Displacements within the Framework of Environmental and Climate Justice: Concepts, Debates, and Cases

M MEKANDA ADALET DERNEĞİ A CENTER FOR SPATIAL JUSTICE D

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

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Abbreviations

ADB.....Asian Development Bank
AfDB.....African Development Bank
AFIEGO.....Africa Institute for Energy Governance
BAÇEP.....Muğla, Denizli, Burdur, Isparta and Antalya Western Mediterranean Environment Platform (Muğla, Denizli, Burdur, Isparta ve Antalya Batı Akdeniz Çevre Platformu)
CAF .....Cancun Adaptation Framework
CAN.....Climate Action Network
CI .....Geographical Indication
CIL .....Coal India Limited
CNOOC .....China National Offshore Oil Corporation
COP.....Conference of the Parties
DeSOx .....Desulphurization
DID .....Development-Induced Displacement
DIDR.....Development-Induced Displacement and Resettlement
DSİ .....General Directorate of State Hydraulic Works (Devlet Su İşleri Genel Müdürlüğü)
EACOP .....East African Crude Oil Pipeline
EBRD.....European Bank for Reconstruction and Development
EBSA.....Ecologically or Biologically Significant Areas
EIA .....Environmental Impact Assessment
EPA .....United States Environmental Protection Agency
ESF .....Environmental and Social Framework
ESS .....Environmental and Social Standards
EU.....European Union
FAO .....Food and Agriculture Organization of the United Nations
FoEI .....Friends of the Earth International
FRA.....Forest Rights Act
GCM .....Global Coal Management
GCM .....Global Compact for Migration
GDP.....Gross Domestic Product
GW .....Gigawatt
HEAL.....Health and Environment Alliance
IADB.....Inter-American Development Bank
IDMC .....Internal Displacement Monitoring Centre
IEP .....Institute for Economics and Peace
IOM .....International Organization for Migration
IPCC.....Intergovernmental Panel on Climate Change
IRR .....Impoverishment Risks and Reconstruction
IUCN.....International Union for Conservation of Nature and Natural Resources
KARDOK.....Karadam Karacahisar Neighborhoods Nature and Natural Life Protection Beautification and Solidarity Association (Karadam Karacahisar Mahalleleri Doğayı Doğal Hayatı Koruma Güzelleştirme ve Dayanışma Derneği)
KSTJ .....The Save Jakarta Bay Coalition
KWh .....Kilowatt-Hour
LARR.....The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act

LVC .....The Path of Peasant (La Via Campesina)
MAB .....Movement of People Affected by Dams (Movimento dos Atingidos por Barragens)

MAR .....Movement of Dam Affected Peoples in Latin America
(Movimiento de Afectados por Represas en América Latina)
MPA.....Movement of Small Farmers (Movimento dos Pequenos Agricultores)
MST.....Movement of Landless Peasants (Movimento dos Trabalhadores Rurais Sem Terra)
Mt.....Metric Ton
MTA.....The General Directorate of Mineral Research and Exploration
(Maden Tetkik ve Arama Genel Müdürlüğü)
MTST.....Homeless Workers' Movement (Movimento dos Trabalhadores Sem Teto)
MW.....Megawatt
NBA.....Save The Narmada Movement (Narmada Bachao Andolan)
NCICD .....National Capital Integrated Coastal Development
NGO.....Non-Governmental Organization
NIMBY .....Not-In-My-Backyard
NO^2.....Nitrogen Dioxide
OECD.....Organisation for Economic Co-operation and Development
PBA.....Basic Environmental Plan (Plano Básico Ambiental)
PDD.....Platform on Disaster Displacement
PEKB.....Parsa East ve Kete Basan Coal Mine
PESA.....Panchayat (Extension of the Scheduled Areas) Act
PM.....Particulate Matter
REDD+.....Reducing Emissions from Deforestation and Forest Degradation
RRVUNL .....Rajasthan Rajya Vidyut Utpadan Nigam Ltd.
SDGs .....Sustainable Development Goals
SECL.....South Eastern Coalfields Limited
SEFiA .....Sustainable Economy and Finance Research Association
(Sürdürülebilir Ekonomi ve Finans Araştırmaları Derneği)
SMELT.....Stepwise-Mining-Expansion-and-Land-Take
SO_2.....Sulphur Dioxide
TBMM.....Grand National Assembly of Turkey (Türkiye Büyük Millet Meclisi)
TEİAŞ .....Turkish Electricity Transmission Corporation (Türkiye Elektrik İletim A.Ş.)
TFD .....Task Force on Displacement
TKİ .....Turkish Coal Enterprises (Türkiye Kömür İşletmeleri Kurumu)
TOKİ .....Housing Development Administration of Turkey (Toplu Konut İdaresi Başkanlığı)
TPDC.....Tanzania Petroleum Development Corporation
TÜİK.....Turkish Statistical Institute (Türkiye İstatistik Kurumu)
UN.....United Nations
UNDP .....United Nations Development Programme
UNEP .....United Nations Environmental Programme
UNESCO .....United Nations Educational, Scientific and Cultural Organization
UNFCCC .....United Nations Framework Convention on Climate Change
UNOC .....Uganda National Oil Company
UNSC .....United Nations Security Council
WBGU .....German Advisory Council on Global Change
WIM.....Warsaw International Mechanism for Loss and Damage Associated with
Climate Change Impacts
WWF .....World Wide Fund for Nature

Executive Summary

In the *Displacements within the Framework of Environmental and Climate Justice: Concepts, Debates, and Cases* report, we analyze the relationship between ecological destruction and individuals'/communities' mobility—mainly in the form of displacements. The issue of ecological destruction is being treated along two main axes of climate change and development projects, which overlap in many respects, including their root causes and outcomes. Individual/community mobility, on the other hand, is discussed mainly through displacements. Various types of injustices that are produced as an outcome of the interaction between climate change, development projects and displacements are the focus of this research.

In this report, processes of climate crisis-related human mobility and development project-induced displacements are analyzed with respect to their mechanisms, actors, causes, and potential outcomes by looking at various cases across the world through the lenses of the climate/environmental justice approach.

Displacements within the Framework of Environmental and Climate Justice: Concepts, Debates, and Cases aims to present the main concepts, theories, debates, and political approaches on the relationship between environmental and climate change and displacements/migration/mobility by reviewing controversies as well as complexities. To this end, a comprehensive literature review was conducted using information from academic research, NGO reports, news, and other resources. In addition to desktop research, the information gathered from the field interviews carried out online in July 2022 for the case analysis of Muğla-İkizköy was used as well.

CLIMATE CHANGE AND DISPLACEMENTS

Climate change is the leading crisis threatening the lives of all species on the planet. The use of fossil fuel, human production and consumption activities increasing the greenhouse gasses in the atmosphere, augmented by other factors, results in the warming of the planet at an unprecedented level and speed. With the disruption of climate

balance, the ecosystem is destroyed, habitats are wiped out, and biological, geological, and geographical changes emerge, gradually becoming harder to reverse. Together with all other species, humans are among the foremost victims of this ecological crisis they caused. Climate change's intensity, extensity and impacts, which constantly increase, threaten human communities' lives, health, houses, lands, and livelihoods. The total number of displaced people worldwide in 2021 following climate-related disasters was estimated at around 30 million.

Displacements of people due to loss of livelihood, income, housing, land, and common areas also confront us as a climate justice issue. The USA in the Global North is one of the countries exposed to climate events that led to displacements during 2020. Yet, herein, the displacements of disadvantaged groups such as the poor, blacks, and others show that climate injustice overlaps with class, gender, race, and ethnicity-based inequalities.

In addition to extreme weather events such as hurricanes, cyclones, and storms, other events including heat waves, uncontrolled fires, floods, erosions, and landslides are categorized as sudden-onset climate disasters. These events happen suddenly and affect vast areas severely. Their devastating effects also occur in an abrupt, intense, and ample way. Although mass mobility might take place in abrupt climate events, it is mostly not long-distance, long-term, and permanent. Most displacements emerging due to sudden-onset climate disasters occur in the Global South, where vulnerability against such events is higher. Those exposed to social, economic, and political injustices are affected the most by damages that such climate events cause to houses, jobs, and lands, together with the essential infrastructures in living places. While the return of these people might be delayed, the majority of them become more impoverished since their living and working conditions worsen after their return.

Drought, desertification, coastal erosion, and rising sea levels are categorized as slow onset climate events, the effects of which extend over time. The impact of such climate events is cumulative and gradual. Increasing temperatures due to drought and changes in rain ranges are the climate events that affect human lives the most. Drought has a series of adverse effects on human life in vast areas. Due to increasing temperatures and rain changes, agricultural production decreases, and its quality deteriorates. On top of droughts, a series of direct and indirect climate change-related factors, such

as salinization of underground waters and soil and decrease in soil quality, adversely affect agricultural production. Consequently, communities that maintain their lives with agriculture and natural resources lose their livelihoods and incomes. Individuals and communities whose living conditions worsen as a result of economic displacements which spread over time try to maintain their lives through different types of mobility, such as long-term/short-term and temporary/permanent/cyclical. Among these, permanent migration is one of the last strategies applied in the face of droughts.

The relationship between climate change and migration is a highly complicated and controversial topic. The mainstream climate migration discourse, which has been adopted by academia for a long time, is based on the assumption that there is a direct causal link between climate change and migration. This approach assumes that various climate events turning into disasters—primarily rising sea levels, droughts, desertification, and extreme weather events—will destroy houses, livelihoods, resources, and living standards; and as an inevitable outcome of this, individuals (and communities) will migrate to find new living areas. Hereof, it is expected that climate migration will be in masses and toward places which are (yet) affected by climate change to a lesser degree or have higher resilience against the devastating effects of climate change.

The "climate migration" argument propounded in academia and civil society, and the accompanying high number of climate migrant estimations are also echoed in fields of politics and media. The massive climate migration's (estimated) numerical scale, expected to increase rapidly, was considered a prologue to the forthcoming big "disaster" by the mainstream media, government authorities, and political decision-makers. Yet, approaching "climate migration" as a unidirectional and unidimensional phenomenon within the framework of "national (state) security" that leads to disputes makes this critical issue analytically incomprehensible and politically unsolvable. These problems which unhinge climate justice-seeking, as much as the general climate struggle, can be summarized below:

The decline in the belief of efficacy: The alarmist discourses generally emphasize the severity, extensity, and destructiveness of climate change; they describe climate change as a rapidly emerging massive disaster which affects every aspect of life. Generally, negative emotions, such as "anxiety" and "fear" caused by the alarmist discourses, which create "fear" and "panic" among the target audience, can be con-

sidered as one essential element which makes individuals take action about climate. However, alarmist discourses do not always yield the expected result. On the contrary, most of the time, they adversely affect climate mobilization.

Ecological-nationalism: Climate migration becomes a topic discussed around national interests. It is assumed that the "problem" of climate migration emerges as national borders are crossed. The problematic parts of climate migration are primarily described through the national interests of the country receiving migration. From the far-right to the center, many political actors consider climate migration, which many assume will include masses of people, as a forthcoming "disaster" that threatens their national interests and existence. The solution to the climate migration "problem" is sought in xenophobic and protectionist policies.

Technocratic approach: The climate migration "problem" whose existence, extent, and characteristic are claimed to be based on "objective" measurements and data is presented as an unquestionable reality. The solution to this problem is also reduced to a technical issue; it is confined to administrative and legal regulations. As long as climate migration is handled as a technical issue, power inequalities, injustices, and conflicting situations which lie at the root of the relationship between climate change and mobility are ignored.

"Victimization" and "marginalization": The fact that "climate migrants," who are described as masses amid large numbers, are constituted by individuals whose lives, living areas, and livelihoods are at risk, and that every individual's life story, demands, needs, and choices are different is overlooked. The emphasis is on large masses supposedly desperate due to climate disaster and especially by the poor of the Global South. While these masses are represented as "desperate victims", they are also described as the "others" who might be "dangerous".

All these claims and assumptions of the mainstream climate migration approach reproduce the inequalities in power relations that are at the basis of climate injustices, as emphasized by the climate justice approach.

