects on agriculture as a result of temperature increase, drought, floods, and varied rainfall rates and patterns,
- Loss of livelihoods and incomes in rural areas due to insufficient access to drinking and irrigation water and decreases in agricultural production,
- Risk of ecosystems in coasts and seas, biological diversity and ecosystem products, functions, and services not being able to ensure the livelihoods of communities, especially those in tropical regions and the Arctic Ocean, who provide for themselves through fishery,
- Disappearance of the contribution that water ecosystems, biological diversity, and ecosystem productions, functions, and services on lands and inner regions make to livelihoods,
- Damages/collapses in infrastructure systems and inability to provide essential services such as electricity, water, and immediate aid due to extreme weather events,
- Workplaces and houses being damaged or becoming unusable due to climate change-related events such as extreme weather events and rising sea levels.

88.9%

The percentage of displacements due to human-led climate change-related events, such as floods, storms, uncontrolled fires, droughts and extreme heat, in the total of displacements caused by disasters between 2008 and 2020

30 MILLION

The estimated number of people worldwide who are displaced following climate-related disasters in 2021

These climate change-related risks both directly and indirectly cause displacements. The direct effect of climate change on migration originates from climate-related events such as floods, extreme weather events, and increasing temperature increases. On the other hand, the indirect effect of climate change manifests as the loss or disruption of livelihood resources due to climate change, such as food crises and decreases in water availability due to droughts. It is estimated that more than 20 million people worldwide have been displaced every year since 2008 due to climate change's direct and indirect effects. Between 2008 and 2020, the displacements due to events related to human-induced climate change, such as floods, storms, uncontrolled fires, droughts, and extreme heat, constituted 88.9% of all the displacements caused by disasters. In the same period, nearly half of the displacements were caused by floods, and more than one-third of them were caused by extreme weather events such as storms and hurricanes. It is predicted that the extent and amount of these climate-induced migrations, which mainly occur within national borders and toward nearby regions, will increase with each passing day.[2] The total number of people displaced after climate-related disasters worldwide in 2021 is estimated to be around 30 million. The climate events causing the highest number of people to lose their houses, lands, and livelihoods are extreme weather events such as storms, hurricanes, and cyclones, displacing 14.6 million people, and floods, displacing 14 million people. It is recorded that in the same year, 1.2 million people were displaced due to uncontrolled fires, 46,000 by extreme heat, and 32,000 by droughts.[3]

TABLE 1: WORLDWIDE DISTRIBUTION OF CLIMATE CRISIS-RELATED DISASTERS AND DISPLACEMENTS BETWEEN 2008 AND 2020[1]

Climate change-related disasters	Estimated number of affected people	Percentage within all disaster-related displacements
Floods	156 million	49%
Extreme weather events (Storms, hurricanes, cyclones, etc.)	119 million	37.4%
Uncontrolled fires	3.4 million	1.05%
Droughts	2.4 million	0.74%
Extreme heats	1.1 million	0.36%

1- IDMC/NRC (2021). *GRID 2021: Internal displacement in a changing climate.* https://www.internal-displacement.org/sites/default/files/publications/documents/grid2021_idmc.pdf (Accessed: 19.7.2022)

Displacement of people due to loss of livelihood, income, housing, land, and commons also appears as an issue of climate justice. Insomuch, the geographical distribution of climate change-related physical and economic displacements exhibits that this situation mainly occurs in the Global South, where poverty and injustices are high.[4] In the ranking of countries where displacements due to weather events are the most common, countries such as China, the Philippines, Bangladesh, India, Somalia, Vietnam, Pakistan, Indonesia, Cuba, Kenya, Brazil, and Guatemala rank at the top.[5] In the Global North, the USA was also among the countries where people were exposed to climate events resulting in displacements during 2020. However, the fact that here as well, the poor, black people, and other disadvantaged groups were displaced shows that climate injustices overlap with class, gender, race, and ethnicity-based inequalities. In short, the social groups with a high level of vulnerability, such as the poor, women, children, small farmers, and indigenous communities, whose involvement in the emergence of global climate change is little, if any, face the risk of losing their livelihoods, housing, health, and lives due to climate change-induced hazards and disasters.

SUDDEN-ONSET CLIMATE EVENTS

In addition to extreme weather events such as hurricanes, cyclones, and storms, heat waves, uncontrolled fires, floods, erosion, and landslides are included in the cate-

WOMEN, THE VICTIMS OF ENVIRONMENTAL INJUSTICE

Women are among the groups which are the most vulnerable to climate change. Rooted in their unequal positions in the traditional patriarchal order, this situation is exacerbated when combined with other sources of injustice such as poverty.[1]

Unequal division of labor and roles in traditional patriarchal family structure result in generally restricted participation of women in decision-making processes, their limited access to resources, and their being devoid of their several rights. Gender inequalities lead women to be affected by climate change more frequently and harshly than men. In rural areas, women who have to undertake housework such as cooking, cleaning, and childcare, also constitute nearly half of the agricultural labor force. According to Food and Agriculture Organization's (FAO) data, 43% of the labor force in agriculture worldwide is constituted by women. The dual pressure of house and land work on women further increases due to climate change-related problems, such as decreases in water availability, water salinization, and lack of food security.[2] Decreases in yield in agriculture and disruptions in agricultural lands due to droughts and extreme weather events deeply affect women who live depending on soil. Women being devoid of property rights in many places and having restricted access to labor markets prevent them from benefiting from resources and services provided to compensate for losses and damages due to climate disasters.[3] Another common situation in rural areas is that in response to the loss of livelihoods due to different reasons such as drought, young women are forced to drop out of school and work or get married at young ages in exchange for "bride price."[4]

Women's level of vulnerability against climate change is not so different in cities than in rural areas. Women who live in urban neighborhoods and regions where the infrastructure is inadequate, access to basic services are insufficient, and social protection mechanisms are absent are physically and emotionally more exposed to the results of climate change, such as food and water insecurities, due to their positions in the patriarchal division of labor.[5] Women's capacity to change location/mobility as an adaptation strategy against climate events is generally more restricted. For example, in the cases of sudden climate disasters, childcare and responsibilities related to the house obstruct women from quickly abandoning the risk areas. A series of research done on Bangladesh exhibits how gender inequalities leave women vulnerable in the face of climate risks. One of the reasons women are more affected by extreme weather events in Bangladesh originated from the responsibilities laid on them and the dominant patriarchal norms. Women are not able to abandon their houses without permission to escape floods, and not knowing how to swim prevents them from escaping from floods. Again in Bangladesh, malnourishment, which is very common among women, gets even worse after climate disasters. Low education levels cause women to work in labor-intense and low-paid jobs after disasters.[6] Research that analyzes the results of the effects of Hurricane Bonnie, which took place in 1998 in North Carolina, USA, also shows that women were more exposed to the risks and had a higher perception of risk, but due to their responsibilities in care work, women evacuated their houses in lower numbers compared to men who are exposed to the same level of risks and have the same level of risk perception,.[7] On the other hand, men's migration, even though for a short term, to other places due to their livelihoods being destroyed can lead to improvements in the situation of the women who are left behind since they gain some achievements in terms of decision-making, new qualifications, and financial independence.[8]

1- Giovanna Gioli and Andrea Milan, "Gender, Migration and (Global) Environmental Change," in *Routledge Handbook of Environmental Migration and Displacement*, ed. Robert McLeman and François Gemenne (Routledge, 2018), pp. 135-150. E-book doi: https://doi.org/10.4324/9781315638843
2- Natalie Sauer, "Care Work, Climate Work: A Dialogue with Dizzanne Billy (Trinidad and Tobago), Oladosu Adenike (Nigeria) and Joyce Melcar Tan (Philippines)" in *Climate Justice and Migration Mobility, Development, and Displacement in the Global South*, ed. Ali N. Ahmad, *Heinrich Boll Foundation Publication Series on Democracy* 57 (2019): 43-51, https://www.boell.de/sites/default/files/2020-12/Climate_Justice_and_Migration.pdf
3- Ibid.
4- Ibid.
5- Nausheen Anwar and Malini Sur, "Climate Change, Urban Futures, and the Gendering of Cities in South Asia," in *Climate Justice and Migration Mobility, Development, and Displacement in the Global South* (Heinrich-Böll-Stiftung, 2019): 66-79.
6- Giovanna Gioli and Andrea Milan, 2018, Ibid.
7- Julie M. Bateman and Bob Edwards, "Gender and Evacuation: A Closer Look at Why Women Are More Likely to Evacuate for Hurricanes," *Natural Hazards Review* 3, no. 3 (2002): 107-117.
8- François Gemenne, et al., *Forced Displacement Related to the Impacts of Climate Change and Disasters*, (Reference Paper for the 70th Anniversary of the 1951 Refugee Convention, 2021).

CHILDREN, THE VICTIMS OF ENVIRONMENTAL INJUSTICE

Another group that is in a highly vulnerable situation in the face of climate change is children. Climate change-related hazards directly threaten the health and lives of children foremost. In the cases of sudden climate disasters, while the levels of injuries and losses of life are high in children, they are also vulnerable to epidemics that emerge after disasters such as floods. Famine and food insecurities in relation to droughts result in malnourishment and growth problems.[1] Households losing their income or livelihoods due to climate disasters result in children being employed to contribute to the household income. In addition, again due to decreases in household income, the tendency to marry off children at early ages increases. Besides, displacements decrease the rates of school attendance. As a result of education being interrupted, in addition to having insufficient education, the number of children who cannot continue their education at all increases. Low education capital results in the vulnerabilities of children today being carried to the future.[2]

It is foreseen that around one billion children from thirty-three countries will be severely exposed to the effects of climate change. It is estimated that worldwide, 500 million children live in areas of high risk of floods, and 160 million live in areas facing a risk of extreme drought. It is estimated that until today, more than 50 million children had to abandon their living spaces, either short or long term, due to climate disasters. It is recorded that 9.8 million children were displaced due to climate events in 2020.[3]

1- Anette Prüss-Üstün and Wolf J. Corvelaván, *Preventing Disease through Healthy Environments: Towards an Estimate of the Environmental Burden of Disease* (World Health Organization, 2006), https://apps.who.int/iris/handle/10665/43457 (Accessed: July 26, 2022).
2- IDMC/NRC, *GRID 2022: Children and Youth in Internal Displacement* (2022), https://www.internal-displacement.org/sites/default/files/publications/documents/IDMC_GRID_2022_LR.pdf (Accessed: July 26, 2022).
3- UNICEF, *Guiding Principles for Children on the Move in the Context of Climate Change*, 2022, https://www.unicef.org/globalinsight/media/2686/file/UNICEF-Global-Insight-Guiding-Principles-for-Children-on-the-Move.pdf (Accessed: July 26, 2022).