On the other hand, alternative approaches together show that there is no unidirectional, monocausal, uniform or automatic relationship between climate change and

mobility that inescapably leads to international migration. On the contrary, alternative approaches emphasize that the relationship between climate change and mobility is highly complicated and multifactorial, and its form and outcomes are unpredictable. The common findings of alternative approaches to climate change and mobility are as follows:

- Climate mobility is multifactorial.
- Climate mobility is mainly short-term/temporary, cyclical, and seasonal.
- Climate mobility predominantly takes place within country borders or toward close locations.
- Climate mobility causes immobility as much as it causes mobility.
- Climate mobility also has positive results, such as adaptation and reducing vulnerability.
- Climate adaptation and mitigation actions may result in displacements.

Overall, it is possible to say that climate mobility (and immobility) is directly a climate justice issue. Inasmuch as those who are in a difficult situation in the face of climate change and are displaced are social groups who experience social, economic, and political injustices in social life. When merged with social, economic, political, and cultural effects, the devastating effects of climate change deepen injustices that people are exposed to.

DEVELOPMENT-INDUCED DISPLACEMENTS

Mega development projects are the general name given to projects which change/transform a part of nature biologically, geologically, and physically in rapid, extensive, fundamental, intentional, and—most of the time—irreversible ways through the usage of technology.

The growth paradigm argues that development projects will prosper economies, and later, such benefits in the form of "wealth" will be reflected on and contribute to the general well-being of society. On the contrary, claimed benefits of development projects are not distributed to society sufficiently and equally, and this constitutes one of the pillars of social and economic inequalities and injustices. In addition, such projects have various ecological, social, and economic costs/damages that are externalized and

ignored. Ecologically, development projects generally generate a plethora of problems on local and global levels, including over-exploitation of resources; air, water, and soil pollution; deforestation; and disruption and degradation of ecosystems. Given their disadvantageous social, economic, and political positions and the general inequalities in the distribution of power, disadvantaged social groups, such as the poor, indigenous communities, ethnic minorities, women, the elderly, and the disabled, experience multiple injustices simultaneously, and are more intensely exposed to the adverse and devastating effects of costs/damages that development projects create. This indicates that development projects lead to distributive injustices with respect to their social, economic, and ecological costs.

The displacements caused by mega development projects are multidimensional and various; they occur in different ways across time and space. First of all, there is the question of the displacements of individuals and communities whose living areas are on the lands where the projects will be developed. Especially in the preparation and construction phases of the projects, the dispossession of human communities' houses and lands through various methods such as purchasing, expropriation, monetary compensations, and allocation of new houses and lands lead to physical displacements. Practices such as meagre monetary compensation, limited and selective compensation and relocation programs, and exclusion of those who don't have official ownership of their lands from the compensation mechanisms result in impoverishment and violations of rights.

Mega development projects affect vast areas; most of them lead to irreversible biological, geological, and physical transformations/destructions. Deforestation; soil, air, and water pollution; changes in soil productivity and quality; decreases in water availability, and many other ecological destructions that development projects create jeopardize the livelihood of people living in development project areas. Furthermore, their right to live in a healthy environment is violated, and their food security and living standards are put at risk. As a result, extensive displacements occur with indirect socioeconomic effects.

Development projects, especially dams, mines, and transportation, are rapidly increasing worldwide—predominantly in the Global South. These projects, geared toward providing energy, water, and raw material needs, lead to many ecological problems. Meanwhile, they displace millions of people both physically and economically/indirectly. Even though dam-, mining-, and transportation-induced displacements share many

common traits, each also renders distinctive impacts in terms of their process and effects on local communities:

Although dams, which have been promoted as one of the symbols of "development" and "growth" for a long time, have been used since ancient times for various reasons, the construction of large hydroelectric power plants, whose main purpose is energy production and irrigation of large areas, gained momentum in the 20th century.

Dams are first and foremost responsible for the displacement of human communities who live on submerged lands, dispossessing them of their houses and lands. Although the exact number of affected people is not known, it is predicted that dams have directly displaced millions of people worldwide.

Large dam projects are the primary development project where the recognitional dimension of environmental justice is violated the most profoundly. Generally, those without lands, indigenous communities, and downstream communities are not considered among the displaced people, and consequently, they are excluded from relocation or compensation processes. A large number of social groups, primarily landless people, those ensuring their livelihoods through agricultural work and/or on commons, such as forests and rivers, are exposed to recognitional injustice due to the construction of large dams. This situation is also combined with participatory injustice. The decision-making processes about displacements are generally operated ineffectively. A minimal right to speak is granted to those officially announced to be displaced. Failure to organize decision-making meetings, holding meetings that obstruct or do not foster participation or having only one-sided informative meetings are among the reasons for this. On the other hand, those, who are not recognized as displaced, do not get any opportunity to participate in decision-making processes.

Mining is the primary sector which causes displacements worldwide. Since around two-thirds of mines are operated as open pits across the world, and the number of open pit mines is growing gradually, it means that the number of mining-induced direct and indirect displacements is continuously on the rise.

Mining-induced displacements are predominantly concentrated in Latin America, Asia, and Africa. Countries that have unequal and precarious land ownership relations

and prevalent anti-democratic structures and relations, as well as human rights violations, provide a favourable basis for the mining sector's activities which are built on displacements. In these countries, mines are opened and operated in those regions where people predominantly experience various injustices and inequalities, are poor, and are constrained in terms of defending their rights and lives in the political sense.

In the regions where mining projects are implemented, the following practices, all of which push people to impoverishment, are frequently put into action: insufficient or delayed payments of compensation to displaced people; in cases where land ownership cannot be officially proven, being excluded from any kind of compensation mechanisms; in many cases, the absence of any compensation or similar damage reparation mechanisms; the absence or deficient application of relocation programs; not replacing the lost livelihood activities with new ones.

In the meantime, mining sector activities cause a series of irreversible ecological problems such as deforestation, changes in soil usage and quality, the disruption of habitat, damage to biological diversity, and air, water, and soil pollution. Although most of these ecological problems are also found in other development projects, the effect and extent of these risks show differences due to the activities that are particular to mining.

One of the main social and economic outcomes of the mining sector is the emergence of "new poverty". Through mining-inducing displacements, poor peasants, indigenous communities, women, and other disadvantaged groups who lose their commons, houses, and lands are becoming bereft of their opportunities for shelter and livelihood. In addition, due to the "cohabitation" model, which is frequently applied in the mining sector, not only those who live in a mining region but also those who are relocated to nearby the mines after displacement are exposed to a series of interrelated social, economic, and ecological problems and livelihood loss, such as disruption of ecosystem, air pollution, water pollution and decreases in water availability, in addition to the health risks that these bring along. Moreover, with the changes in land use and soil structure and quality, these problems cause people who settled near mines to be unable to maintain their livelihood activities such as agriculture and fishery.

The transportation infrastructure such as roads and airports, which are built as a part of development projects, play a role in the emergence of displacement and loss of

livelihoods. Furthermore, individual transportation projects themselves appear as one of the main reasons for extensive displacements worldwide. Due to the construction and expansion of land transportation projects like highways and railways, thousands of people lose their houses and agricultural lands every year. In addition, the formation of new settlements and the expansion of existing ones on the route where these projects extend make the impact of displacements long-term. The ecological damages these projects cause, such as habitat fragmentation and pollution, threaten the living areas of other living beings as much as humans. For example, airport constructions have ecological effects such as landslides; the disruption of hydrological systems; air, water, and noise pollution; deforestation; wetlands loss, and aviation fuel leakage. In addition, the airports constructed in ever-expanding sizes especially dispossess farmers of their houses, agricultural lands, and commons. Furthermore, an increasing number of projects entail the construction of Aerotropolises (airport-city) in addition to airports. This means that more extensive agricultural lands, forestlands, and wetlands are threatened due to airport projects.

DISPLACEMENT AS ENVIRONMENTAL INJUSTICE: CASE STUDIES

It is recorded that in **the Brazilian Amazon**, about 7000-hectare forestland had been destroyed between 2000 and 2015 due to mining. The extent of ecological and social damages that *hydroelectrical power plant dams* caused in the Brazilian Amazon in terms of the breadth and depth of the destruction they created in forest areas and water systems, the multidimensionality of the environmental injustices that they led to, and the magnitude of the mass displacements they resulted in, are even more significant. Several dam projects are in line in the Brazilian Amazon. The large dam with 2000-3000 MW power, which is a part of the Barão Do Rio Branco infrastructure project by the Bolsonaro government, is planned to be built on the Tromberat River and will include the lands of Quilombolas (Afro-Brazilians) and indigenous communities. Tabajara in Rondonia, Castanheira in Mato Grosso, and Bem Querer in Roraima, all of which are included in the "National Energy Plan" of Brazil, are also dams that are in the planning phase. As much as the local movements of indigenous communities, landless peasants, small farmers, and ecology activists, national and transnational networks, such as the Brazil Movement of People Affected by Dams (*Movimento dos Atingidos por Barragens*, MAB) or the Movement of Landless Peasants (*Movimento dos Trabalhadores Rurais Sem Terra*, MST), are struggling to stop these projects.

Hundreds of mining and fossil fuel excavation projects have been implemented or are in the process of construction in the African continent. Among these, the *East Africa Crude Oil Pipeline* (EACOP) is one of the projects which entails the most social and ecological risks. A series of facilities and infrastructure, such as refineries, storage areas, airports, and roads, are planned within the scope of the project. More importantly, to sell the raw petrol excavated in Uganda (shoreless) to foreign markets and to transport the oil to the shores of Tanzania, a 1443-kilometre-long EACOP pipeline will be constructed. It is argued that in **Uganda and Tanzania**, due to EACOP, a total of 86,000 people who maintain their lives in 13,000 households will lose their lands; the total number of households which will be affected by the petrol projects in Tilenga and Kingfisher is projected to be 4865. The destruction that will emerge in the soil, water reserves, and ecosystem will cause the rest of the population to abandon their living places in the medium and long term and cause those with low migration capacity to maintain their lives by bearing the further worsened living standards.

India is the country which produces the most coal in the world after China. Across India, *the coal sector* has displaced thousands in the short term; for the rest, their living areas will be disrupted in the medium and long term due to the emergent ecological and social destruction. The regions where social and ecological destruction is the most common pervasive and detrimental include Chhattisgarh, Jharkhand, and Odisha states where 70% of the country's coal reserves are located. The majority of the population in these states, where the mining sector activities are concentrated, is poor and constituted of disadvantaged groups with limited access to health, education, and other services. The PEKB mines in and around Hasdeo Arand Forest, which expands to the north of Chhattisgarh state and has a vibrant biological diversity and a fragile ecosystem, have an annual 15 million ton production capacity and are spread over a total of 1878 square kilometers, around 80% of which is forestland. It is calculated that during its lifespan, the mine will cause the cutting of around 370,000 trees. The changes in land use and soil quality put the agricultural activities in the region at hazard. This indicates that the local community, who maintain their lives based on forestry activities, lose their food, medicine, and livelihood resources. The forest is also an area that the indigenous community in the region considers sacred. The expansion of the PEKB mine foresees the removal of the entire Hariharpur Village, which will be included in the mine site and some of which was already expropriated. It is expected that the devastating results of the coal mines will affect a larger region. The first mass resistance in the region against the project started in 2014 with the mobilization of

thousands of people living in 17 villages. The 75-day sit-in in 2019 and the 10-day 330-kilometer walk ending at the state's capital, Raipur, inspired by Gandhi's famous Salt March, are among the protests organized by the local community.

The capital of Indonesia, **Jakarta**, is the world's fastest "sinking" city. The city is constantly sinking under sea level while trying to cope with an increasing number of devastating flood disasters every year. The submergence of the city brings social and economic collapse. The "precautions" taken against this situation deepen and strengthen environmental injustice. Jakarta shows how a *climate change adaptation (mega) project* can increase injustices specific to displacements instead of eliminating environmental injustice. It is calculated that the rising sea level in Jakarta increases by a minimum of 1 cm annually. In addition, the area where the city is located constantly subsides. The overall city of Jakarta sinks an average of 7.5 to 11 cm every year; the subsidence in some parts of the city reaches 17 cm. The primary purpose of the mega project named "Great Garuda," the construction of which has already started, is to save the city from submergence in the face of rising sea levels and big waves. To this end, the plans involve building a 25-meter high and 40-kilometre-long giant seawall, one-third of which will be above water, and 17 islands that will be formed by riprap, connection roads, and other infrastructures. Yet, while the pollution the project will create puts the sea flora and fauna at risk, thousands of poor who live off fishery will be dispossessed of their livelihood. Meanwhile, green areas are planned to ensure the passing of rainwater into the soil, which will result in the eviction of 24,000 families living in the poor neighborhoods called *kampung* in the north of the city. Together with other victims of the project, poor *kampung* inhabitants, several NGOs, and fisher communities have mobilized against the "Great Garuda" project under the umbrella of the Save Jakarta Bay Coalition (KSTJ).

In **Yatağan** and **Milas**, which are among Turkey's primary coal regions, there are three *coal power plants* and other *coal mines* that provide fuel for thermal plants. It is calculated that in the period between 1979 and 2018, there was coal excavations on around 5000 hectares of land. It is predicted that nearly half of these areas were forestlands. The slag and volatile ash wastes that come out of these three power plants exceed four million tons a year and are stored in the forestlands openly without any purification process. Pollution of water and decreases in water availability due to mining activities are problems which directly affect the agricultural activities and living creatures in the region. The changes that the mines create in the topography, such as constituting rock and soil hills and dis-

rupting the riverbeds, threaten the existence and flow of overground waters. The particles, heavy metals, and gasses that the thermal power plants in Milas and Yatağan emit into the atmosphere are turning the region into one of the places where the air is most polluted. In 114 villages in Milas, one of the primary livelihood resources is olive cultivation. Olive cultivation is adversely affected due to coal activities. The primary reason for this is dust emissions which contain heavy metals. The ashes and dust from the power plants are covering the leaves of the olive trees in layers, depriving the trees of sun rays; the synthetization which ensures fruit formation decreases, and thus, the quality of olive fruit deteriorates. As a result, the ecological destruction that the coal sector creates threatens the locals' health and livelihoods. In Milas and Yatağan, where the coal sector is concentrated, mining-induced displacements occur frequently and extensively. Until today, ten villages have been displaced with their olive groves and agricultural lands through either expropriation or purchasing. Several problems have been experienced during the displacements, leading to environmental injustice, such as not carrying out the processes in a transparent and participatory manner, paying low prices for lands and houses, irregularities, the risk of re-displacement, and restricted possibilities of relocation (settlement). In 2017, the expansion of the YK Energy Mine Pit site started. The houses, agricultural lands, and olive groves in İkizkoy's central district Işıkdere were included in the mine site through purchasing and expropriation. In 2019, YK Energy started its attempts to purchase or expropriate abodes and agricultural lands, including the olive groves in Karadam, Ova, Akbelen, and other localities of İkizköy. The mine expansion attempts also aim to incorporate the Akbelen Forest, which is physically intertwined with the villages and located in the middle of the mentioned locations, in the mine site, in addition to the villages, agricultural lands, and olive groves. This situation means a displacement process for the rest of İkizköy, ending in impoverishment and various injustices. Yet, the second expansion attempt of the company was met with the organized resistance of İkizkoy inhabitants, who stage various forms of protest and take legal action with their diverse advocacy and action repertoire.

OVERVIEW

Solutions to ecological destruction and climate change-related displacement need to be sought and developed through a comprehensive, dynamic and integrated process based on environmental and climate justice. Displacements are multi-actor, multiscale, and multidimensional processes, and each phase of displacements should be studied by taking three

fundamental dimensions of justice—namely, recognition, distribution, and participation—into account, which are the fundamental dimensions of environmental and climate justice.

In field studies, there is a need for long-term studies that take into account spatial differences, cover all processes of mobility, and are conducted with an interdisciplinary approach to comprehend intersectionality.

Building and sustaining ties between different localities and turning them into permanent regional and global networks will also contribute to the exchange of ideas, information, and experiences. A multiscale/multicentered, multi-actor, and dynamic bottom-up governance model will provide a basis for producing effective and just solutions for displacement processes. Such a model will foster (1) negotiation processes which proceed simultaneously and are interconnected on more than one scale (local-national-regional-global) and (2) the involvement of a series of actors in these processes, ranging from NGOs and academia to different political actors and authorities, but most importantly local communities themselves who are exposed to environmental and climate injustices.

In addition to this, it is vital to consider mobility/migration as an adaptation strategy in the face of ecological destruction and climate change rather than a problem, to seek diverse solutions that can take shape according to different localities and intersectionalities rather than one-size-fits-all solutions, and to adopt an approach which tackles displacements in an integrated manner as an issue that concerns several policies in different fields.

Making every stage of the policy-making process open to the participation of everyone is a goal that can be reached in phases. Monitoring the enforcement of existing mechanisms, ensuring that all groups partake in these mechanisms in a way that safeguards recognitional justice, and creating opportunities for expression and production for those exposed to more than one type of injustice, such as women, can be the first steps.

In short, developing solutions and policies which can ensure environmental and climate justice regarding displacements is possible through inclusive, participatory, integrated, flexible and dynamic multi-actor negotiations and decision-making processes that proceed on more than one scale and focus. Every stage of these processes should be realized with an approach focusing on questions of “who/for whom?” toward recognitional justice, “what?” toward distributive justice, and “how?” toward participatory justice.

CHAPTER 1

Ecology and Migration: Concepts, Debates

The geological era we live in is called Anthropocene (The Age of Human). This is due to the fact that the effects of human activities have gradually increased and become the main determining factor in the planet's biological, geological, chemical, and physical processes. Research shows that because of humans' production and consumption practices, nine main planetary boundaries are being pushed, and some of these boundaries are already exceeded.[1] Pushing the planetary boundaries threatens the ecological system and the existence of all species, including humankind. In other words, Anthropocene also refers to the life crisis on the planet. "Growth," the current relationship that humans form with nature—which they are also a part of—underlies the emergence of Anthropocene, which is considered the road to the "Sixth Extinction" and involves many ecological crises that are related to one another.[2] The paradigm of "growth," which we encounter in different forms, is based on the ideas of constant growth in production and consumption, thus, providing welfare and development, again limitedly defined within the growth. The current common application of the growth paradigm, which implies the maximization of profit in capitalism as well, is ensured by constant growth.[3] On the other hand, our planet with its geological, biological, and ecological boundaries; capable only of a specific bearing capacity and situated on a fragile ecological balance, is confronted by unrestricted growth, and the life on it with several crises. Although the planetary boundaries are recognized over time, and the concept of "sustainable" growth and development has been suggested, the outcomes do not change. To provide the resources and infrastructures necessary for sustaining the current economic activities, the non-stop development projects around the world destruct waters, soils, mines, and forests; thus, many ecological risks and disasters threaten the existence and extent of all species in a gradually intensifying level. The foremost resource, among the ones that are used while producing and consuming more, is fossil fuels. The usage of fossil fuels, as if there are no boundaries of the atmosphere in terms of carbon sequestration, results in another crisis under Anthropocene; "climate change". With these ongoing ecological crises, the number, frequency, intensity, and extent of the climate events have been gradually increasing in unison with their devastating effects.

The general consensus is that the intertwined, human-led, ecological crisis sequence threatens all humanity. Yet, it cannot be said that all people are affected by the results of ecological destruction and climate change in the same way and at the same level. Like in every other area and issues in social life, inequalities and injustices also emerge here. The environment and climate justice perspective draws attention to this situation and argues that the responsible and the those who suffer are different. While the actors who

Detrimental impacts of climate change and ecological crises are not distributed equally among social categories; the disadvantaged majority living in unequal positions is affected by ecological disasters and destruction more extensively.

cause the crises with their various activities reap the partial benefits of their activities' consequences, the segments with minimum effect on the emergence of large crises carry the burden of social, economic, and ecological costs resulting from such crises. In other words, detrimental impacts of climate change and ecological crises are not distributed equally among social categories that experience social, economic, and political injustices and inequalities based on class, gender, and race/ethnicity; the disadvantaged majority living in unequal positions is affected by ecological disasters and destruction more extensively. In short, climate change and other ecological crises emerge through the injustices in social life, thus deepening the injustices, reproducing them, and resulting in new ones.

Recently, one of the main fields of interest pertaining to this issue, engaging the academia, media, civil society, and national/international institutional politics, is the mobility of human communities. Since the beginning of such discussions, the predominant opinion in the mainstream approaches is that environmental disasters will cause long time/permanent international migration of masses, and this situation is one of the biggest problems that should be solved related to climate change. However, as the increasing number of academic research shows, this view overlooks the multidimensionality in terms of the reasons and results of human mobility. On the other hand, another point where environmental issues cross human mobility is displacements caused by "development" projects under the growth paradigm. As a result of these displacements, referred to as Development-Induced Displacement and Resettlement (DIDR), many individuals and communities are losing their houses, lands, commons, and livelihoods due to different types of development projects all around the world. Even when such projects do not directly displace the local communities because of the ecological destructions they cause, they threaten the health and livelihoods of human communities. Accordingly, crucial questions of what disadvantaged social groups experiencing various injustices do/will do and how they can protect themselves against the risks of losing their lives, health, houses, lands, and livelihoods should be addressed for each development project.[4]

This report investigates the relationship between ecological destruction and the mobility of humans/communities. Ecological destruction is handled in two baselines as climate crisis and development projects, overlapping and connected in their roots and effects. Human/community mobility is discussed through especially displacements. Various injustices that are based on, reproduced by, and that constitute the paramount quality of the relationship between climate change and development projects and displacement constitute the focus of this research. The "environmental justice" approach also argues that environmental issues and disasters cannot be considered independent from the social, economic, and political context. According to this approach, when the consequences of the intervention to nature via human activities of production and consumption meet with the inequalities in the distribution of power in social life, a series of injustices emerges for social groups that are highly vulnerable due to, again, such inequalities. In this report, framed by the environmental justice approach, we investigate the mechanisms, actors, reasons, and various possible results of the displacement processes caused by climate change and development projects by looking at different examples worldwide.

CONCEPTS: MOBILITY, DISPLACEMENT, MIGRATION

Before shifting to the detailed analysis of the multilayered and multidimensional, complicated relationship between environmental factors and human mobility, it is beneficial to review some fundamental concepts related to *migration,* which is the most discussed type of mobility.

Mobility, in the most general sense, refers to all human mobilities outside and towards the area of residence or social environment. From daily travels from the residence or neighborhood due to work, education, walking or shopping to going abroad for living or touristic purposes, all human mobilities with different scales, distance, duration, and purposes are included in the extent of the term.

On the other hand, *migration* refers to a specific type of human mobility. In the simplest sense, migration can be defined as people or communities' changing their place of living. This change takes place in terms of administrative boundaries: from one village to another, from village to city, from one country to another. In addition, depending on the distance, duration, and direction, different types of migrations are determined by

Migration can be defined as people or communities' changing their place of living. This change takes place in terms of administrative boundaries: from one village to another, from village to city, from one country to another.

different reasons, purposes, and results. When the migration mobility is beyond national borders, toward other countries, it is referred to as *international migration;* when it is within the boundaries of the same country in the forms of interregional, from rural to urban, or rural to rural, it is referred as *internal migration.* In terms of duration, migrations can be permanent, long-term, short term or seasonal.

Migration is a phenomenon that occurs by the aggregation of various different factors. The *push* (driving) factors are constituted by the social, economic, and political circumstances, problems, and (im)possibilities that play a role in abandoning a place of residence, and the *pull* (drawing) factors are constituted by political, economic, and social conditions and opportunities resulting in the attraction of the destination are the main elements that are used in the analyses of migration. With all this, micro and macro-level factors such as class, level of education, gender, ethnicity, religious identity, social capital (such as the extent of individuals/communities' social network), access to information, perceptions, and attributions in terms of the current conditions, emotional connection with the space affect the decision of migration, in addition to the duration, distance, and form of migration. The effects of macro structures in social, economic, and political contexts, such as the current neoliberal globalization and international regime, on migration processes should not be forgotten either.[5]

Another type of mobility is *displacements.* In the most general sense, displacements are described as people/communities' forcefully changing their place of residence due to armed conflict, violence, violation of human rights, and human-made or natural disasters.[6] The main difference between migration and displacements, also referred to as "forceful migration," is explained through the dimension of "voluntariness." According to this, migration results from the willing/voluntary decisions and actions of the ones who change their residencies. Displaced people, on the other hand, are forced to be mobile outside their willingness due to external negative fac-

tors against which they have no other choice. However, it is difficult to draw a sharp line between the situation of necessity and voluntariness. All forms of mobilities involve constraints that affect the decision makings of the migrants and the choices that can actualize their actions and make them move forcefully in various processes of their mobilities.[7]

According to the official legal, administrative, and political definition, "displacements" and "immigration" are concepts with international dimensions. On the other hand, mobility due to forcefulness can also occur by staying within the national borders. For the displacements which do not cross national borders, the term "internally displaced" is used. According to the *Guiding Principles on Internal Displacement,* drafted by United Nations Development Programme (UNDP), *internally displaced people* are described as persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border."[8]

In short, although there is a tendency to discuss the results of environmental risk and disasters by focusing on international migration, migration is a type of mobility of individuals and communities. In fact, different reactions and defence/adaptation mechanisms exist that people who lost/are under the risk of losing their lives and living spaces develop.