gory of sudden-onset climate events. These events occur quickly and unexpectedly and affect vast areas extensively and severely. Their devastating effects also appear in sudden, intense, and exhaustive ways. In fact, these events which turn into disasters are a part of the normal functioning of nature; climate change increases the number, frequency, intensity, and extent of these natural events. Thus, human communities' lives, health, livelihoods, jobs, lands, and houses are at enormous risk. Ultimately, sudden-onset climate events result in massive displacements either due to preventive actions or due to damages emerging during disasters. Planned evacuation of an area shortly before sudden-onset climate events is one of the methods applied for protection. For example, during Hurricane Katrina in 2005, although 150 to 200,000 people stayed in their houses in Louisiana State, about 1.5 million people were relocated to other areas before the hurricane for protection.[6] Before and after such climate events, movements often occur both in a planned way and with individuals' own efforts. Although mass mobility is in question in the case of sudden-onset climate events, it is mostly not long-distance, long-term, and permanent. With damages in living areas being repaired and living con-

TABLE 2: EXAMPLES OF SUDDEN-ONSET CLIMATE DISASTERS AND DISPLACEMENTS

Climate event	Location	Year	Number of displaced people
Uncontrolled fires	Australia[1]	2009	7500 thousand people in Victoria
	Russia[2]	2010	13,700 people across Russia
	Spain[3]	2012	13,000 people in the Canary Islands, Marbella, Madrid, and Valencia
	Spain[4]	2019	17,654 people across the country
	Australia[5]	2019-20	65,000 people
	Canada[6]	2021	Around 33,000 people living in the State of British Columbia
Floods	Pakistan[7]	2010	11 million people living in and around the Indus River Basin
	China[8]	2010	15 million 200 people living in 28 states
	Japan[9]	2012	250,000 people living in the Kyushu Region
	India[10]	2012	Six million 900 thousand people living in the Assam State
	Germany[11]	2013	52,549 people
	Colombia[12]	2016	30,629 people
	East Africa[13]	2018	About one million people in Kenya, Ethiopia, Uganda, Rwanda, Somalia, Djibouti, and Burundi
	Bolivia[14]	2019	73,400 people across the country
	Indonesia[15]	2019	6,800 people living in the Jayapura Region
	Bangladesh[16]	2020	One million 920 people across the country
	Somalia[17]	2020	450,000 people of the 1.1 million affected people in 29 regions
	Brazil[18]	2022	More than 45,000 people living in the regions of Alagoas, Pernambuco, and Rio Grande do Norte
Extreme weather event	The USA[19]	2005	400,000 people in New Orleans (Hurricane Katrina)
	The USA[20]	2012	776,000 people living in 24 states (Hurricane Sandy)
	The Philippines[21]	2013	More than four million people living in the islands of Cebu, Leyte, and Samar (Typhoon Haiyan)
	China	2016	567,000 people (Typhoon Meranti)
	Caribbean Islands and the USA[22]	2017	Two million people living in 16 countries including Antigua, Barbuda, Cuba, Dominican Republic, Haiti, and the USA (Hurricanes Irma, Harvey and Maria)
	India and Bangladesh[23]	2020	Five million people (Cyclone Amphan)
	China[24]	2021	1,5 million people in Henan State (Cyclones Cempaka and In-fa)

1- Dina Ionesco, et al., The Atlas of Environmental Migration (London: Earthscan, 2017).
2, 3- Ibid.
4- IDMC, Spain Wildfires (2019), www.internal-displacement.org/sites/default/files/inline-files/GRID-2019-Disasters-Figure-Analysis-Wildfires-Spain.pdf (Accessed: July 19, 2022).
5- Elisabeth du Parc and Louisa Yasukawa, The 2019-2020 Australian Bushfires: From Temporary Evacuation to Longer-term Displacement (IDMC Report, 2020), https://www.internal-displacement.org/publications/the-2019-2020-australian-bushfires-from-temporary-evacuation-to-longer-term (Accessed: July 19, 2022).
6- Stefan Labbé, "Nearly 33,000 British Columbians Displaced by Wildfire in 2021," North Shore News (October 22, 2021), https://www.nsnews.com/highlights/nearly-33000-british-columbians-displaced-by-wildfire-in-2021-4539572 (Accessed: July 19, 2022).
7- Dina Ionesco, et al., 2017, Ibid.
8, 9, 10, 11, 12- Ibid.
13- IDMC, East Africa Worst Hit by Internal Displacement in First Half of 2018 (September 12, 2018), www.internal-displacement.org/media-centres/east-africa-worst-hit-by-internal-displacement-in-first-half-of-2018 (Accessed: July 19, 2022).
14- Dina Ionesco, et al., 2017, Ibid.Ionesco, D., Mokhnacheva, D. and Gemenne, F. (2017). Ibid.
15- Asrida Elisabeth, et al., "'Nothing Was Left': Flash Floods, Landslides Hit Indonesia's Papua Region," Mongabay (March 21, 2019), news.mongabay.com/2019/03/nothing-was-left-flash-floods-landslides-hit-indonesias-papua-region/ (Accessed: July 19, 2022).
16- Dina Ionesco, et al., 2017, Ibid.Ionesco, D., Mokhnacheva, D. and Gemenne, F. (2017). Ibid.
17- OCHA, Flood Response Plan: Somalia (June 5, 2020), https://www.acaps.org/sites/acaps/files/key-documents/files/flood_response_plan_somalia_2020.pdf (Accessed: August 13, 2022).
18- Richard Davies, "Brazil – Thousands Displaced by Floods in North East," Floodlist (July 4, 2022), floodlist.com/america/brazil-floods-july-2022-alagoas-pernambuco-riograndedonorte#:~:text=Brazil%20%E2%80%93%20Santa%20Catarina%20Floods%20and,period%20to%2005%20May%202022 (Accessed: July 19, 2022).
19- Dina Ionesco, et al., 2017, Ibid.
20, 21- Ibid.
22- IDMC, The Atlantic Hurricane Season and the Importance of Resilience (2018), www.internal-displacement.org/global-report/grid2018/downloads/report/2018-GRID-spotlight-atlantic-hurricane-season.pdf (Accessed: July 19, 2022).
23- Somini Sengupta, "Even amid a pandemic, more than 40 million people fled their homes," New York Times (May 20, 2021), www.nytimes.com/2021/05/20/climate/storms-floods-wildfires-displacement.html (Accessed: July 19, 2022).
24- IDMC/NRC, GRID 2022: Children and Youth in Internal Displacement (2022), www.internal-displacement.org/sites/default/files/publications/documents/IDMC_GRID_2022_LR.pdf (Accessed: July 19, 2022).

ditions being secured, returns start in short times.[7] Most of the displacements caused by sudden-onset climate events occur in the Global South, where vulnerability to such events is higher. People exposed to social, economic, and political injustices are most affected by the damages such climate events inflict on houses, jobs, and lands, in addition to infrastructures that ensure the basic needs in living spaces. While these people's return might be delayed, they become poorer when they return since the living and working conditions worsen.

SLOW ONSET CLIMATE EVENTS

Drought, desertification, coastal erosion, and rising sea levels are *slow onset climate events* that show long-term effects. These climate events exhibit their effects in a cumulative and gradually increasing way. The primary climate event which affects human life extensively is drought related to increasing temperatures and changing rainfall patterns. Droughts have a series of adverse effects on human life in broad areas. Due to increasing temperature and changing rainfall patterns agricultural product decreases, and the quality is lower. Apart from drought, a series of direct and indirect factors, such as climate change-related salinization of underground waters and soil, and soil degradation, cause decreases in agricultural production, and communities who maintain their lives based on agriculture and natural resources lose their livelihoods and incomes.

According to 2015 data, 500 million small farmers in the Global South provide nearly 2 million people's livelihood and nourishment. The small farmers in Asia and Sub-Saharan Africa produce 80% of the consumed food worldwide. 70% of the penurious population, estimated as 86 million people worldwide, mainly ensure their livelihoods with agriculture in rural regions.[8] Those within this massive group, who are exposed to multiple disadvantages resulting from several factors such as property regimes, access to technology, gender, and ethnic identity—for example, farmers who use rain and underground water for irrigation—are affected by these situations even more adversely. Landless workers and those who work on others' land lose their jobs and income as a result of increasing mechanization in anticipation of decreases in soil productivity.

Drought also leads to the loss of food security.[9] If the IPCC's (Intergovernmental Panel on Climate change) pessimistic climate change scenario comes true, by 2050, a

1.2 billion people worldwide maintain their lives by using ecosystem services which can be summarized as benefits obtained from nature.

17% decrease is expected in coarse grain, oilseed, wheat, and rice production, which constitute 70% of the agricultural crops worldwide. On the other hand, according to FAO's (Food and Agriculture Organization) estimations, global agricultural production needs to be increased by 60% in order to meet the rising population's nutritional needs. Drought also adversely affects stockbreeding activities. In Sub-Saharan Africa, there has been a 20 to 60% decrease in the number of fed animals in the periods when drought reaches severe and hazardous extents.[10]

Drought, which is constituted by decreases in water availability and rains with extreme heat, also harms ecosystem services and people who ensure their livelihood based on ecosystem services. 1.2 billion people worldwide maintain their lives by using ecosystem services which can be summarized as benefits obtained from nature.[11] The forest ecosystems and biological diversity that are the basis of the ecosystem services, which host several vital resources for human life, such as food, water, energy, and raw materials for traditional medicine, are rapidly harmed by climate change-related events such as increases in temperature, extreme weather events, uncontrolled fires, landslides, and the emergence of new diseases and damages, in addition to deforestation activities of lumbering and agricultural sectors.[12] Furthermore, decreases in water availability, another effect of drought, result in an inability to provide enough utility water. Disruptions in water ecosystems in sea and on land cause communities that maintain their lives with fishery based on these resources to lose their livelihoods.