THE RELATIONSHIP BETWEEN ENVIRONMENT AND INDIVIDUAL/COMMUNITY MOBILITY

Human communities have changed their living spaces for different purposes, such as providing food and water, protection from diseases, and providing security throughout history. The effects of environmental events are also among the factors which trigger geographical mobility. For example, it is assumed that one of the main reasons why communities settled in Europe around 45,000 years ago is favorable local climate conditions. The main reason for the mass migration taking place in south Mesopotamia in B.C. 4000 is considered to be drought. In more recent history, it is known that because of the drought between 1844 and 1852, two million people migrated from Ireland to the USA. As a result of the sandstorms, called *Dust Bowl,* occurring after the longtime drought in the 1930s in

the USA, millions of farmers in the states of Oklahoma, Arkansas, and Texas lost their arable lands and thus lost their livelihoods. It is assumed that this resulted in around 2,5 million people migrating.[9]

The tendency to establish a correlation between environmental events and migration also manifests in the academic field in early period research. In short, the Malthusian approach, which explains migration through a simple analysis of push and pull factors in terms of environmental factors, increases in population, and decrease in resources, was one of these approaches. However, the dominant approach in the 1950s and the 1960s was that economic factors were the determining factors of migration while environmental ones were considered secondary factors supporting economic factors.

In the 1980s, there had been an increase in the approaches which highlighted the environment as the primary determining factor of the movement of people/communities; the environment/climate became central in works, research, and discussions on migration.[10] With the terms "environmental migration" and "environmental refugees," which were coined during these years, it was argued that there would be a new type of migration due to the increasing effects of environmental disasters and ecological destructions. With the increasing effects of climate change and the growing research related to the issue, the frequently referred term "climate migration" was put forward. Likewise, it was claimed that the climate risks would cause massive migration, and especially of the poor from the poor countries of the Global South to the "developed" countries of the Global North. This reductionist approach, arguing that environmental/climate risk and events cause the main, defining, and linearly uniform movement (permanent international migration from the South to the North), gained popularity, particularly by political decision-makers who hold a securitizing attitude, and media which chases sensation. This formed the basis of perceiving the relationship between environment/climate and movement as an element of "fear" and bringing "securitizing" policies and implementations into the public agenda.

Research, especially since the 2000s, started to discuss the relationship between environmental factors and migration differently. The idea, argued by the reductionist approach, that environmental disasters/changes would directly and inevitably lead to a specific type of migration started to be questioned. First, research exhibits that due to climate events such as drought and rising sea levels, there can be mobilities of different durations, directions, and distances. Still, environmental events are not determining

factors by themselves. Environmental and climate events turn into disasters in a social context. In other words, climate events turn into disasters depending on social, economic, and political conditions and power relations in social life. While most people affected by these are exposed to such disasters in social life more frequently and more harshly, these groups also have less power to protect themselves from such disasters and recover from emergent harms. In brief, it signals that social, economic, and political conditions, relations, and power distributions within context have an effect on the relationship between environment and mobility.[11]

Accordingly, contrary to what is generally presented, there is a highly complicated, as well as diverse relationship between the environment and individual/social mobility in terms of causes and outcomes. When this complicated relationship is analyzed, the environmental changes, risks, and problems cannot be discussed independently from the social, economic, and political elements.

FROM "ENVIRONMENTAL JUSTICE" TO "CLIMATE JUSTICE"

The environmental justice approach argues that the effects of environmental risks and disasters are not distributed equally among different categories of society. This implies the effects of environmental risks are more devastating for people who are situated in a socioeconomically and socioculturally unequal position; people who experience different injustices together, such as the poor, women, different races and ethnic groups, are affected more severely, and disproportionately, by the devastating effects of environmental risks.

Environmental justice, which evaluates the risks and problems related to the environment as a reflection of social, economic, and political injustices and inequalities, is a term based on social movement.[12] It was first shaped in response to environmental risks and problems that the blacks in the USA are exposed to and their struggle against it.[13] The report *Toxic Wastes and Race in the United States* documented that in 1987, all across the USA, the regions storing poisonous wastes were concentrated in regions inhabited by blacks, and the blacks were affected much more severely by the devastating effects of such wastes. The report showed that environmental injustices commonly and systematically exist all across the country depending upon the race inequalities.[14] This approach, which aligns with the black civil rights movement and qualifies the events as "environmental racism," highlights that the blacks who are marginalized based on race are further dis-

criminated against and exposed to inequality through being exposed to risks related to the environment.[15] While racial discrimination was taken as the determining element in environmental injustices within the general tendency of the environmental justice movements and research of this period, poverty was not put at the center and was only considered a supporting element. At the same time, the focus was on the local, whereas the regional, national, and global extents of environmental injustices were not mentioned.[16]

In the 1990s, the environmental justice movement started to discard the Not-In-My-Backyard (NIMBY) appearance. Other communities of different color and races apart from blacks in the USA, such as Latino agricultural workers who are exposed to excessive use of pesticides and indigenous communities who are in danger due to pollution and various projects, were also exposed to environmental injustices and environmental justice struggles also became widespread among these communities.[17] At the same time, other issues and actors (women and the poor) started to be mentioned and involved in environmental justice. The First National People of Color Environmental Leadership Summit, organized in 1991, foreshadowed a new era in the environmental justice movement (and in research). With the announcement of the Principles of Environmental Justice, containing 17 articles, the environmental justice struggles, which were carried out singularly at the local level, started to transform into a widespread movement network.[18] While in the early phases the demands for the distribution of environmental damages were more central, the demands for the abolishment of the activities and productions that are harmful to the environment and human health, as well as the more equal distribution of the cost of the environmenatl damages, started to be voiced over time.

On the other hand, movements mobilized against environmental injustices are also found in other parts of the world. Such movements, which are generally named "the environmentalism of the poor," have been resisting against development projects threatening the livelihood and socio-cultural existence of the poor—especially in rural areas—in the Global South. The people of Ogoni in Nigeria against the oil drilling of Shell; the poor farmers against the gold mine in Rio Tinto Peru, and other local communities against mines, dams, waste storage, and commercial agricultural plantations in many different places do not identify themselves as an environmental movements per se. Yet, such communities, whose livelihoods, lives, and cultures are directly connected to nature, also resist the created ecological destruction while protecting their houses, lands, health, and livelihoods.[19]

"Environment" is not conceptualized outside human activities in isolation from social life. On the contrary, it is defined through a broad spectrum that involves every space that humans "live, work, play"; in other words, it involves all fields of everyday life.

In the 2000s, the concept of environmental justice started to globalize in terms of its content and the way the issues it involves began to be discussed on a global scale.[20] Environmental movements and issues worldwide started to be assessed within the framework of environmental justice.[21] This led to the enrichment of the concept of environmental justice in terms of its content, extending the concept by involving inequalities, problems, and grievances related to the environment faced by groups in Global South such as the poor, women, small peasants, indigenous communities, who experience different injustices simultaneously.[22] Thus, several movements worldwide adopted the framework of "environmental justice" when demanding their right in different fields starting with the right to housing, health, culture, and food and resisting displacements.[23]

The framework of environmental justice, which expanded in terms of scale, actors, and issues over time, tackles the issues of ecology differently than the mainstream environmental approach. First of all, environmental justice is based on a different definition of the "environment" compared to the mainstream approach. Accordingly, the "environment" is not conceptualized outside human activities in isolation from social life. On the contrary, it is defined through a broad spectrum that involves every space that humans "live, work, play"; in other words, it involves all fields of everyday life.[24] In short, the definition of the "environment" contains all living and inanimate elements, and all habitats and conditions humans sustain or need to sustain their everyday life. The problems and inequalities that the communities who are exposed to different injustices experience, and all their demands, such as housing, health, education, and humanly living conditions, are part of the concept of the "environment." On the other hand, the first article of the Environmental Justice Principles highlights the relationship of humans with other species and the position of humans in the ecosystem through concepts such as "the sacredness of Mother Nature," "ecological integrity," and "interdependence between species".

Another essential difference of *environmental justice* is that it establishes a direct relationship between environmental issues and inequalities, imbalances of power, and exclusions in political, economic, and social fields. The environmental justice movement, which emphasizes that the issues related to the environment overlap with class, gender, race/ethnicity, and other injustices, centralizes the themes of "autonomy," "right to self-determination (as a community)," "access to recourses," "rightness," "justice," and "human rights."[25] Concerning these basic principles, there are three interrelated main dimensions of the environmental justice approach:[26]

- The dimension of distributive justice
- The dimension of recognitional justice
- The dimension of procedural justice

Distributive justice points out that the costs generated by the environmental risks and the profits of environmental policies are not distributed equally across society. Communities in a disadvantaged position in social life are forced to undertake the environmental costs, such as air and water pollution, exposure to poisonous wastes, and deforestation, in an unproportionate manner. On the other hand, these communities benefit from the environmental policies, regulations, and practices of green spaces, clean air and water, and healthy food to a lesser degree.[27] This dimension also emphasizes more general inequalities of social and economic distributions. It argues that inequalities in the distributions of access to recourses and services, developed over class, gender, and race/ethnicity, reflect on environmental inequalities.

Recognitional justice, on the other hand, is concerned with the social and cultural existence of individuals and communities. The cultural and social existence of different races, religious and ethnic groups, indigenous communities, and gender groups—constituted by their identities, values, symbols, traditions, and distinctive social, economic, and religious activities—are in danger due to environmental risks and disasters caused by industrial and excavating sectors. Affecting indigenous communities foremost, different types of relationships that communities form with nature and their understandings of life are among the unrecognized elements.[28] Individuals and communities' identities and social existence should be recognized; at the same time, it should be acknowledged that they are at risk of environmental hazards. As long as these social groups, whose cultural existences and identities are not recognized by

others and whose negative experiences in the case of both general and environmental risks are unseen, do not have the autonomy to establish themselves, recognitional injustices will continue.

Procedural justice draws attention to the fact that many social groups—whose representation within international and national political structures and institutions are restricted or who, in some cases, are not represented at all, and who are exposed to inequalities due to class, gender and identity—are not included in the processes of decision making related to the environment. First off, the precondition of political participation, that is, the opportunity to access exact and complete information related to the environmental risks and events that people are exposed/will be exposed to, is not provided sufficiently and transparently to local communities. Apart from that, such groups exposed to several inequalities and obstacles based on class, race/ethnicity, and gender are politically marginalized. The development and implementation of policies and projects related to the environment that can affect their lives directly are carried out in a (politically and economically) elite-centered and top-down manner. Thus, the needs, demands, profits, and priorities of the local population, specifically pushed to a disadvantaged position due to the injustices they face, are generally not reflected in decisions or are imposed erroneously and incompletely from the outside. Procedural justice can be realized through participatory research techniques, which also involve local knowledge, transparently sharing complete and accurate information, increasing the capacity of the inclusiveness of existing decision-making processes and mechanisms, and through new decision-making mechanisms which would practice participatory democracy.[29]

Displacements are also dealt with as one of the fundamental problems related to ecology under environmental justice, and the nature and scope of the displacement changes depending on conditions, politics, and many other factors. Especially in terms of the relationship and coalitions established with the rights of indigenous communities, displacements are one of the most significant issues. Also referring to the summarized dimensions above, the environmental justice approach does not tackle displacements as only the loss of opportunities for housing and livelihood. It emphasizes the sense of belonging and attachment to space, which constitutes an essential part of people's identities, and the relationality of these ties. It is stated that due to displacements, these senses and ties are lost; thus, the individuals and communities are dispossessed

of the rights and opportunities to protect their identities and sustain their social and cultural existences.[30]

Climate justice is also an approach and concept derived from environmental justice. Climate justice, which is also a movement-based concept and a subject of various research and discussions in academia, rose from the critiques of the reformist approach, which evaluates climate change as a merely scientific and technical issue that can be overcome with the help of some regulations and the use of technology. Against the deadlock of the international climate politics and the ineffectiveness of the mainstream civil society which supports a reformist approach, groups, such as several environmental justice organizations, activists, and groups against capitalist globalization, Friends of the Earth International (FoEI) from the mainstream climate movement Climate Action Network (CAN), came together and established the climate justice network at the end of the 2000s.[31] Toward the mid-2010s, the climate justice framework of these movement networks, which mobilize transnationally, became the main umbrella of the global climate justice movement.[32] While the climate justice approach draws attention to the inequalities in social, economic, and political fields, it shows that the ones who are mainly responsible for fossil fuel usage are economic and political elites and institutions who make the decisions toward profit making and growth and carry out their activities depending on fossil fuel. Such political elites and institutions are mainly situated in the countries of the Global North, which historically started their accumulation and industrialization way earlier and which, compared to the rest of the world, still have unequally higher levels of recourse consumption and emissions today. The climate justice approach, which tackles the current climate crisis as a direct consequence of a fossil fuel-dependent system based on inequality and injustice, finds the rectification and reforms within the system, such as the market-oriented tools and mechanisms or/and the usage of technology alone, as false solutions, insufficient and deficient in their approach. It is argued that in addition to abandoning fossil fuel usage, the climate crisis should be stopped by transforming nearly all elements of the economic, political, and social fields, from the forms of production and consumption to decision-making mechanisms and practices. Accordingly, the climate justice approach supports actions that can offer changes in several economic, social and institutional fields, such as energy democracy, food sovereignty, and financial resource transfer from the Global North to the Global South in exchange for climate debt and developing loss and harm mechanisms.

The effects and costs of the devastating results of the climate crisis are not distributed equally among social groups. The individuals, communities, and countries with the least responsibility in the emergence of the climate crisis face the most loss and damage due to climate events. As much as it happens between the Global North and Global South, this situation also occurs between different social groups within a national context.

On the other hand, the Global North, which consumes excessively, is dependent on fossil fuels and has a high resource footprint, does not sufficiently take responsibility for the solution of the climate crisis that it has largely instigated. In other words, the division of responsibility for solutions is not distributed equally between the ones who, historically or/and currently, cause climate change and those who don't, those who possess more resources, and who don't; and the distribution works against the latter.

The institutions and policies which lead to climate change are, at the same time, the cause of poverty and economic inequalities.[33] Besides the critiques against the growth paradigm and capitalism, issues such as patriarchal structures, cultural discrimination, xenophobia, and racism which causes marginalization and inequalities, are also criticized. The intersectionality—meaning the intersection of all the injustices mentioned—caused by problems of climate justice leads to multidimensional and multilayered vulnerabilities. This results in exposure to the effects of climate changes more destructively. In short, depending upon the political, economic, and social conditions and processes that they are in, individuals and communities, from the indigenous communities in the South and poor peasants to the urban poor of the North, who face various injustices are affected much more severely from the results of climate events.

At the same time, the climate crisis deepens and spreads these inequalities and injustices and produces new ones. Damages in houses due to floods, loss of food security due to drought, and threats to livelihood impoverish communities that already live in poverty, further lowering these groups' capacities to protect, adapt, and make up losses.

Lastly, every reduction and adaptation policy implemented against climate change might not always produce outcomes that can secure justice. For example, the rising costs due to market-oriented actions to reduce/stop fossil fuel usage, such as carbon tariffing and carbon tax, might reflect on prices, thus affecting the consumers. This might

worsen the economic situations of low-income groups, increase energy poverty, and result in such groups' inability to afford their basic needs.

Displacements Within the Frame of the Environmental and Climate Justice: Concepts, Debates, and Cases tackles displacement processes related to ecology and climate change from the environmental and climate justice perspective. The report aims to present the concepts, theories, debates, and political approaches to the complicated and controversial relationship between environmental and climate justice and displacements/migration/mobility with a critical view. To this end, the report includes a comprehensive literature review, information based on the research on the field, NGO reports, news, and other resources. In addition to desk research, the report also draws from information gathered from the field interviews carried out online in July 2022 for the case analysis of Mugla-İkizkoy. The following chapters of the report address the content and themes below:

In Chapter Two, the correlation between climate change and migration is analyzed in light of different theories and debates. The international climate migration discourses and the "security" policies and discourses established around these, which dominate mainstream media, and NGOs and academia to an extent, causing fear, are examined; the socially, politically, and administratively problematic parts of these discourses are discussed. The chapter analyzes the multidimensional, multicausal, multi-purpose correlation between climate and mobility that produces different outcomes and is advocated by alternative approaches. This analysis is made through the primary determinants, such as vulnerability, obligation, desire and capacity, determining mobility/immobility, and through examples from the world.

Chapter Three explores development-induced displacements. The characteristics, causes, and results of displacements directly and indirectly caused by development projects, such as mining, dams and transportation projects, are analyzed. The distinctive characteristics and consequent injustices of these three types of development-induced displacements are examined with examples from the Global North and the Global South.

Chapter Four presents, as an example of dam-induced displacements, the processes of dispossession of the lands—the extent and severity of which are on ever-increase—of the poor indigenous communities and landless peasants in the Brazilian Amazon Forests.

Chapter Five describes the processes of the displacement and impoverishment of the poor peasants due to the EACOP (Oil Pipeline) project built between two East African countries, Uganda and Tanzania.

Chapter Six discusses what the poor peasants and indigenous communities, who are kicked out of their houses and lands due to coal mining in India, are exposed to as an example of mining-induced displacements.

Chapter Seven focuses on the "Big Garuda" project, which is implemented as a climate adaptation project in the face of the rising sea level in the capital of Indonesia, Jakarta. The displacement processes of the urban poor due to the "Big Garuda", which is actually a profit-maker mega urban transformation project, are examined.

In Chapter Eight, the currently increasing ecological destruction and displacements in Muğla, caused by the coal-fired thermal power plant and around forty years of mining, are tackled. This chapter focuses on the ongoing struggle of the people of İkizkoy to protect their houses, agricultural lands, olive groves, and the forests that are their commons.

The last chapter suggests a reading of the main principles and approaches to discussing displacements, migration, and other mobility types from the environmental/climate justice perspective. The fundamental findings about displacements, which are examined along two main axes, namely climate change-related and development project-induced, are reviewed. The chapter propounds the idea that the intersection of these two axes is environmental/climate justice and proposes the fundamental principles of an approach that can provide justice and equality by taking participatory, recognitional, and distributive justice dimensions into account.

CHAPTER 2

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]

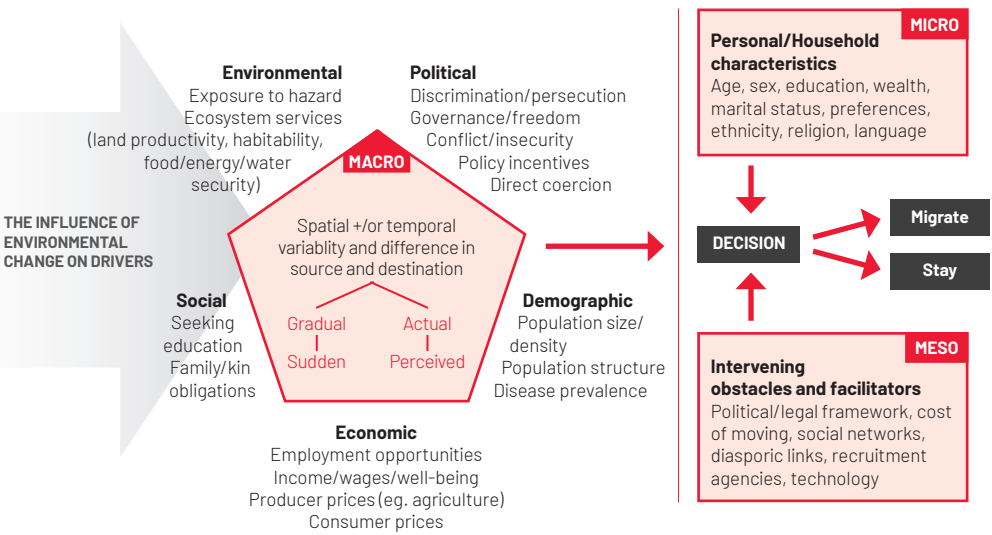
1- UHCR, *The 1951 Convention Relating to the Status of Refugees* (1951), https://www.unhcr.org/about-us/background/4ec262df9/1951-convention-relating-status-refugees-its-1967-protocol.html (Accessed: July 26, 2022).
2- Robert McLeman and François Gemenne, "Environmental Migration Research: Evaluation 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.

CHAPTER 3

Development-Induced Displacements

Economic growth, which is determined by criteria such as income per capita, the share of the labor force in the industry, and added value through export, aims for the constant extension and increase of the distribution and consumption relations. In addition to involving all aspects of growth, development entails the purposes of distributing social and economic products and services, increasing prosperity, democratic governance, and eliminating discriminations and differences based on class, gender, and ethnicity.[1] Besides, within the dominant understanding of development intertwined with economic growth, renewing, establishing, and restoring the infrastructures of the economy's producer powers and their facilitating factors stand as prominent elements in promoting development.[2] "Development projects" aim to provide all the necessary raw materials, energy, infrastructure, and services for such elements through using natural resources. In the most general sense, mega development projects refer to projects which, biologically, geologically, and physically change/transform a part of nature through technology in a quick, extensive, radical, conscious, and—in many cases—irreversible manner. Depending on their purposes, such projects are divided into four categories:[3]

- Infrastructure projects (transportation projects such as ports, airports, railways, roads and highways, urban water and sewerage systems, etc.)
- Extractive sector projects (mining projects including minerals, metals, coals, petrol, and gas)
- Production and trade projects (industrial arboriculture, export areas, industrial areas, etc.)
- Consumption-oriented projects (tourism, shopping malls, theme parks, real estate projects, etc.)

According to the propounded argument, the benefits from development projects done and managed by private and public sectors in different areas with different purposes will generally enrich economies through producing economic value; then, the effects of such benefits will reflect on society through providing "prosperity". However, the insufficient and unequal distribution of the benefits allegedly provided by development projects causes inequality and injustice. Besides, these projects contain several ecological, social, and economic costs/damage that are externalized or ignored. Generally, in terms of ecology, development projects cause several local and global problems such as excessive exploitation of resources, air, water, land pollu-

A HOLLOWED CONCEPT: SUSTAINABILITY

The discussions on the concept of "sustainability," which supports growth compatible with the environment, started in the 1960s. The first research related to the impossibility of unlimited growth was *The Limits to Growth* report, published in 1972. In this report, it was pointed out that humans' current production and consumption activities are not sustainable based on the emphasis that the planet has certain boundaries and carrying capacity. It was also argued that although the continuation of the current growth model would push the planetary boundaries and thus would bring economic and ecological destruction, there could be a sustainable economic model to provide basic needs.[1] In the mid-1980s, the concept became more popular on the public agenda and for political/economic actors outside academia. The turning point of this evolvement was the publication of the *Brundtland Report*. The report, which draws attention to poverty with international and intranational inequalities around the world, emphasized that there is a need for a sustainable development model that is harmless in terms of social and ecological terms. On the other hand, the report also argued that a new growth model that accepts the planetary boundaries, does not exceed these boundaries and the planet's carrying capacity, is respectful to nature, and can provide for current generations while not endangering the future generations is possible.[2]

The concept of "sustainability" was broadly recognized in the 1990s and became mainstream. Thus, the concept was adopted by the business world, governments, and the media. In 2015, the UN accepted the *Sustainable Development Goals* (SDGs)—which involve a series of social and economic goals, including "humanely business and growth," eliminating poverty, reducing inequality, gender equality, responsible production and consumption, climate action, and accessible and clean energy—and started its activities to achieve these goals worldwide until 2030.[3]

On the other hand, as can be observed in many other concepts, as "sustainability" is spreading to different fields and has started to be used by various actors to refer to different things; it is turning into an empty signifier.[4] Although several economic and political actors, from international institutions to companies and governments, regard sustainability as a fundamental element of their activities and policies, there is no consensus in terms of the content of the concept and the ways of actualizing it; the meaning gradually becomes blurred. Besides, the approach called ecological modernization has become the most accepted interpretation. According to this approach, the damages done to the planet due to growth can be fixed with advancing technology; at the same time, implementing new technologies and green implementations can contribute to economic growth with their booster effect on employment.[5] In time, the conflicting situation between economic system and ecology, frequently emphasized in early discussions on the concept of sustainability, started to be diffused in the background. Instead, it can be noted that in addition to continuously predominant idea and aim of growth, reformist approaches toward intrasystem implementation, such as efficient use of resources, technological applications, and/or administrative regulations and planning, are the preferred solutions for sustainability. Reformist approaches toward eliminating the negative results of development-induced displacements are also based on a similar understanding of sustainability. As the political ecology approach emphasizes, when the concept "sustainability" is used as such within social, economic, and political structures, it faces the risk of turning into a tool for *greenwashing*[6] for the "sustainability of companies."[7]

1- Donella H. Meadows, et al., *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind* (New York: Universe Books, 1972). It effects people living in the shores of rivers under dams, their livelihoods and food security and thus prevents the suitability of their social and cultural existence in their living spaces. Big dams, which ruin the fish population and the habitats and life cycles of other species on the rivers that they are built, damage rivers and their surrounding ecosystems. Communities which sustain their lives depending to an ecosystem centered around river become to be unable to carry out fishery and lose their livelihoods.