Drought—together with extreme weather events—has become the climate event that causes the displacement of the highest number of people. Several individuals and communities whose living conditions are threatened due to preceding economic displacements spread over time try to maintain their lives through different types of mobility such as short-term/long-term and temporary/permanent/cyclical. On the other hand, it is possible to consider drought, which evokes its effect in the long term and slowly, as a climate-related disaster about which individuals and communities think and take some

precautions. Consequently, it can be assumed that lasting and permanent migration in such a situation is a very common defense strategy. It can be said that when compared with the results of abrupt climate disasters, lasting and permanent migration is more common in times of drought. Nevertheless, lasting and permanent migration in the face of drought is one of the last strategies applied. For example, only 0.4% of the households exposed to a long-lasting and vast drought in Bangladesh in 2004 migrated for long term or permanently.[13]

Another example of slow onset climate events is temperature increases. Temperature increases, which can also intertwine with drought, occur over long periods of time and result in permanent changes in a region. These result in problems such as decreases in productivity, water availability, and efficiency. Meanwhile, the required environmental conditions for healthy life deteriorating is another outcome that makes people unable to sustain their lives in their region.[14]

Rising sea levels is also a climate change-related event, which can potentially cause displacements. The sea levels worldwide are rising 3.4 mm annually.[15] According to IPCC's estimations, there is a probability that in 2100, the average sea level will be 0.61-1.1 meters higher than the average between 1986 and 2005.[16] The primary reasons for this rise are climate change-related events, especially the melting of icebergs and wide ice blocks and the thermal expansion of sea waters due to increasing temperatures. In addition to directly submerging living spaces, rising sea levels also result in floods and increase the effects of extreme weather events.[17] This situation threatens islands in the oceans and indigenous communities living on them foremost.

13% of the world population lives in altitudes up to 10 meters from sea level. The total number of people living in places where the sea level may rise more than half a meter by 2050 is estimated to be around 800 million. The number of cities worldwide at the risk of being affected by rising sea levels that can reach up to six meters with storms, hurricanes, and other extreme weather events is estimated at 570. Another effect of the rising sea levels is that it increases the effects of extreme weather events such as hurricanes and storms. It is estimated that by 2050, the loss suffered by the cities worldwide due to this effect will be one trillion dollars.[18] The emergent displacements resulting from this are a growing hazard for cities. Rising sea level-induced displacements are already occurring in many islands in the oceans:

800
MILLION

The estimated number of people who are living in places where the sea levels may rise more than half a meter by 2050

570

The number of cities worldwide which are at risk of being affected by rising sea levels

• 2000 people living on Han Island, Papua New Guinea, have been relocated to other places due to increasing risks of rising sea level, food insecurity, and erosion.
• 4500 people living on Funafuti Island of Tuvalu, located in the Pacific Ocean, face the risk of losing their lands due to coastal erosion resulting from rising sea levels and their water resources due to salinization.
• 10,000 inhabitants of Choiseul Island, one of the Solomon Islands, are considered for relocation due to the risk of the island being submerged.
• The Lataw Village on Vanuatu Island was moved to the inner part of the island in 2004 due to ocean waters submerging the lands.
• The low-altitude Halligen Islands, located in the North Sea of Germany, home to about 300 people and a habitat to 60,000 seabirds, are at the risk of destruction soon due to rising sea levels.[19]

IS CLIMATE MIGRATION REALLY HAPPENING?

The correlation between climate change and migration is a highly complex and controversial topic. The approach considering environmental factors as one of the main factors of migration came forth in the mid-1980s.[20] The 1985 UNEP (United Nations Environmental Program) report was the first publication which reached large masses with the claim that the world would encounter a new kind of migration, "environmental migration," and a new kind of migrant, "environmental refugees," as a result of an increasing number of people's lives and living spaces being under threat due to increasing environmental disasters. In UNEP's reports, "environmental refugees" are defined as "who have been forced to leave their traditional habitat, temporarily or permanently,

because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life"; it was highlighted that this is a different category than immigration due to violence, war, oppression, and political repression.[21] IPCC's first evaluation report, published in 1990, had a significant effect on "environmental migration" evolving into "climate migration". This report asserted that the effects of climate change, primarily rising sea levels, coastal erosion and drought, have the potential to trigger human migration and create instability in some regions.[22]

In the same period, academic research also started concentrating on the concept of "climate migration", which became frequently used because of the IPCC report and other similar publications. In this period, the potential effects of climate hazards on migration movements started to be explored with various scenarios in the academic field; numerical estimations about the expected climate migration across the world were propounded. Norman Myers, a scientist known for his research on biological diversity and climate migration, argued that the number of climate migrants across the world will be around 150 million in 2050.[23] Later, Myers increased this estimation to 212 million people; 162 million due to rising sea levels and 50 million due to drought and other climate hazard-induced events.[24] This estimation forms the basis of several reports and research; similar numbers were repeated in many NGOs' reports and academic research.[25] In addition to this, it is also possible to come across research suggesting much higher numbers. Christian Aid argued that the number of people displaced in 2050 due to climate hazards might increase to 300 million.[26] The Institute for Economic and Peace (IEP) estimated that by 2050, the number of people migrating across the world due to climate change would reach 1.2 billion.[27]

The mainstream climate migration discourse, which a part of academia has embraced for a long time, is based on the assumption that there is a direct correlation between climate change and migration. According to this approach, various climate events which turn into disasters, such as rising sea levels, droughts, desertification, and extreme weather events, will destroy houses, livelihoods, resources, and lower living standards; as a natural result of this, it is predicted that individuals (and communities) will migrate to find new living spaces. In other words, climate change is considered a primary factor which directly causes people to abandon their abodes and find new places to continue their lives. While it is suggested that climate change-induced migration

The (estimated) volume of climate migration, which was expected to increase, was considered the messenger of a massive "disaster" in the eyes of mainstream media, government officials, and political decisions makers.

will be massive, permanent, and international, it is also assumed that it will occur in a particular direction. It is expected that climate migration will be toward places which are (yet) less affected by climate change or have a higher endurance to the devastating effects of climate change. To state more concretely, it is argued that climate migration will mainly occur at a gradually increasing level from the poor Global South to the Global North, which is "developed," "enduring" to the climate crisis, and has a high adaptive capacity.[28]

The "climate migration" argument propounded in academia and civil society, and the corresponding high estimations of climate migrant numbers also find their responses in the fields of politics and media. The (estimated) volume of climate migration, which was expected to increase, was considered the messenger of a massive "disaster" in the eyes of mainstream media, government officials, and political decisions makers. For example, according to an article published in *New York Times,* while it is argued that significant rates of climate migration already started, according to the most pessimistic climate scenarios, more than 30 million people will migrate to the USA from Central and Latin America.[29] *Daily Telegraph* noted that due to rising sea levels, millions of people will rush into the United Kingdom and thus, "terrorism" will rise.[30] Many similar mainstream media organs of the Global North have a tendency to generally frame the effects and results of "climate migration" in the same way of other types of migration even though they present "climate migration" as a separate category.

In the field of institutional politics as well, climate migration is dealt with similarly at both national and international levels.[31] In the 2017 Stern Report prepared for The United Kingdom Government, it was argued that the increasing temperatures would have socially and economically adverse results and cause regional conflicts in connection to "massive" and "devastating" human mobility.[32] According to a report published by the Germany Advisory Council on Global Change (WBGU), it was predicted that the

disasters caused by climate change would decrease the capacities of "weak" and "fragile" states even more, and instability and security problems would gradually spread and result in instability in the international system.[33] According to a report by the USA Senate in 2015, climate change-induced events carry the potential to increase both domestic and international migration and cause security problems.

Countries opinions in this direction are reflected in the international field without delay. During the United Nations Security Council meeting in 2007, where the correlation between climate change and security was discussed, 34 of 55 states—mainly the European ones—argued that there is a direct correlation between climate change and security. Fifteen countries argued that climate change results in conflict, while 23 claimed that climate migration threatens international peace and security. Only four countries described climate change as an issue threatening "human security".[34] The situation was similar in the 2011 Security Council Meeting, where climate change was discussed; in addition to the alarmist expressions, the percentage of those considering "climate migration" as a security issue was much higher.[35] In the same year, during one of his speeches, Ban Ki-moon, UN Secretary-General of the time, described climate change as a growing risk and stated that it is a "threat" to international peace and security.[36] UNFCCC (United Nations Framework Convention on Climate Change) drew attention to climate change, the consequent migration and related potential conflict and humanitarian crisis, and called governments and researchers to take immediate actions related to the issue.[37] On the other hand, the issue was also entering the agenda of regional bodies such as the EU. In 2019, the Security Council repeated that the expected massive migration and resource conflicts resulting from climate change are among the most critical security problems.[38] Likewise, on the regional scale, during a statement that it made in 2008, the High Representative of the EU for Foreign Affairs and Security Policy indicated that due to climate change, migration and conflict situations would increase and called EU to be ready against the pressures that would emerge due to this. In the 2016 EU Resolution, climate migration risk was highlighted again; the Security Council was called to continue to address this topic, and the member states were called to take preventive actions.[39]

One of the underlying reasons why propounded massive climate migration is presented as an element of anxiety and fear is the assumption that environmental migrations will trigger or lead to direct tensions and conflicts in social, economic, and polit-

ical fields. According to this assumption, there are three types of potential correlation between environmental migration and tensions/conflict:[40]

- Conflicts emerging in the cases of migration causing environmental destruction,
- Environmental destructions or transformations causing migration; migration causing conflicts in the destination country,
- Environmental destruction leading to conflict in the place of origin; and with the emergent migration, the conflict shifting to another place or spreading.

The security approach to climate migration mainly focuses on the latter correlation. On the other hand, it is also argued that as a result of low-capacity governments directing their resources and powers to compensate for the damages of climate disasters, other previously existent conflicts come out.[41] In both cases, it is predicted that conflicts would trigger migration, and thus conflicts would shift to other places and expand in a way that would involve the Global North. In addition, there are anxieties that climate migration, leading to an expected "large" population arriving in the Global North will create pressure on the existing resources, and the system will not be able to handle this burden. The primary problems that are expected to emerge in the Global North with climate migration are listed below:[42]

- New ethnic tensions and conflicts occur, or former tensions or conflicts resurface,
- Intra or international migration decrease states' capacities to perform essential services, especially fundamental functions related to providing development and wealth,
- Because climate change leads to the extinction of agricultural and natural resources, the migration of masses to cities puts cities with limited service and resource-providing capacity under pressure.

The perception that Global North with its prosperous and peaceful life that has a high level of welfare is under threat is both the cause and the result of the security driven approach to climate migration. The proposed solution to this problem consists of a series of different actions and policies ranging from harsh and hardline security measures and policies, such as control of the borders, strict migration laws and even military measures, to proactive methods, including prevention of migration by increasing the resillience of the Global South through *in situ adaptation* measures.[43]

Without doubt, climate change has many devastating consequences. In addition to all species, with opportunities of providing several essential needs such as food, water, housing, and livelihood are decreasing or disappearing, the economic, social and cultural existence of human communities are at risk. Consequently, climate change does and will culminate in displacements. However, approaching "climate migration" as a unidimensional and conflictual issue within the framework of "national security" makes it analytically and politically extremely difficult to resolve. The problems which generally disrupt the climate struggle, as well as the search for climate justice, can be summarized as:

The decline in the sense of personal efficacy: Generally, the alarmist discourses emphasize the severity, extent, and destructiveness of climate change; they describe climate change as a rapidly emerging massive disaster which radically affects every field of life. These alarmist discourses, which generally create "fear" and "panic" in the public, are used by NGOs and some climate movement actors to draw the attention of the public opinion and decision-makers to the urgency of the situation and to direct all actors to take adequate precautions. As in many political mobilizations, the negative emotions resulting from the language of the alarmist discourse can be considered an essential element that drives individuals to act on climate issues. However, the alarmist discourses do not always yield the expected result. On the contrary, they often create adverse effects on climate mobilization. When the negative emotions evoked by such discourses rise to extreme levels, the accompanying positive emotions such as "hope," "joy," and "pride" are weak, and the solutions to the problems considered insufficient are combined with political, organizational, and individual obstacles, inefficacies and negations; thus alarmist discourses fail to mobilize individuals/communities.[44] With the emotions of pessimism and despair on the rise, people's beliefs in a deadlock are strengthened; the sense that their individual and communal capacity of efficacy is limited spreads, and consequently, a state of inaction begins to spread. This can result in the emergence and consolidation of ideas that a big and inevitable disaster cannot be stopped in any way. Associating climate change, which is already perceived as an unstoppable disaster, with migration, which is presented as another disaster, can increase negative emotions. The emergent "fear" and "panic" can lead to a tendency to solve the issue of migration with customary "security" methods instead of dealing with the issue of migration in relation to climate change within the political, economic, and social context.[45]

Ecological-nationalism: The approach looking at climate migration from the security framework sees the starting and ending points of climate change as countries; international migration movements are the main focus of the analysis. Thus, climate migration becomes an issue discussed through national interests. It is assumed that the "problem" of climate migration emerges as borders are crossed. The problematic aspects of climate migration are primarily defined through the national interests of the migration-receiving countries. Moreover, it is increasingly possible to encounter approaches that correlate climate change with the perpetuity of national identity. This tendency is observed rather strongly in far-right parties in the Global North, which define national identity through ethnicity and even race.

For a very long time, the far-right parties considered environmental problems and ecological destruction as issues propounded by a group of the global elite, who are against national interests and are inclined to restrict national sovereignty. These parties were generally among the leading climate deniers. However, as the far-right parties in the Global North currently adopt a populist face, a change in their discourses and policies regarding climate change is observed.[46] While these parties increasingly address ecological issues, climate change foremost among them, they correlate these topics with issues on which they built their discourses and policies, such as national security and national identity. They are also using the alarmist discourses on climate migration as a basis for supporting their existing xenophobic and anti-migration policies; they transform the increasing sensitivity on this issue into a tool for providing legitimacy for their xenophobic policies. Accordingly, climate migration becomes one of the excuses for the fundamental political proposals regarding increasing the control and enclosure of national borders. One of the most striking examples of this is constituted by the far-right National Front in France. The party, which recently established a task force for ecological issues, propounds the claim of "creating the most ecological civilization in the world". The leader of the National Front, Marine Le Pen, also defined environmentalism as a necessity of patriotism.[47] In addition to National Front, many far-right parties, such as United Kingdom Independence Party (United Kingdom), Vox Party (Spain) and Alternative for Germany (Germany), defend the view that can be called ecological-nationalism. According to this view, climate migrants are described as people who "plunder" natural resources such as soil and water within national borders, who do not carry a sense of belonging to the national context that they are in, and who are not in need of acting with responsibility regarding ecology. Ecological-nationalism, which

handles ecological problems by merging an authoritarian nationalist understanding with populism, argues that climate migrants would disrupt the unity that is assumed between "homeland/land" and "nation".[48] The solution suggestions for climate migration of the far-right parties, whose attitude about migration is shaped by discriminatory discourses and policies, xenophobia and even racism, are tightening the control of national borders.[49]

The ecological-nationalism tendency, strongly observed in the far-right, currently manifests in center-right parties that adopt right-populist policies more and more. For example, in one of his speeches, the then prime minister of the United Kingdom and the leader of the Conservative Party, Boris Johnson, connected the fall of the Roman Empire with the weakness of its borders and uncontrolled migration and indicated that they also need to be careful to not fall in a similar situation due to climate migration.[50] Mark Brnovich, the district attorney of Arizona State and a member of the Republican Party in the USA, argued that the migrants coming from Mexico are worsening the greenhouse gas emissions and increasing the pressure on environmental pollution and natural resources, thus suggesting that they should return to Trump's anti-migrant policies and build the wall in the border.[51] In short, from the far-right to the center, several political actors see climate migration, which is argued to occur in masses, as a "disaster" that is impending and threatening to national existences. The solution to the climate migration "problem" is searched in xenophobic and protective policies. This situation usually provides the basis for and contributes to using similar discriminative and oppressive policies.[52]

Technocratic approach: The alarmist discourses around "climate migration" lead to overlooking the political, economic, and social dimensions of the correlation between climate change and displacements and dealing with it as a technical-administrative issue.[53] One of the fundamental reasons for this is the argument that the data propounded by scientific research constituted by climate migration numbers, which form the basis for such discourses, is "objective". The climate migration "problem", the existence, extent, and characteristics of which are argued to be explained "objectively", is presented as an incontestable reality. On the other hand, the reductionist correlation established between climate change and migration prevents looking at the reasons for this issue which is perceived as a problem and blocks seeing the underlying political, economic, and social power inequalities.[54] The solution to the issue is presented as an undeniable

The reductionist correlation established between climate change and migration prevents looking at the reasons for this issue which is perceived as a problem and blocks seeing the underlying political, economic, and social power inequalities.

reality reduced to a technical matter and squeezed into administrative and constitutional regulations. When the growing extent of the encountered "risk" of climate migration is combined with the idea that the tools to use and actions to take are limited, a technocratic point of view expects the solution from experts.[55] In short, as long as climate migration is handled as a technical issue, power inequalities, injustices, and conflicting situations which lie at the basis of the correlation between climate change and mobility are overlooked. As long as climate justice does not find its place in the diagnosis and solution of the problem, the current structure and relations that dispossess people from their houses, lands, and living spaces persist.

"Victimization" and "marginalization": One problematic side of the international climate migration arguments is that while people who migrated/will migrate due to climate change are presented as the "victims" unavoidably exposed to a "disaster" or a "crisis", they are at the same time described as a potential "danger" for the destination countries in the Global North.[56] It is overlooked that "climate migrants", who are described as masses, are in fact constituted by individuals whose lives, living spaces, and livelihoods are at hazard, and each individual has a different life story, demands, needs, and choices. In other words, each individual who did/will turn into a climate migrant is seen as part of a batch on the move. This approach is especially popular in mainstream media. For example, as seen in several news of the BBC, potential migrants due to climate change are presented as "abstract" pieces of a numerically significant mass rather than individuals whose lives are threatened.[57] In addition, there are also media narratives highlighting the "humanitarian" side of the issue. Such news feature the identities and experiences of some individuals as potential climate migrants, mostly from the Global South. However, such news also do not refrain from emphasizing the big masses, especially from the Global South, who are in despair due to climate disasters. For example, research which analyzed all news related to climate migration in the *Guardian* and *New York Times* between 2005 and 2018 shows that both the liberal/center-left inclined news-

papers generally approach the issue from a "humanitarian" standpoint. On the other hand, both media organs describe the rich countries of the Global North as "protector" and "benefactor" actors responsible for establishing constitutional assurances and providing humanitarian aid and shelter for those in hard conditions. Yet, in the majority of the "climate migration" news, there is no reminder of the responsibility of the Global North in the emergence of climate change. In the case of climate migrants, they are presented as masses *in need* who *escaped* from climate disasters to safe places and whose numbers are so big that they can never be precisely known.[58]

As in many other examples, "climate migrants" are generally described as "victims" who do not have any agency over their lives and who have to put up with the disaster that befalls them. This transforms the climate hazard-related displaced people into objects to "protect/save". In other words, as presented in mainstream discourses, climate migration does not consider the individuals on the move as people who can make decisions on their own and who are political subjects that are part of the solution to the problem. Meanwhile, climate migrants are also portrayed as potential dangers. In both written and visual presentations of the media, climate migrants are transformed into potentially "dangerous" "others" as much as they are presented as "victims" who experience the devastating effects of climate change.[60] All of these reproduce the inequalities in power relations that climate justice highlights and argues that they are at the core of climate change.

CLIMATE MOBILITY

The critiques of the dominant mainstream approach promotes fear and panic by describing "climate migration" as a huge disaster and the consequent security attitude have been on the rise since the beginning of the 2010s. Based on the findings of the burgeoning academic research, especially in the academic field, criticizes the reductionist international climate migration approaches based on approach has been criticized in terms of their research methods, conceptsconceptualization, assumptions and implications.