2- World Commission on Environment and Development, *Our Common Future* (Oxford: Oxford University Press, 1987).

3- UN Turkey, *Our Work on the Sustainable Development Goals in Türkiye*, https://turkiye.un.org/en/sdgs (Accessed: June 19, 2022).

4- Ingulfor Blühdorn, "Sustainability—Post-sustainability—Unsustainability," in *The Oxford Handbook of Environmental and Political Theory*, ed. Teena Gabrielson, et al. (Oxford: Oxford University Press, 2016), pp. 259-273; David Carruthers, "From Opposition to Orthodoxy: The Remaking of Sustainable Development," *Journal of Third World Studies* 18, no. 2 (2001): 93-112; Hande Paker, *Ekolojik Dönüşüm için Kültür ve Sanat*, 9. Kültür Politikaları Çalışmaları Raporu, (İstanbul: İKSV, 2021).

5- Andrew Dobson, "Are There Limits to Limits?," in *The Oxford Handbook of Environmental and Political Theory* (2016), pp. 289-303.

6- Greenwashing refers to instances when companies (and governments) seem like they embrace projects and programs based on sustainability principles but they also continue their investments, activities, productions, and policies which harm the environment and climate; they mostly maintain a fake green stance to escape criticism and to obtain prestige.

7- Blühdorn, 2016, Ibid.

Between 2001 and 2010, it is calculated that 15 million people per year, 150 million people per decade, forcefully lost their houses and/or lands worldwide.

tion, deforestation, and destruction of ecosystems. Thus, such projects result in rapid consumption of the planet's limited resources, exceeding the nine essential planetary boundaries, and increasingly continuing massive and devastating ecological crises such as climate change. This is still the case, in spite of the increasing popularity of the "sustainability"—a concept underlining the need for a different development and growth approach by claiming that the current understanding of growth pushes the planetary boundaries and does not eliminate poverty.

One of the most critical social risks and problems created are displacements. With the effects of the emergent ecological risks, millions of people worldwide lose their houses, lands, livelihoods, and their living spaces in a general sense. According to the estimations of the World Bank, due to hydroelectrical power plants, infrastructure, and transportation projects, 10 million people were displaced in 1994. This indicated that around 100 million people are displaced every ten years worldwide. Between 2001 and 2010, when other projects were added to dam, infrastructure, and transportation projects, it is calculated that 15 million people per year, 150 million people per decade, forcefully lost their houses and/or lands worldwide. In the following decade, on the other hand, with the increasing numbers of development projects, it is estimated that 20 million people per year, 200 million people per decade, were displaced.[4]

Development-induced displacements (DID) due to intertwined ecological and social destructions cause a quite extensive and multidimensional environmental injustice. Social groups, such as the poor, indigenous communities, ethnic minorities, women, the elderly, and the disabled, are situated in a disadvantaged position due to the social, economic, and political conditions that they are in and due to the general unequal distribution of power. Thus, experiencing several injustices simultaneously, they are affected by the harmful and devastating costs/damages resulting from the development projects to a larger and more intense extent. This indicates that development projects create distributive injustice in terms of costs. The recognitional and participatory injustices are also an essential aspect of development-induced displace-

ments. The losses of these groups, who cannot have a say against ecological and social risks and are not included in the decision-making processes, are mostly unseen and rejected. It is possible to come across many such examples in the past. For example, in India, between 1951 and 1990, it is estimated that 2% of the population was displaced due to development projects; indigenous communities constitute 40% of the displaced population. Individuals from the indigenous communities constitute 8% of the population of India, which implies that these individuals constitute a large part of the displacements and are affected by the development projects more in an unequal manner.[5]

APPROACHES TO DEVELOPMENT-INDUCED DISPLACEMENTS

Especially during the 1970s and 1980s, the massive extent of development-induced displacements due to mega projects, such as dam, mining, and infrastructure works, brought an increase in research, works, and policy seeking related to the issue. Scudder and Colson, who gave one of the first examples of such research, specified that people displaced due to mega projects go through a traumatic process and benefit from their relocations in later phases. According to this approach, a successful relocation process can be thought through a four-phase model: There are phases of planning and recruitment, adjustment and coping, community formation and economic development, (administratively) handing over (the relocation area to the local authorities) and incorporation (of the local authorities).[6] This approach does not look at the effects of social, economic, and political factors, substantially overlooks local differences, excludes the actors' agencies, and defines the process beforehand and linearly through definite phases determined from outside.

Sociologist Michael Cernea, one of the experts at the World Bank, found Scudder and Colson's model insufficient in terms of understanding the problems related to displacements due to development projects and programs that the World Bank finances, and proposed the model *Impoverishment Risks and Reconstruction* (IRR)[7] in the 1990s, which became a reference for Development-Induced Displacement and Resettlement (DIDR) programs. Cernea emphasized that for most projects financed by the World Bank, DIDR programs ended with failure and argued that all displacements carry risks.[8] Common risks that are encountered in development projects are listed as:[9]

• *Landlessness* occurs when indigenous communities' private or collective lands are partially or entirely dispossessed due to development projects, and as a result of partially or entirely losing access to such lands, when their production practices, trading opportunities, and their livelihood opportunities and activities are eliminated or hardened,

• *Joblessness* occurs when jobs of landless workers and lands of small farmers in rural are taken away, and when jobs of workers in the service sector, owners of small shops and their workers, and craft and related trades workers in urban are eliminated and not replaced,

• *Homelessness* occurs when housing opportunities are for a while or perpetually annihilated which causes sociocultural alienation and poverty,

• *Marginalization* occurs when there is a retrogradation in the social hierarchy, which manifests itself in cases that all cause economic loss, such as loss of social status, class differentiation, elimination or inactivation of social capital, loss of individual assurance,

• *Increased morbidity* that occurs when, due to displacements, psychological, healthy, and clean living conditions are not provided as a result of the feelings of stress, trauma, and insecurity; access to healthy and clean living conditions is restricted as a result of the ensuing economic depression; there are health problems such as vulnerability against epidemics and diseases,

• *Food insecurity* occurs for a while or persistently when, there is a loss of access to collective spaces and agricultural lands in rural areas or loss of jobs and income in urban areas which threatens several social groups, especially women, children, and landless peasants,

• *Loss of access to common property resources* that are one of the fundamental elements of the economic and social life of a population, especially indigenous communities living in the rural such as grasslands, pastures, water sources, forests,

• *Community disarticulation* occurs when social capital, articulated through many ages and is the foundation of sustaining the continuance and reinstation of the identity and cultural existence, is lost.

As he also emphasized in his later works, Cernea argues that such risks can be eradicated through some regulations developed by considering social, economic, and political conditions with a human rights perspective. He states that, as seen in several examples, the traditional way of compensating loss and damages with monetary com-

pensation results in further impoverishment. Instead, he argues that development projects should be designed and implemented in a way that can facilitate development for the locals.[10] The way to do this is first following the criteria with regard to such risks, sustaining political will for this, and preparing and implementing actions and action plans to overcome such risks. Against the eight risks that are listed above, solutions based on the principles of "land-based resettlement," "reemployment," "house reconstruction," "social inclusion," "healthcare," "adequate nutrition," "restoration of community assets and services," and "networks and community rebuilding" are highlighted respectively.[11] One of the main methods proposed in this direction is benefit sharing, that is, to share the benefits produced in a way that mega projects develop the region where they are located with local communities.[12] For example, when the electricity produced by a dam is also used in the surrounding region or when the local farmers also benefit from irrigation opportunities.

This approach, described as reformist-managerial, which argues that risks related to displacements can be prevented by a series of regulations and administrative interventions within the system, became a model that is frequently referenced in academic research and the processes of policy-making; and, though partially, it became the foundational approach in World Bank programs.[13]

Another approach toward development-induced displacements is called "radical-movements." The root of this approach is based upon social movements which resist against disentitlement of their fundamental rights, such as the right to individuals and communities' self-determination, right to housing, right to access to land and water, and right to live in a healthy and clean environment, and which, at the same time, try to protect their identities and cultural existences.[14] In addition to being movement-based, the alternative radical approach which became a standpoint that is defended with its different forms in the academic world takes human rights as its focus as opposed to reformists approaches. Development is described as a totality of processes and practices which, instead of increasing people's prosperity, intervene negatively in people's lives by depriving them of the opportunities of shelter and livelihood at the local and lead to human rights violations. In contrast to the reformist point of view, they claim that development projects do not provide "welfare" and "prosperity" for people. Accordingly, displacements are not considered as the "undesired" effects resulting from insufficient management, lack of rules or faulty implementations of development projects, Rather,

INTERNATIONAL STANDARDS OF DISPLACEMENT

There are regulations and standards related to development (projects) induced displacement introduced by several international organizations and institutions. Between 1990 and the mid-2000s, several international and regional financial institutions, such as the European Bank for Reconstruction and Development (EBRD), African Development Bank (AfDB), Asian Development Bank (ADB), and the Inter-American Development Banks (IADB), published standards that would be implemented in the projects that they provide resources for. All these standards and regulations are based on the works and initiatives of the World Bank, one of the primary financer of development projects worldwide.

The development projects that the World Bank financed between the 1970s and the 1980s worldwide caused social and economic damage in the regions that they were built. With the deepened and widespread poverty due to the projects, the pressure by social movements, which were rising on local and international levels, increased.