Alternative approaches jointly indicate that there is no unidirectional, unidimensional, and uniform correlation between climate change and mobility which leads to international migration. On the contrary, it is emphasized that there is a correlation

SPECULATIVE CLIMATE MIGRATION DATA

The leading criticism against mainstream "climate migration" is the methods used in research and calculations related to the effects of climate/environmental disasters on migration. In general, the number of people who would be affected by climate change is mechanically calculated through the size of the impact area and the estimated number of people living in that region. For example, the estimated number of people living in a coastline region that would be submerged due to the future rise of sea level is automatically presented as the probable number of people who will be affected by the disaster. Based on the assumed direct causal link between climate change and migration, the number of people who would migrate due to a climate disaster is considered equal to the total number of the affected population in the region. These mechanical estimations are also made independent of the social, economic, political, and institutional factors.[1] Another problem related to this issue is the absence of long-term data. When the effects of climate risk on migration in a region are being analyzed, the relationship between a specific climate event and migration is examined by collecting data based on a specific and short-term time interval. On the other hand, excluding the periods in which the same risks continue but the mobility is low from research results in overlooking the long-term effects of environmental and other factors. In short, the problematic means of data collection and calculation methods lead to the postulation of speculative and sensational climate migrant numbers for the future. Meanwhile, this leads to establishing a flawed and often misleading relationship between migration/mobility and climate change.[2]

1- Giovanni Bettini, "Climate Barbarians at the Gate? A Critique of Apocalyptic Narratives on 'Climate Refugees'," *Geoforum* 45 (2014): 63-72; Dina Ionesco, et al., *The Atlas of Environmental Migration* (Earthscan, 2017).
2- Luisa Veronis, et al., "Environmental Change and International Migration: A Review," in *Routledge Handbook of Environmental Migration and Displacement*, ed. Robert McLeman and François Gemenne (Routledge, 2018), pp. 42-70. E-book doi: https://doi.org/10.4324/9781315638843

between climate change and mobility that also entails international migration, which is highly complex and multifactorial and whose form and end are unpredictable. The common findings of the alternative approaches to climate change and mobility can be summarized as:

Climate mobility is multifactorial

Climate change risks do not play a single-handedly determinant role in migration and mobility. As in every other type of migration, migrations whose origin seems to be climate change have more than one reason.[61] As is also indicated in the Foresight Report, which summarizes the multifactoriality of climate mobility and is one of the reference works in the field, there are a series of political, economic, social, environmental, and demographic factors on the macro level, such as limited opportunities of education and employment; income level; income resources; cultural discrimination;

A CONCEPT WITHOUT A LEGAL BASIS: CLIMATE REFUGEE

In the climate "migration" discussion, the term "climate refugee" was first proposed in the mid-1980s. Yet, the term "climate refugee," which became popular in the media, civil society, and partially in academia, does not have a legal basis. In the 1951 Refugee Convention of the UN, a refugee is defined as a person who is outside his or her country of nationality or habitual residence; has a well-founded fear of being persecuted because of his or her race, religion, nationality, membership of a particular social group or political opinion; and is unable or unwilling to avail him— or herself of the protection of that country, or to return there, for fear of persecution.[1] Those who migrate due to the effects of environmental/climate events are not included in the definition of "refugee" that explicitly comprises the migration due to wars, violence, and political oppressions. On the other hand, the term "environmental/climate refugee" is based on the assumption that the effects of environment and climate can be easily distinguished from social, economic, political, cultural, and demographic factors. However, climate and environmental factors affect individual/community mobilities not on their own but by merging with other factors. Thus, tackling climate migration as a singular migration category and defining a climate refugee accordingly is both challenging and not instructive. In addition, migration movements that emerge after climate events mainly occur within national borders rather than internationally. This is another factor that makes the term "refugee," which is defined based on *international* migration movements, analytically insufficient. On the other hand, NGOs, climate movement groups and activists, and some governments who think that the term "climate refugee" will provide an essential basis for defending the rights of people who migrate due to climate change events and actualizing effective policies continue their fights for the recognition of this term.[2]

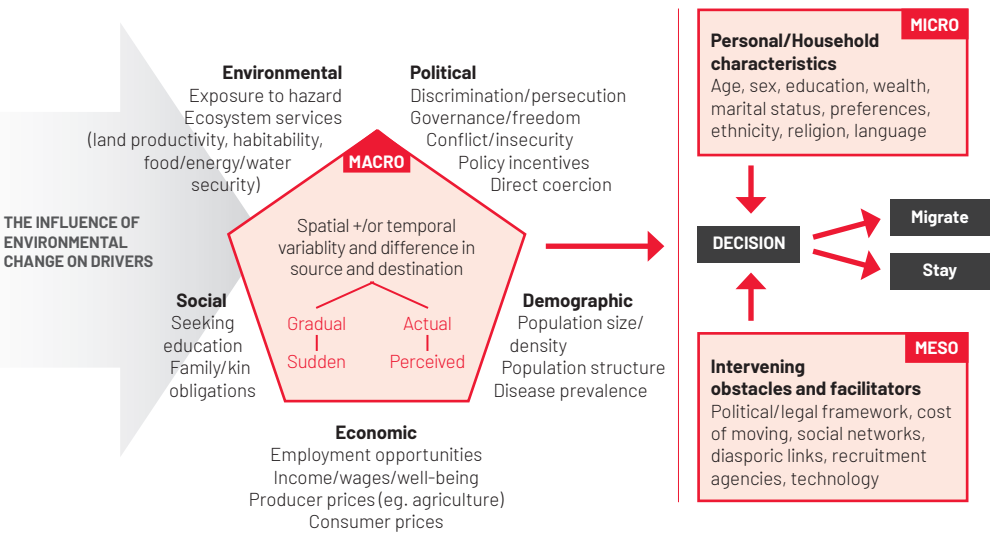
1- UHCR, *The 1951 Convention Relating to the Status of Refugees* (1951), https://www.unhcr.org/about-us/background/4ec262df9/1951-convention-relating-status-refugees-its-1967-protocol.html (Accessed: July 26, 2022).
2- Robert McLeman and François Gemenne, "Environmental Migration Research: Evaluation and Current State of the Research," in *Routledge Handbook of Environmental Displacement and Migration* (2018), pp. 3-16; Osman Balaban, et al., *İklim Değişikliği, Göç ve Yerel Yönetimler* (Yerel Yönetişim ve Göç Dizisi II. RESLOG, 2021), http://www.reslogproject.org/wp-content/uploads/2021/09/reslog_KIT_iklim_TR_ONLINE_2_final.pdf (Accessed: July 26, 2022).

food insecurity, and decreases in water availability, which pushes people to decide to migrate. Climate change-related risks also merge with such macro factors and increase their already existing adversary effects. However, such factors which are reshaped as a result of climate change are not enough by themselves in the decision to migrate. The meso-level factors, such as the political/constitutional framework, cost of mobility, and the existence of social networks, and micro-level factors, which include households and individuals' various capacities, intercede. The micro factors, which can also be called the characteristics of individuals/households, are constituted by various elements such as age, gender, education level, marital status, prosperity, preferences, race, religion, language, and class identity. Such elements are not independent of unbalances in power relations, socio-economic inequalities, and social and cultural exclusion/discrimination. Individual characteristics, which are also important determiners of individuals' and communities' vulnerability levels, are re-

flections of injustices and inequalities in society. Individuals/households' decisions to whether abandon their living places or not are also formed by the aggregation of such macro, mezzo, and micro factors. In addition, the climate justice approach highlights that climate change itself is a social, economic, and political issue. In that regard, complexity of the so-called climate migration is more striking. In short, it is possible to say that the effects of climate change-related events increase through the merging of economic, social, and political factors.

One of the locations where the effects of social, economic, and cultural inequalities and injustices on climate change are most strikingly observed is South Africa. With decreases in rains and increases in temperatures across South Africa in the periods of 1997 to 2001 and 2007 to 2011, the livelihoods of people in rural areas that mainly consist of agricultural production faced risks, and as a result, mobility of the poor peasants substantially increased. The mobility that has been taking place within the South African borders, although triggered by droughts and decreases in water availability, has been mainly caused by socio-economic inequalities and race-based inequalities, which

TABLE 3: THE DRIVERS OF MIGRATION AND THE INFLUENCE OF ENVIRONMENTAL CHANGE



SOURCE: Foresight (2011). *Migration and global environmental change: Future challenges and opportunities* (Project Final Report). Government Office for Science.

are determining factors entangled in history. Inasmuch, South Africa, where race discrimination reached the highest level under the long-lasting Apartheid regime and continued its effects on economic and social spheres after the regime change, is one of the countries worldwide where inequality and poverty are at very severe levels. People who migrated to other regions due to drought and decreases in water availability were mainly constituted by low-income/poor black people. It was observed that white people, however, who were not or little affected by the situation abandon their living spaces at much lower rates. On the other hand, the majority of poor black peasants, although intensely exposed to risks of hunger and losing their livelihoods and feeling the urge and need to go to other regions, couldn't migrate to other regions because of a lack of monetary resources.[62] Again in Senegal, part of the Sahel Region of Africa, more so than the effects of climate change, the reasons for the migration of poor small farmers, who live under several simultaneous precarities, include different social, economic, and political factors such as decreases in market prices of various products; discriminative public policies; the instability of markets, and adverse social conditions.[63]

Local dynamics and the local combination of the factors listed above show differences, and their effects also show variabilities. For example, it is observed that in Ecuador, possessing land property has a direct correlation with migration during drought periods, whereas in the Mekong Delta in Vietnam, it has an indirect correlation during floods. In return, it is recorded that landless peasants in Vietnam change their places more easily, whereas, in Ecuador, they stay in their places due to a lack of enough resources.[64]

Climate mobility mostly occurs short-term/is temporary, cyclical and seasonal

Research indicates that the main arguments by the mainstream claiming that climate change-related migration is permanent are not valid. Generally, mobility resulting from climate change events differs in terms of duration. Individuals/communities whose houses, lands, and livelihoods are at risk change their places for different durations on a scale from permanent to temporary.[65] Most climate events—especially sudden-onset ones—result in **short-term/temporary** mobility.[66] However, while the probability of permanent and long-term change of place increases in slow onset climate events, **seasonal and cyclical** change of place is the more common type of mobility. In households

VULNERABILITY

Vulnerability is broadly defined as characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.[1] The level of vulnerability is determined through three parameters:[2]

— Exposure which indicates the frequency and ratio of encountering climate events,

— Sensitivity which refers to the form and level of the impacts that are imposed,

— Adaptive capacity which represents the level of resilience against climate risks and coping with such risks.

The relationship between these parameters, on which the vulnerability of social groups is also based, is generally formed in this way: When exposure and defenselessness to hazard increase, vulnerability increases; when adaptative capacity decreases, vulnerability increases.[3]

Political ecology and climate justice approach emphasize that the vulnerabilities are determined by social, economic, and political relations, power distribution, and inequalities.[4] Accordingly, various factors, including type of livelihood activities, class position, and gender relations, give rise to restricted access to resources and services for various class, gender, age, and ethnic groups. Social groups with low income, limited savings, low education levels and that are socially and culturally discriminated/excluded are more defenceless against the effects of climate events; they can hardly redress the emergent damages or cannot redress them at all. For example, farmers whose livelihood depend on agricultural activities have more difficulties in terms of coping with droughts and extreme weather events.