The World Bank started developing some standards related to displacements that would be implemented in the projects it financed in the 1980s.[1] As a result of works under sociologist Michael Cernea's coordination and guidance, in 1980, the first institutional policy standards related to displacement and relocations, the OMS 2.33 guide, was published. In OMS 2.33, to which governments that are involved in the World Bank projects have to oblige, it was emphasized that in the making of the projects, displacements should be the last option; and in case it is applied, planning of housing for displaced people and financing of this should be integral parts of the projects. After some regulations were developed in the guide between 1980 and 1990, OD 4.30 (Operating Directives) was published in 1990. In 2016, Environmental and Social Standards 5 was published, and these standards became operational in 2018. In this framework, the World Bank published the Environmental and Social Framework (ESF) and Environmental and Social Standards (ESS) to implement them in the projects financed by the World Bank. In time, the World Bank, while updating ESF and ESS, aimed to improve the livelihoods of the displaced people as compared to before the projects, and, if that is not possible, to provide the same level of livelihood after the projects are completed. However, despite these standards and framework, it is observed that in half of the projects that the World Bank financed between 1990 and 2010, even the criteria of providing the livelihoods of the displaced people on the same level compared to before could not be met. In the updated ESF and ESS in 2016 by the World Bank, policy outlines and principles presented in a single article related to the issue replaced the formerly presented, ten-article, detailed policy recommendation related to displacements.[2] At the same time, ESF and ESS do not identify risks, such as loss of houses and lands; food security; marginalization, and disappearance of access to commons that displaced people encounter. The last update led to criticism that the World Bank does not take responsibility; that it is leaving all the responsibility to the governance of the project owner and debtor countries. Besides, the updated ESF and ESS were also criticized for the fact that the frameworks do not involve any obligation for project owner countries to implement the standards, and they only involve general information, which is insufficient in actualizing the aim of preventing poverty.[3]

1- Sanjeev Khagram, 2004, Ibid.; Anthony Oliver-Smith, 2010, Ibid.
2- The World Bank, "World Bank board approves new environmental and social framework" (August 4, 2016), https://www.worldbank.org/en/news/press-release/2016/08/04/world-bank-board-approves-new-environmental-and-social-framework (Accessed: June 19, 2022).
3- Michael Cernea and J. K. Maldonado, 2018, Ibid.

they are considered as an integral part of development projects that signifies how results and costs of development are unequally and unjustly distributed. Accordingly, the "reformist" IRR model is criticized in terms of how it approaches displacements, more specifically its oversight of power inequalities in various forms and participatory, distributive, and recognitional injustices displacements cause.[15] Furthermore, critics claim that reformist approach ignores political and economic dynamics on local, national, regional, and global levels as well as the historical development that has impacts on the current situation. In that regard, the IRR model, criticized for holding a modernist and neoliberal outlook, is accused for not elaborating on the structural causes of poverty, loss of livelihood, and inequalities sufficiently.[16] Additionally, the IRR model does not consider constraints and opportunities of host countries in relation to their position within the global economic system.[17] Last but not least, it is claimed that even though the reformist IRR approach that certain vulnerable groups such as women, children, and indigenous communities are among the more severely affected. it avoids analyzing these groups' disadvantages and vulnerabilities by situating them in a social, economic, and political context.[18]

Although the IRR approach argues that the free and open participation for all should become an essential part of the process, this principle has been violated almost in all development projects. Communities that face the risk of displacement are not included in the planning and preparation stages of projects. This culminates in the lack of mutual exchange of information between locals and project owners and failures in terms of taking priorities, demands, and needs of local populations into account. This inevitably turns what is labelled as relocation processes under development projects into displacement processes.[19] Even if participation principle is exercised in certain projects, its reach is kept limited. When the principle of participation is—though insufficiently—implemented, it is constrained within the limits of eliminating negative effects of already decided and implemented development projects. For instance, indigenous communities and individuals are generally not included in the decision-making processes during the initial phases of development projects that would be located in their living areas. As long as indigenous communities cannot decide on their own whether they want a development project in their vicinity in the first place, there is a participatory injustice. Thus, procedural justice, which is essential for environmental justice to be instated, can only be possible when local inhabitants are involved in the decision-making processes about implementing projects from the very

DISPLACEMENTS AND GENDER INEQUALITY

One of the main social groups that is predominantly and traumatically affected by the harmful effects of development-induced displacements is women. In addition to poverty, women are situated in a more disadvantaged position than men due to gender inequalities. In addition to existing injustices stemming from gender inequalities, the fact that men are given a central role in the excogitation and implementation of development projects (e.g. men's income is included in the calculations of economic loss, whereas the unpaid labor of women is excluded) makes women more vulnerable during displacements.[1] As a result of displacement processes, the unequal and unjust situation of women worsens and deepens. Some of the problems and obstacles that result in women facing recognitional, distributive, and participatory injustices in the DIDR processes can be summarized such as:[2] First of all, women face recognitional injustices. In many DIDR processes, the share of women in lands, family properties, and collectives is not acknowledged. Thus, women, whose shares and rights are invisible, benefit less from compensation processes in comparison to men. In the case of relocations, on the other hand, women who live alone are generally not given access to lands or other resources that are providede as compensation unless they reach a certain age or through the medium of a man. For example, in India, during the construction of Sardar Sarovar Dam, the losses of women from indigenous communities, who traditionally do not have land property rights, were not compensated.[3] Another reflection of this is that due to a series of reasons, such as low rates of literacy and education among women and the obstacles to women's transportation in terms of distance and duration, participation of women in project information and decision meetings with local communities is limited.[4]

Regarding the traditional division of labor, access to commons in rural regions, such as water resources, is considerably crucial for women who take care of domestic work and childcare. Due to the closure of common areas to use or the destruction of common resources, the burden on women who maintain traditional roles increases. Similarly, the far distance of relocation areas from areas and resources that are used collectively causes women to have difficulties.[5]

Job opportunities to maintain their livelihoods in relocation areas or new living areas that they settle in with their own means are more restricted for women. These are caused by factors like restricted mobility in everyday life compared to men; lower education levels; working less than before, and thus limited opportunities to acquire skills to transfer to new jobs.

Not having a job in their new areas of settlement, not having access to common resources, and substantially losing their social networks cause women to lose their statuses. In addition, it is recorded that violence against women and children increase during and in the aftermath of DIDR processes.[6] When all of these are combined, women participate less in the public sphere in their new areas of settlements and join in social life in a more limited manner. Thus, the ratio of their dependency on house and men increases and they experience disempowerment.[7]

1- Vandana Asthana, "Forced Displacement: A Gendered Analysis of the Tehri Dam Project," *Economic and Political Weekly* 47, no. 47/48 (2012): 96-102.
2- Michelle Hay, et al., 2019, Ibid.; WCD, *Dams and Development: A New Framework for Decision-making*, World Commission on Dams Report (November 16, 2000). https://archive.internationalrivers.org/sites/default/files/attached-files/world_commission_on_dams_final_report.pdf (Accessed: June 19, 2022).
3- WCD, 2000, Ibid.
4- Michelle Hay, et al., 2019, Ibid.; WCD, November 16, 2000, Ibid.
5- Michelle Hay, et al., 2019, Ibid.; WCD, November 16, 2000, Ibid.
6- Ibid.
7- Ibid.

beginning or such decisions are taken directly by the locals. This is essential in terms of creating opportunities that enable local communities to establish control over their own lives, living spaces, and livelihoods.[20]

The reformist approach evaluates aforementioned risks in relation to displacements in a reductionist manner by treating each separately without building their links. However, the eight risks that are individually listed under the IRR model are related to each other: each of them interacts with the others, leading to new risks. For example, landlessness is a complicated and multidimensional problem that cannot be overcome by simply substituting a new land. When farmers lose their lands, they lose the ways of farming that they had been practicing for a long time, the potential to cultivate specific products depending on the type and fertility of the soil, and they are also devoid of traditionally used arrangements and practices such as renting/sharecropping.[21]

In the IRR model, an important role is attributed to international institutions such as the World Bank. It is assumed that in the development projects financed or implemented by international institutions, operating DIDR processes by following specific standards and rules is expected to eliminate risks. However, even though these standards and rules are introduced as compulsory elements, there are structural obstacles to actualizing them. First, on both international and national levels, there is a shortage of personnel with enough knowledge, experience, equipment, and understanding to actualize the implementations. In addition to lack of capacity, proposed standards and principles are situated in a general framework, and they are far from providing the specific conditions and needs of the local unless they are adapted to specific conditions. Furthermore, it is difficult to measure whether people's living standards are improved or not as a result of relocation programs even if standards are applied Another obstacle is that, as it is the case in many other international agreements, internationally introduced standards on development induced displacements are nonbinding. In addition to insufficiencies in terms of international rules and organizational capacities for monitoring the lack of international structures with binding power prevents the effective implementation of the proposed standards.[22]

In short, different approaches that analyze development-induced displacements propose different arguments regarding the causes and solutions of displacements. From the perspective of environmental justice that overlaps with the radical movement ap-

proach in many respects, various forms of development induced displacements resemble each other. Even though each case is unique to a certain extent depending on local dynamics, it is generally the socially and economic vulnerable groups that are affected the worst, and they face similar risks and problems amounting to a shared process of deprivation.

FUNDAMENTAL PROBLEMS AND RISKS OF DEVELOPMENT-INDUCED DISPLACEMENTS

Displacements resulting from mega development projects are multidimensional and multifarious; they also occur in various forms in time-space. First of all, the displacement of individuals and communities whose living spaces are on lands where such projects would be done is in question. Especially in the phases of preparation and construction of the projects, human communities are *physically* displaced. *Physical displacements* are described as local inhabitants physically transporting their lives and living areas from their current location to another location and processes which result in the loss of their housing spaces, production tools, livelihood sources, and access to their livelihood resources.[23]

Within the framework of physical displacement, houses and lands of people are taken away through various procedures such as buying, expropriation, monetary compensation, and allocation of new houses or lands. We encounter three different types of displacements in terms of the points of arrival:

- Relocation/resettlement in cases where displaced people are relocated in new settlement areas created by project owner/executing companies or governments or allocated lands,
- Individuals/communities that are given monetary compensation settle in an area of their choice,
- Or, in the simplest sense, expulsion/evacuation/expropriation/land grabbing when displacement programs or compensation mechanisms are not executed.[24]

The method of monetary compensation, used in development-induced displacement in different places and times, leads to several common problems and violations of rights that extent to the deepening of poverty. Foremost among these are determin-

ing the amount of monetary compensations for houses, lands, and other immovable properties at low levels; delays in paying the compensations, and the impossibility of providing new houses and lands with the given compensations due to the increasing prices of lands and houses in the relocation area.[25] Another significant problem is that the destruction of common areas, such as grasslands, forests, and water resources, and the restriction of access to such resources are not counted in as elements of compensation. On the other hand, due to displacements, people are also exposed to social and cultural problems such as loss of social capital and identity, psychological stress and risks. The monetary compensation method, which is a market-oriented mechanism, is unable to compensate such unquantifiable losses of individuals and communities. Meanwhile, compensations in the form of cash are most of the time used to provide for other basic needs due to the difficult conditions that individuals and communities are in; thus, displaced persons are unable to obtain new houses and lands with the compensation.

As for resettlements supported by the reformist approach and actualized in many development projects, they also carry several risks and problems, some of which are similar to the ones above and some of which are distinctive in themselves. Not creating new settlement areas that are large and sufficient enough for the displaced people; insufficiency of health, education, and other services; low quality of housing, and low living standards in settlement areas are among the series of problems that people are exposed to. As for allocating new lands, due to differences in soil fertility and quality, people cannot transfer their local knowledge and experiences that they have long cultivated, and they cannot continue the agricultural activities, relations, and techniques that they are used to. In the meantime, those who go out to find new lands with their own initiative face the problem of being unable to find sufficient and proper agricultural lands.[26]

The majority of compensation and displacement programs are restricted in scope and implemented selectively. People who do not own lands or do not formally own the property rights of the lands they use, such as nomads, landless peasants, and indigenous communities, are excluded from these mechanisms. The losses and damages these groups suffer due to their houses and lands being taken away are not compensated. This shows that nearly all development projects involve some form of expulsion/evacuation/expropriation/land grabbing.[27]

Apart from spreading to vast lands, mega development projects also extend to the regions that they are situated in and have multiplier effects; they cause biological, geological, and physical transformations/destructions that are irreversible in most cases. This indicates that nature is also displaced in the form of a) considerable amounts of rock and soil, b) hydrologic structures, c) natural habitats, d) plant and animal species, and e) livelihood opportunities.[28] This situation has devastating effects on individuals and human communities who live in areas surrounding development projects and whose livelihood depend on activities such as agriculture, forestry, and fishery. *Economic displacements* are described as the temporary or permanent decrease, interruption, or annihilation of local inhabitants' livelihood resources and activities as well as their tools, resources, and areas necessary for production.[29] Deforestation; soil, air, and water pollution; changes in the fertility and quality of soil; reduction of water sources, and many other ecological destructions caused by development projects result in local inhabitants living in the areas of development projects losing their livelihoods. In addition to economic displacements, these people's rights to live in a healthy environment, food security, and living standards are at risk. In the meantime, individuals and communities whose will to sustain their ways and sense of their own lives have been taken away might have to abandon their living spaces in time.[30] In other words, much as development projects cause *direct* physical displacements in the phases of preparation, construction, and expansion, they also cause *indirect* physical displacements that are spread to wider areas and over time. One of the possible outcomes of this is that, in the mid and long run, economic displacements cause physical displacements. However, although indirect displacements can constitute conditions for physical displacements, it is not an inevitable result. Inasmuch as when the external factors, such as deepened poverty, lack of opportunities for employment and housing in other places, and the availability of usable and accessible lands, are combined, the capacity of individuals and communities to establish life through migrating to somewhere else may decrease. Thus, the situation of "involuntary immobility," in other words, being trapped, may occur.