Vulnerability is not static; with the emergent social conditions and relations varying over time, space, and situation, the level of vulnerability changes. Even though historically existing social, economic, and political inequalities/injustices retain their effects long periods[5], there are structural change. Additionally, institutional regulations and policies also have impacy-t on the level and/or characteristics of vulnerability.[6]

The vulnerability of social groups is multidimensional and intersectional. Vulnerability of individuals and communities are determined by an interplay of factors; different social, economic, and political injustices and inequalities intersect and affect the vulnerability level of individuals/communities. For example, among indigenous communities that are one of the most vulnerable groups, there are subcategories whose vulnerability is higher than the others. A poor indigenous woman highly vulnerable because of being poor, a woman, and a member of an indigenous community.[7]

Many studies in a wide range of countries have shown that migration is positively associated with wealth and social capital, while vulnerability to environmental change is negatively correlated with wealth and social capital.[8] Overall vulnerability is high in coastline settlements under the risk of sea level rise or in regions threatened by droughts. However, the vulnerability of people who live in one region is not on the same level. Several factors, such as the type of livelihood activities, class, and gender relations, cause individuals' and communities' vulnerability to increase in the face of climate (and environmental) risks. Likewise, the adaptive capacity—which ensures people maintain their lives with minimum damage against climate/environment disasters or people more easily redress the damages inflicted by climate events—of individuals from different social categories, such as class, gender, age, and education level, varies.

Finally, climate events/disasters themselves can increase vulnerabilities. Vulnerability level might increase when climate risks turn into a disaster. Houses being damaged and unusable during severe floods and extreme weather events, or losses of livelihoods due to slow onset climate events, such as droughts, creates further pressure on financial resources of the poor.[9]

1- UNISDR, *Terminology on Disaster Risk Reduction* (Geneva, 2009), https://www.undrr.org/publication/2009-unisdr-terminology-disaster-risk-reduction (Accessed: July 26, 2022).
2- W. Neil Adger, "Vulnerability," *Global Environmental Change* 16 (2006): 268-281. http://dx.doi.org/10.1016/j.gloenvcha.2006.02.006
3- W. Neil Adger, et al., "Mobility, Displacement and Migration, and Their Interactions with Vulnerability and Adaptation to Environmental Risks," in *Routledge Handbook of Environmental Displacement and Migration*, ed. Robert McLeman and François Gemenne (Routledge, 2018), pp. 23-41. E-book doi: https://doi.org/10.4324/9781315638843
4- Karen O'Brien, et al., "Why Different Interpretations of Vulnerability Matter in Climate Change Discourses," *Climate Policy* 7, no. 1 (2007): 73-88.
5- Ilona M. Otto, "Social Vulnerability to Climate Change: A Review of Concepts and Evidence," *Regional Environmental Change* 17 (2017): 1-12. doi: 10.1007/s10113-017-1105-9
6- Ibid.
7- Giovanna Gioli and Andrea Milan, "Gender, Migration and (Global) Environmental Change," in *Routledge Handbook of Environmental Displacement and Migration* (2018), pp. 135-150.
8- Foresight, *Migration and Global Environmental Change: Future Challenges and Opportunities*, Final Project Report, (UK Government Office for Science, 2011), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/287717/11-1116-migration-and-global-environmental-change.pdf (Accessed: August 12, 2022).
9- Otto (2017), Ibid.

exposed to devastating effects of climate events, some members of households going to other regions for work and diversification and flexibilization of livelihood, is a frequently applicated method. In other words, it is possible to consider short-term mobility as an adaptive action used historically against the seasonal changes, and currently, against the intensifying effects of climate change.[67] For example, in the Sahel Region of Africa, which is considered a place where people are strongly exposed to the effects of climate change, and consequently, climate migration occurs intensely, local communities have been mobile for centuries either for commercial purposes or as nomad pastoralists. Changing places was one of the primary strategies for diversifying livelihoods against harsh climate conditions before human-led climate change.[68]

It is also possible that climate crisis-related displacements in some cases incline to become permanent. However, the primary reason for this is that after climate events, damages and losses are not sufficiently compensated, and in the elapsed time, disaster places are not transformed into living spaces where individuals and communities can live in health, cleanliness, prosperity, and ensure their livelihoods. People living around the Gulf of Mexico in the USA after Hurricane Katrina in 2005 are one of the most telling examples of displacement which has become permanent. As a result of the hurricane, where 1200 people lost their lives, 200,000 people were displaced. Due to insufficient number of social housing and high rents for the built houses, it became impossible for especially the poor and blacks to return to their previous living areas. By 2015, although around 1925 units of social housing were built thanks to the works to compensate for the effects of the hurricane in New Orleans, this number is 3000 less than the previously available social housing. Thus, after Hurricane Katrina, thousands of the poor continued their lives as permanently displaced.[69]

Climate mobility mainly takes place within national borders and toward nearby places

Contrary to what is argued in mainstream media, politics, and civil society, individuals and communities whose lives, living spaces, and livelihoods are threatened due to several climate events mostly change their places within the borders of their own countries. The research on this issue shows that migration mobilities under the effects of climate risk and events mainly occur **within national borders** rather than international.[70] The poor, whose capacity to move long distances is inadequate because of limited

access to financial resources and social networks, move to immediate settlement areas less damaged in the disaster region and try to protect themselves by changing places over short distances.[71] Knowledge about the destination point and access to social networks at the destination are essential criteria which determine the mobility direction of individuals, households, and communities during and after climate events. The probability that knowledge and social networks related to nearby regions are higher also increases the choice of short-distance mobility.[72] Research done on eight countries located in the north of Latin America and the Caribbean Islands shows that during droughts, the youth living in the rural areas generally go to other nearby rural areas where they can maintain agricultural activities and to places where the cost of transportation is low.[73] A similar result was also found in research on Zambia's southern regions.[74] Due to the "Sima" drought in Somalia in 2016-2017, more than one-third of the country's population (around 4.7 million people) faced food security risk. As a result, nearly one million people were displaced. While these people went to other places within the country's borders, around 408,000 settled in large cities, such as Baidoa, Kismayo, and Mogadishu, or periphery areas of these cities.[75]

In the Sahel Region located in Sub-Saharan Africa, where the frequency, severity and duration of droughts constantly increase, poor small farmers and local communities busy with stockbreeding regularly lose their livelihood opportunities, get poorer, and lose their food security. In addition, other research in the region exhibits that in the face of such a situation, local communities develop different defense mechanisms and consequently opt for different types of mobility instead of migrating to other countries. For example, after the drought in Burkina Faso, it was observed that most of the farmers whose livelihood opportunities disappeared migrated to other nearby villages.[76] This mobility is short-term and seasonal within the framework of a strategy for diversifying income resources. Worldwide data between 1960 and 2000 also shows that climate change does not directly affect international migration. Although climate events potentially indirectly increase international migration by causing wage decreases, it is a minor effect. In fact, when the income of the poor decreases further, domestic migration is a more probable result since there is a decrease in the resources they can reserve for international migration.[77]

The fact that mobility mainly occurs within country borders shows that the alarmist discourses' claim of an influx of "climate migrants" toward the Global North is invalid.

INTERNATIONAL AGREEMENTS AND CLIMATE CHANGE-INDUCED DISPLACEMENTS

➔ **2009** The Kampala Convention (The African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa) was signed by 30 countries from African Union. It aims to prevent internal displacements and protect those migrating, and refers to climate change as one of the reasons for forced migration.[1]

➔ **2010** In the COP16 (Conference of the Parties), the Cancun Adaptation Framework (CAF) was proclaimed. CAF presents a framework for actions for the contracting parties' adaptation to climate change, and it officially recognizes the relationship between climate change and forced migration. While indicating that climate change results in three different types of mobilities, namely, "displacement," "migration," and "planned change of location," it proposes some basic precautions and necessary procedures that the countries need to implement.

➔ **2012** The Nansen Initiative was formed to support efforts to improve the conditions of those who are either internally or internationally displaced due to climate disasters and to create a basis and process for dialogue, solidarity, and collaboration. To this end, the initiative, which ended its activities in 2015, carried out technical support and information assistance, capacity building, creating political awareness activities, and supported countries in developing adaptation policies.

➔ **2013** The Warsaw International Mechanism for Loss and Damage (WIM) was formed with the aim of compensating for the loss and damages caused by climate change in highly vulnerable countries. In WIM migration movements and emergent risks due to climate events are considered among losses and damages.[2]

➔ **2015** In Sendai Framework for Disaster Risk Reduction 2015-2030, which is signed with the aims of empowering governance of disaster risk; increasing resilience and reducing disaster risks; being prepared against risks, and increasing the effectiveness of post-disaster recovery processes, there are articles which relate climate change with disaster risk, providing a basis for relevant actions and policies.[3]

➔ **2015** The Paris Agreement was signed at COP21. The Task Force on Displacement (TFD) was formed to develop proposals related to the issue within the scope of WIM in the agreement.

➔ **2016** The Platform on Disaster Displacement (PDD) was formed, replacing the Nansen Initiative. Non-state actors are also accepted as partners in PDD; the works of the platform are carried out around three fundamental aims:[4]

- To help people at risk of displacement stay in their homes.
- To help people affected by disasters move out of harm's way.
- To better protect people forced to leave their homes.

➔ **2018** In COP24, the document entailing recommendations for "Loss and Damage associated with Climate Change Impacts on integrated approaches to averting, minimizing and addressing displacement related to the adverse impacts of climate change" drafted by the Task Force on Displacement was accepted; the duty term of the Task Force was extended for two more years.

➔ **2018** The Global Compact for Safe, Orderly and Regular Migration (GCM) was signed. The agreement, which contains articles related to displacements within the context of climate change, introduces several recommendations and provisions such as developing adaptation and resilience policies against climate change and environmental destructions; inclusion of displacements in preparation strategies against disasters; governments providing humanitarian visas and temporary work permits for people who migrate due to disasters.[5]

1- African Union, *African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (The Kampala Convention)*, October 23, 2009, https://www.unhcr.org/about-us/background/4ae9bede9/african-union-convention-protection-assistance-internally-displaced-persons.html (Accessed: July 26, 2022); Osman Balaban, et al., İklim Değişikliği, Göç ve Yerel Yönetimler (Yerel Yönetişim ve Göç Dizisi II. RESLOG, 2021), http://www.reslogproject.org/wp-content/uploads/2021/09/reslog_KIT_iklim_TR_ONLINE_2_final.pdf (Accessed: July 26, 2022).
2- Osman Balaban, et al., Ibid.
3- UN, *Sendai Framework for Disaster Risk Reduction 2015 – 2030* (2015), https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf (Accessed: July 26, 2022).
4- Platform on Disaster Displacement (n.d.), *We Promote Measures*, https://disasterdisplacement.org/we-promote-measures (Accessed: July 26, 2022); Osman Balaban, et al., 2021, Ibid.
5- Platform on Disaster Displacement (n.d.). *The Global Compact for Migration: A Breakthrough for Disaster-Displaced Persons and the Beginning of A Long Process*, https://disasterdisplacement.org/staff-member/the-global-compact-for-migration-a-breakthrough-for-disaster-displaced-persons-and-the-beginning-of-a-long-process (Access date: 26.7.2022); IDMC/NRC, GRID 2021: Internal Displacement in a Changing Climate (2021), https://www.internal-displacement.org/sites/default/files/publications/documents/grid2021_idmc.pdf (Accessed: July 26, 2022).

At the same time, international migration observed after climate events mainly occurs between countries close to each other in the same region. Depending on factors such as proximity to borders; already existent migration roads and networks; cultural affinity and networks, mobility can happen toward other nearby countries.[78] For example, labor migration from Mexico to the USA has continued for many years. When people are exposed to the adverse effects of climate change on agricultural production, these migration routes are used; it is observed that people who know those who migrated before or experienced people use these migration routes. In other words, those adversely affected by the social and economic issues that emerged due to climate change are integrated into existing migration networks.[79]

Climate change causes immobility as much as mobility

Different types of immobility are also encountered in face of events related to climate change as much as mobility. Individuals/households' decision on whether to change place or not in face of climate change risks is formed by three primary parameters: need to migrate, desire to migrate, and capacity to migrate. *Need* can be defined as individuals/households' obligation level of changing location based on their exposure to abrupt or slow onset climate events and their vulnerability in face of climate events, as well as accompanying social, economic, and political factors. *Desire* indicates individuals' desire to change their current location mainly due to social and cultural reasons.

TABLE 4: DECISION MAKING PROCESSES OF CLIMATE MOBILITY AND IMMOBILITY

	Need	Desire	Capacity	Result
Environmental change/climate risk → Social, economic, cultural and political factors	Absent	Absent	Absent/Exists	Immobility
	Absent	Exist	Absent	Involuntary immobility/Being trapped
	Absent	Exists	Exists	Mobility
	Exists	Absent	Absent/Exists	Immobility
	Exists	Exists	Absent	Involuntary immobility/Being trapped
	Exists	Exists	Exists	Immobility

SOURCE: Ionesco, D., Mokhnacheva, D. ve Gemenne, F. (2017). *The Atlas of environmental migration.* Earthscan.

Lastly, the *capacity to change place* refers to individuals/households' ability to actualize the action of changing places based on several factors such as their financial resources; qualification; knowledge; social networks, and individual characteristics the formation of which are affected by social, economic, and political relations and structures on the macro level.

As a result of the combination of the parameters shown in the table, two main types of immobility surface in addition to mobility:[80]

- Involuntary immobility, also called being trapped, of those who have the necessity and desire but don't have the capacity,
- Voluntary immobility of those who feel the necessity to migrate due to existing adverse conditions but don't want to abandon their living spaces, regardless of whether or not they have the capacity.

Those who are in the situation of involuntary immobility are also referred to as the trapped populations. Being trapped in the face of climate change risks can originate from several factors, generally more than one combined. In addition to structural reasons, these include constitutional and administrative obstacles, and the absence of transportation or migration infrastructures; there are also disadvantages stemming from individual characteristics such as deficiencies in social networks, social capital, and financial resources, and/or inequalities in age, gender, education and qualifications.[81] It is important to remember that disadvantages related to individual characteristics are connected to social, economic, and political injustices and are manifestations of the injustices and inequalities that occur on the macro level. Among these factors, insufficient financial resources, the most encountered obstacle before individuals' ability to migrate, indicates the determining effect of climate injustice on climate crisis and mobility. Climate/environmental events are generally inversely proportional to income levels. For example, in the case of a drought, individuals reserve a big part of their existing resources for providing food and water. With livelihood activities based on agricultural production being interrupted, further impoverishment of those who already suffer from poverty results in not having enough financial resources to migrate from their current locations. The situation of being trapped is generally more common among groups exposed to other disadvantages in addition to poverty, such as women, children, the elderly, and the disabled. For example, in the households where men migrate to

other places to work, women have to continue living with their children, whose care they have to undertake due to the patriarchal division of labor, in their houses which are under climate risk. In short, as a result of the impoverishment resulting from the monetary losses suffered, the majority of communities and individuals lack the necessary resources to migrate, thus, they are unable to migrate even though they have the needs and desire.[82] This suggests that economic displacements, which are constituted by losses of houses, land and livelihood due to climate events, do not automatically result in physical displacements.

During the droughts in 1981 and 1984 in Kenya, although some local communities ensuring their livelihoods with stockbreeding lost their animals, they continued living on their lands due to their low mobility capacities, whereas those who had the opportunities continued their stockbreeding activities by migrating to nearby regions.[83] Another climate disaster; a climate disaster-induced environmental injustice resulting in deepening poverty, occurred in Bangladesh with Amphan Cyclone in 2020, which caused the dispossession of 2.5 million people from their houses and lands. After the damage recovery works, the region could not return to its previous state, although seven months passed since the disaster. Most of the survivors, who were relocated to a place near their previous abode, sold their properties, got into debt, and begged as they couldn't sustain their livelihoods again, and continued to be exposed to the long-term effects of the disaster such as soil erosion.[84] During Hurricane Katrina in 2005 in the USA, it was observed that those who had enough financial resources and transportation opportunities abandoned the cities as a precaution, whereas the poor, black people and elderly who were devoid of such resources and opportunities mostly could not leave their locations during and after the hurricane.[85]

Another type of immobility is voluntary immobility. Some communities and individuals, although they need to move due to risks of losing their houses, lands, and livelihoods in the face of the effects of climate events and have the capacity to do so, might not have the desire to abandon their living spaces. The primary reasons for this are social and cultural factors. Having a strong sense of connection and belonging to the living space results in people not wanting to go somewhere else even though they observe, know, and experience climate risks. In other words, they define their cultural existence, traditions, living styles, and identities through their attachment to the space, and to maintain these, they choose to stay in their locations and adapt to climate events.

Meanwhile, the comfort of living in a place that they are used to; not getting separated from their family and community members, and other emotional attachments also cause them not to want to abandon their living spaces.[86] For example, some indigenous communities in the Island States in the Pacific, which are at the risk of rising sea levels, decreases in fish populations, decreases in agricultural production, and soil and food security, refuse to abandon their houses and lands and do not consider leaving their traditional living spaces for cultural, spiritual and political reasons.[87] Research on four islands in the Philippines, which face the threat of being submerged, shows that the indigenous communities living on the islands prefer adaptative actions and are inclined to maintain their existences in their traditional living spaces.[88]

We should not consider mobility and immobility as two separate categories that are mutually exclusive and opposite. On the contrary, they should be approached as intertwined, dynamic, and relational categories.[89] The primary reason is that mobility is a discontinuous process that also proceeds with stagnation phases. For example, an individual who heads toward a specific destination can stop somewhere else during their journey, even if it is for a particular period and spend a specific time at the transition point. Social networks, emerging job opportunities, acquired experiences and information in these short stops during the mobility process, which should be considered as moments of immobility, give people opportunities to increase their capacities and open ways for different types of mobility.[90]

Climate mobility might have positive results like adaptation and decreasing vulnerability

The alarmist discourses define climate migration as a phenomenon which leads to a series of adverse results. However, although the adverse effects of climate migration, such as increasing conflict and extinction of resources, are often alluded to, mobility generally yields several positive results. First, although climate change risks and events have devastating effects on natural resources, livelihoods, and living spaces, as opposed to the fundamental arguments of the security approach, such damages do not automatically result in tension/conflict relations. Research shows that today, there is no causality between different results of climate change, such as food insecurity, increases in temperatures and decreases in water availability, and (armed) conflicts between countries and groups. On the contrary, results of climate change can result in relations of solidarity.

SYRIA, YEMEN, AND DARFUR

The cases of Syria, Yemen, and Darfur-Sudan are often cited as examples of the direct relationship between climate change, conflict, and migration. It is argued that it is primarily climate change risks and events such as increasing and long-lasting droughts that already do or will cause conflicts and wars in these countries.[1] However, the fieldwork in these countries raises questions about the validity of the assumed direct and automatic correlation between climate change, conflict, and migration.

Water availability in Yemen continuously decreases due to the effects of climate change; nearly half of Yemen's population has no access to fresh drinking water and underground water required for agriculture. Although the ongoing conflict in the country affects this situation, it is not a direct effect. Even though the water resources decrease, the primary reasons for the conflicts are that the big landlords, who are in alliance with the government through dominant patronage relations and control the resources, and market-oriented products consuming a lot of the water. In addition, the Yemeni government seeking technocratic solutions rather than developing policies and actions in political and economic fields to improve distribution is considered one of the reasons behind the conflicts in Yemen.[2]

It is also often mentioned that there are emerging conflicts over resources due to the lasting drought in Darfur, which is also referred to as the place where the "first climate war" started. Yet, climate change-induced drought is only a factor that increases the adverse effects of other factors causing conflicts. The primary reasons for conflict and war are economic and political factors such as tackling traditional structures without replacing them with new ones; abandoning traditional conflict resolutions and mediation mechanisms, unequal distribution of power and wealth, and policies protecting big landlords while neglecting small farmers. Several factors, such as poverty, social networks, and livelihood security, have an effect on migration decisions in cases of conflict.[3]

Many reductionist approaches relate the civil war in Syria to decreased agricultural production and water availability due to drought. However, the war actually stems more from the oppressive Syrian government's mismanagement of drought and lack of water due to climate change, combined with poverty, inequality, and unemployment.

Pre-war Syria was a country where the living standards dropped with the oil revenue decreasing; unemployment reached 30%; corruption increased; accountability was absent, and changes were made in traditional agriculture and soil regimes to increase productivity. In addition to these economic problems, the rural population, held under overt pressure by the government, was further marginalized as a result of various reforms; another result of the administrative reforms was the emergence of power disputes between elites.[4] In short, the civil war in Syria was constituted by all these economic and political factors. Meanwhile, even though environmental change, which manifests itself as the decrease in water availability, also led to some migration because of political and administrative misgovernance, these migrants did not attend protests which led to the civil war.[5]

1- Julian Borger, "Darfur conflict heralds era of wars triggered by climate change, UN report warns," *Guardian* (June 23, 2007), https://www.theguardian.com/environment/2007/jun/23/sudan.climatechange (Accessed: July 26, 2022); Foad Al Harazi, *Future Impact of Climate Change Visible Now in Yemen* (World Bank, November 24, 2014), https://www.worldbank.org/en/news/feature/2014/11/24/future-impact-of-climate-change-visible-now-in-yemen (Accessed: July 26, 2022); Christian Aid, *Human Tide: The Real Migration Crisis* (Christian Aid Report, 2007), https://www.christianaid.org.uk/sites/default/files/2017-08/human-tide-the-real-migration-crisis-may-2007.pdf (Accessed: July 26, 2022).
2- Rachel Furlow, "Addressing the Politics of the Climate–Migration–Conflict Link," *Forced Migration Review* 69 (March 2022): 14-16, https://www.fmreview.org/sites/fmr/files/FMRdownloads/en/climate-crisis/furlow.pdf (Accessed: July 26, 2022).
3- Stern Mwakalimi Kita and Clionadh Raleigh, "Environmental Migration and International Political Security: Rhetoric, Reality and Questions," *Routledge Handbook of Environmental Migration and Displacement*, ed. Robert McLeman and François Gemenne (2018), pp. 356-369. E-book doi: https://doi.org/10.4324/9781315638843
4- Christiane J. Fröhlich, "Climate Migrants as Protestors? Dispelling Misconceptions about Global Environmental Change in Pre-revolutionary Syria," *Contemporary Levant* 1, no. 1 (2016): 38-50. https://doi.org/10.1080/20581831.2016.1149355
5- Ibid.

In increasing number of research, mobility is acknowledged as a climate adaptation strategy.[91] With its different types, mobility can provide adaptation to climate change in different forms:[92]

- Individuals, households, and communities can decrease the level of exposure to climate events and disasters by going to places where the climate risks are lower.
- In the face of climate risks threatening individuals and communities' livelihoods, diversifying livelihoods in the current location or migrating to somewhere else to ensure livelihoods are among the strategies applied; it is also common that the combination of the two options is used. One or more people from a household going to other places to work is a way of diversifying livelihood and ensuring new livelihood sources in case of these individuals protecting their ties with the household. In this way, the individuals send some of their income to the rest of the household. Especially during the periods when the pressure of the climate risks increases, they are thus able to contribute to the livelihood of their households. Likewise, contributing to the existence of the households in this way ensures increasing households' endurance capacity.
- With the number of people living in households decreasing, opportunities to cope with food insecurity increase.
- The individuals who return from the places they go bring new knowledge and qualifications with them and contribute to increasing the households/communities' capacities, thus contributing to increasing their endurance capacity.

In short, thanks to social networks ensured by migration, the transmission of financial resources, ideas, services, and objects between urban and rural also increase and contribute to decreasing vulnerability.[93]

For the diversification of livelihoods and compensation for losses suffered, finding additional financial resources is the primary method for individuals/communities to eliminate their vulnerabilities. An individual from a household who migrated sending a part of their income back to the rest of the household is a basic and frequently used method to increase and diversify income. Thanks to these remittances, an essential addition to the household income, households and workspaces become more resilient against climate events. For example, after Haiyan Typhoon, the biggest typhoon that been recorded so far, which resulted in more than 6000 people losing their lives and

millions of people losing their houses and livelihoods in the Philippines in 2013, the most essential financial resources that were used to compensate for damages were support sent by those working in other countries to their families. It is also observed that households where one or more family members migrated to other countries can utilize the contribution of the increased human capital thanks to the increasing levels of information and education.[94]

With social capital, which is ensured by the emergence and extension of social networks, transmission of the new knowledge and experience that are acquired in the destination places also contribute to the empowerment of the left communities in the face of the devastating effects of climate change. In addition to all these, the income sent to those left behind by those migrated creates prospective assurance for the latter; the contributions to the incomes in addition to continuing links to the place of origin leaves the door open for the migrated ones to return in case they cannot work in the places they migrated to anymore.[95]

Although mobility generally facilitates developing adaptive capacity against climate risks, it is important to add that in some situations, it can have reverse results and increase vulnerability. The result of mobility toward cities with the effects of climate change is an excellent example of this situation. Generally, it is observed that climate risks and disasters increase the inclination toward urbanization which is already on rapid rise for several reasons.[96] For example, it is recorded that the floods in Mekong Delta in Vietnam increase the seasonal migration to the big cities such as Can Tho and Ho Bhi Minh.[97] While climate risks in Bangladesh are increasing the migration to the cities, it is estimated that for 57% of the poor migrants living in the five big cities, Barisal, Khulna, Rajshahi, Satkhira and Sirajganj, climate events have a significant share in their mobilities.[98] In addition, there is a complicated and not direct relation between climate-related mobility and urbanization. For example, several research on Africa shows varying results. While some research finds that climate risks increase migration to cities where industrial activities are intense and decreases in rains speed up urbanization, others also propound that during temperature increases and decreases in rain rates in East Africa, temporary migration to the cities decreases and temporary migration to the nearby regions in the rural increases.[99] In short, climate event risks are a minor direct factor in permanent migration to cities and they mostly lead to speeding up migration to cities by merging with other factors. On the other hand, some household members tem-

porarily migrating to cities is one of the most common practices in the face of climate risks and events. Yet, this does not always eliminate vulnerability or empower against climate change. Social and economic injustices in the cities where many climate risks, such as coastal erosion, rising sea levels, floods and abrupt climate events, are observed simultaneously, infrastructures are fragile and unequal spaces exist; such segments of society become more vulnerable.[100] For example, when those who lose their livelihoods due to droughts migrate to cities where economic opportunities seem more abundant, they settle in neighborhoods where poverty is widespread, infrastructures are inadequate, and city services are insufficient, and they become exposed to the devastating effects of climate risks such as floods, landslides, and extreme weather events. In addition to these, apart from difficulties related to work and economy including poor working conditions and high housing and living expenses, social and cultural obstacles, such as alienation from traditional social networks, marginalization, exclusion and living in ghettos, aggravate the lives of those who migrated to the city, deepen injustices, and thus increase vulnerabilities.[101]

Another adverse result of the relationship between climate change and mobility can be observed in the example of seasonal agricultural workers. In the case of seasonal migration, which is a tool of diversifying livelihood, land owners and employers put the burden of increasing costs due to climate change on the shoulders workers, and this results in increasing exploitation of seasonal workers as they receive low wages and work under adverse conditions.[102] For example, research on seasonal agricultural workers in Adana, southern Turkey reveals that the already harsh conditions of the seasonal agricultural workers, constituted by Kurds and Syrian migrants, who do not have citizenship rights, are further worsened. The research analyzes the double exposure in regions, sectors, ecosystems, and social groups created by the combination of neoliberal globalization and global environmental changes.[103] According to this, while agriculture in Turkey is under threat of droughts, floods, and increasing temperatures, it is also under pressure due to increasing competition in the global market and decreases in agricultural product prices. In face of this, the primary method used by the big landlords to maintain profit is reducing the wages of seasonal agricultural workers. On the other hand, while the state is taking precautions to promote agricultural production and compensate for the losses of the big landlords, it does not provide social securities for the seasonal agricultural workers. This shows that the situation of the seasonal migrants whose living conditions deteriorate in their usual

living places due to climate change is further worsened due to intertwined climate change, social, economic and political factors.

Climate change adaptation and mitigation actions can result in displacements

Adaptation and mitigation actions in scope of fighting climate change can also cause displacements. The primary reason for this is that these approaches do not consider the climate justice framework and reduce the fight against climate change to a technological and administrative issue. Despite the fact that the implemented measures are aimed at reducing greenhouse gas emissions and adapting to the effects of climate change, such actions which are designed and implemented without considering the entire population, and injustices, inequalities and vulnerabilities in a region exacerbate climate injustices in a way that they end with displacements rather than eliminating climate injustices.

For example, in the Indus Delta, close to the coast located in southern Pakistan, due to slow onset climate events, such as disruption of water resources due to sea waters being mixed with fresh water and increasing rains and temperatures, small farmers have been facing the risk of losing their livelihoods for a long time. To continue agricultural activities by adapting to the effects of climate change, they started breeding of shrimps as an export product in the region. Loss of livelihood of small farmers further increased as a result of ponds for breeding shrimp replacing rice fields in the region where the economic elites primarily control water resources. While small farmers, due to their dispossessed lands, couldn't maintain their agricultural activities, the areas and resources open to public use were also allocated to market-oriented shrimp production. Since shrimp production does not providing enough job opportunities, small farmers inevitably have had to migrate to cities such as Khulna, Dhaka, and Kolkata.[104] Other examples are projects of reducing and balancing forest-related carbon emissions. Reducing Emissions from Deforestation and Forest Degradation (REDD+) projects are based on the principle of governments and companies offsetting the amount of carbon they emit with the forests' carbon sequestration amounts. However, these projects led to decreased cultivated lands due to expropriations of agricultural lands in several places. In addition, "protection" of the forests through "scientific" and "rational" management limits the access of communities which ensure their livelihoods with forest products to forests. Thus, the rights to food and to maintain

the cultural existence of several communities, primarily indigenous communities, are taken away. Although there are differences based on social, economic, and political factors, physical displacements are also frequently experienced in addition to economic displacements. Communities who have been maintaining their existence for centuries in the forests under protection are forcefully kicked out of these forests with accusations such as "occupying" the forests.[105]

In short, climate mobility is a multidimensional, multidirectional phenomenon that occurs in different durations and distances. Although it differs depending on local conditions and dynamics, it is shaped by some common processes and mechanisms and leads to some common results. Based on the common fundamental qualities summarized above, it is possible to say that climate mobility (immobility) is a direct climate justice issue. Inasmuch as, those who are in a challenging situation in face of climate change and who are displaced are the social groups who experience social, economic, and political injustices in social life. When the devastating effects of climate change are combined with social, economic, political, and cultural factors, the injustices people are exposed to are further deepened. In face of losing houses, lands, and livelihoods, which cause impoverishment, inability to maintain social and cultural existence and the inability to sustain life, mobility or immobility appear as defense methods. Mobility, which occurs by climate change events combining with social, economic and political factors, is a process in which actors decide through their own agency as much as they are forced to. All these considerations require that climate mobility be examined as a dynamic process, shaped within the social, economic, and political context, with a perspective that places the mobile, unable to be mobile, and immobile actors at the center.

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