In the case of many displacement processes worldwide, detentions, use of violence, unlawful and illegal punishments, and political oppressions take place, and freedom of speech is usurped; thus, the civil and political rights of people who are displaced are violated.[31] Furthermore, indigenous communities being local communities in the first place have emotional, cultural, and spiritual ties with the lands they have been living on

THE EXAMPLE OF MANWAN DAM[1]

The massive Manwan Dam, located on the Mekong River in the Yunan State in China, started to be built in 1985 and was put into service in 1996, causing the displacement of 7260 people living in 114 villages. However, the number of people affected by the Manwan Dam is not limited to this. It is estimated that around 70 million people who lived in Myanmar, Taylan, Laos, Cambodia, and Vietnam, where the Manwan river passes through after China, whose primary nutritional source depended on fresh-water fishes and products and who sustained their drinking water and water usage from the low flowing water of the river, were economically displaced, although at different levels and to different extents. Nearly all the physically and economically displaced population was constituted by poor small farmers from 25 different ethnic minority groups doing subsistence farming and fishers living along the river. These groups, already poor and with low living conditions, encountered a multidimensional environmental injustice centered around losing their living spaces.

Only a small part of these poor and disadvantaged communities was included in the scope of the relocation program that was implemented to compensate for the losses of displaced people because of the dam. After all, according to the statements by the project executives, the number of people that would be displaced was kept to 3042 in the preparation phase of the dam project. However, those who were allocated to houses in newly created settlement areas were exposed to displacements again due to low-quality houses that could not even provide their former living standards and were unstable with risk of landslides.

To the majority of people, the company did not directly provide houses or lands, instead, monetary compensations were paid, assuming that these people would find houses on their own or build them. However, these monetary compensations, determined via estimated prices for houses in very bad conditions, were so low that the displaced villagers could not find new houses or build new ones. In addition, because the majority of the villagers living in this region were not acknowledged as formal owners of their lands according to the land laws of China, the paid compensations were not determined through their properties; instead, they were determined according to the loss of income at that time. Not taking into account future loss of income, in addition to not calculating lost houses and lands, was another reason why the paid compensations were low. Losing access to forests and other commons, through which the villagers were sustaining part of their livelihoods, was also not counted among the losses that would be compensated.

1- IDMC, *China: Lessons Learned from the Manwan Dam*, Case Study Series (April 11, 2017), https://www.internal-displacement.org/sites/default/files/inline-files/20170411-idmc-china-dam-case-study.pdf (Accessed: June 19, 2022).

for centuries. Displacements cause these ties to be severed. In short, development-induced displacements also mean that the right to maintain identities and cultural existences are also overridden.[32]

One of the main causes of rights violations in relation to development project is that companies and governments externalize social and ecological costs of these projects. While the costs of lost houses and lands, which are economically quantified, are kept at low levels, a series of social and ecological costs that are problematic to quantify in terms of the market mechanism criteria, such as severance of social ties, the

loss of spatial belonging, and threats to biological diversity, are excluded. In addition, governments present development projects as symbols of national development and power. States and governments, who play the role of "actors" as the executive/facilitator of the processes and "judges" as the implementer of the law, mostly introduce the loss of displaced people and ecological destructions as hardships/costs that are necessary to bear in the framework of "national benefits" that they also determine.[33] The processes of displacements consist of multiple actors and conflicts. The primary conflict is between project owner/executive governments, companies, and financial institutions and local communities who are at risk of losing their living spaces and resist this risk through local movements. Besides, inequalities in the distribution of power between local actors are also reflected in such processes. Some communities and individuals might gain advantages and ensure particular profits, demands, and needs for the groups/individuals that they belong to via establishing favoritism, patronage, and corrupt relations with the ones who hold power, such as project operators and owner companies, central governments, local governments, and leaders of villages/communities. For example, during the expansion operation of the Theun-Hinboun Dam, located on Nam Gnouang River in Borikhamxay Region in Laos starting in 2011, inhabitants of four villages were displaced and relocated to another region. Phonkeo and Sensi, whose livelihood activities and preferences are different than the other villages and who are more dependent on the Nam Gnouang River, were able to choose the location of the new settlement area according to their own needs and preferences through their political ties and close relationships with the local administrators and political parties.[34]

TYPES OF DEVELOPMENT-INDUCED DISPLACEMENT

Development projects, especially dams, mines and transportation projects, are rapidly increasing worldwide—mainly in the Global South. These projects, aimed at providing energy, irrigation and raw material, cause several ecological problems. Meanwhile, they displace millions of people both physically and economically/in an indirect way. Although these development projects exhibit common attributes in terms of displacements they cause, they also have differences considering how they operate and the effects they create on local communities. For these reasons, to better understand displacements and environmental injustices resulting from dam, mining and transportation projects, it is essential to investigate their distinctive dynamics and similarities:

TABLE 1:
SOCIAL AND ECOLOGICAL IMPACTS OF MEGA DEVELOPMENT PROJECTS[1]

	PRIMARY/DIRECT	SECONDARY/INDIRECT
Ecological effects	- Submergence of vast areas, - Changes in a waterbeds or water courses and other hydrological changes, - (In mining projects,) topographic changes such as soil being dug, stream beds or hills, which emerge due to accumulation of waste rock or soil, being filled (with waste), - Decrease/exhaustion of specific minerals, - Deforestation, - Disruption of habitat, - Emergence of obstacles that block the mobility of migrating species.	- Landslides, floods, and earthquakes (due to dams and mines), - Decrease in water quality, - Deterioration of aquifers,[2] excessive usage of overground and underground waters, decrease in the available water due to retention of waters (in dams), - Salinization of soil, - Soil, water, and air pollution due to accidents and routine activities in mega projects, - Extinction of wildlife, animal, and plant species, - Reproduction of insects, viruses, microbes, and bacteria due to ecological changes and consequent emergent diseases, - Extinction of fish species and decrease in fish populations and migrating bird species, - Changes in soil qualities and usage, - Imperilment or extinction of fauna and flora species.
Social, economic, and psychological effects	- Psychological problems such as stress and future anxiety, - (Planned) displacements and evacuations, - (Planned) resettlements/ relocations, - Loss of livelihood, - Housing problems, - Loss of production tools (foremost agricultural lands), - Interruptions in routine economic and social activities, - Low living standards that people who migrated for jobs in project constructions are exposed to.	- Loss of livelihood, impoverishment due to decreases in incomes, - Multidimensional poverty due to restrictive access to education and health, - Destruction, reduction, and extinction of common areas and resources, - Reduction or prevention of access to common areas or resources, - Emergent unemployment (among local inhabitants and incoming migrants) after the project constructions are completed, - Psychosocial stress and other disorders, - Emergent diseases due to pollution, - Loss of lives, injuries, and health problems due to accidents, - Inability to maintain socio-cultural existence, - Social and economic structural changes in cities, - Soil erosion due to using unsustainable agricultural techniques in newly-inhabited lands.

1- Paul K. Gellert , P. K. and Barbara D.. D. Lynch, "(2003). Megaprojects as Displacements,". International Social Science Journal 175 (March 2003) (Mart): 15-25.
2- Aquifers are permeable and impermeable geologic formations which collect and evacuate underground waters.

Dam-induced displacements

Large hydroelectrical power plants are among the development projects which cause displacement of large numbers of people in a mass.[35] Although dams, which have been presented as symbols of "development" and "progress" for a very long time are a technology used for various reasons since time immemorial, the building of large hydroelectrical power plants, whose primary purpose is to produce energy, and watering large areas gained pace in the 20th century. While the number of large dams worldwide in 1900 was 600, this number increased to 5000 in 1950 and 45,000 in 2000.[36] It is estimated that there are 58,000 large dams worldwide as of 2020.[37]

First and foremost, dams cause displacement of inhabitants who live on submerged lands by taking away their houses and lands. Although the exact numbers of how many people affected are unknown, it is estimated that many people worldwide are directly displaced due to dams. According to the report published by the Internal Displacement Monitoring Center (IDMC), the number of displaced people due to large dams worldwide is around 80 million.[38] According to the official data, in China, which is among the countries that has the highest number of large dams, 10.2 million people were displaced between 1950 and1990 due to large dams; in India, an estimate of 16 to 38 million people are displaced due to large dams.[39] On the other hand, when we consider that in most large dam projects, the number of people who would be displaced is way higher than the estimated numbers at the beginning of the projects, and the numbers reflected in official data are inaccurate and misleading, it can be said that the number of displaced people due to dams are much higher than the official numbers.[40] Although relocation programs are generally implemented, these programs are deficient, narrow-scoped, and insufficient; and it is recorded that in most of these projects, international standards are not implemented.[41] The existing research shows that nearly all of the adverse social and economic effects, aforementioned in the previous chapter, are observed in dam-induced displacements. The primary effects are displaced people moving to houses that are poorly built, unsafe, and in poor condition; inadequacy of jobs and livelihood resources; inability to access education and health services; restricted access to soil and water resources; disruptions in social relations; decreases in social capital; emergent health and psychological problems; communities' inability to maintain their identities and cultural existences.[42]

On the other hand, in addition to direct physical displacements due to dams, many individuals and communities are economically displaced in the larger areas around dams and along riverbeds. According to an estimation, around dams—especially in areas where the river flow is lower and in the downstream areas where the ecosystem is destructed—the number of economic and cultural displaced people reaches six to twelve times higher than the directly displaced ones; this number was calculated as 472 million at the end of 2010.[43] This is due to the ecological effects caused by dams in the larger areas where they are located. Therefore, those whose livelihoods depend on ecosystem services based on forest and river products and agriculture lose their livelihoods due to deforestation, decreases in water availability, and the destruction of biological diversity. Looking at the ecological effects of dams in more detail helps us to understand the level and extent of such economic displacements.

In general, proponents of the developmentalist approach defend hydroelectric power plants by emphasizing the benefits that are expected to be received. One of the propounded benefits—as in nearly half of the large dams—is using dams for irrigation. As a result, large dams have become vital in agricultural production and maintaining the food chain at the global level. Dams are also given an essential role in fighting against the climate crisis. The total amount of electricity produced by hydroelectric power plants, considered renewable energy that can replace fossil fuel, constitutes 17% of the total energy produced in the world. Since 2020, 63% of the energy produced from renewable energies is provided by hydroelectric power plants. It is predicted that the existent hydroelectric power will increase by 17% between 2012 and 2030 worldwide.[44]

There are also claims related to hydroelectric power plants that they involve many other benefits such as controlling floods; providing water for cities; providing transportation in terrestrial regions, and creating employment.[45] However, hydroelectric power plants have many adverse and destructive effects on nature and ecological balance. First, hydroelectric power plant dams destroy rivers and ecosystems around them immensely. As a result of decreased water levels in rivers due to water being kept in dams and decreases in sediments carried by water, the food sources of fish species drastically decrease; their migratory routes are blocked and/or changed. Both dam lakes, connection routes, and other structures cause massive damage to ecosystems in the areas where they are situated and the surrounding biological diversity leading even to deforestation and ecosystem disruption.[46]

TABLE 2: EXAMPLES OF DAM-INDUCED DISPLACEMENT

Hydroelectric Power Plant Dam[1]	Kariba Dam[3] *Rhodesia-Africa*	Akosombo Dam[4] *Ghana*	Sobradinho Dam[5] *Brazil*	Tucuruí Dam[6] *Brazil*	Pak Mun Dam[7] *Thailand*	Sardar Sarovar Dam[8] *India*	Three Gorges Dam[9] *China*	Manwan Dam[10] *China*	Inga 3 Dam[11] *Democratic Republic of Congo*	Ilısu Dam[12] *Turkey*
DATE[2]	1956-59	1961-1965	1973-79	1975-1985	1991-1994	1987-2017	1994-2003	1985-1996	In the making	2006-2018
NUMBER OF DISPLACED PEOPLE	57,000 people	78,000 to 80,000 people	70,000 people	25,000 to 35,000 people (plus indigenous communities who are not reflected in official numbers.)	1700 families	According to official numbers, 46,507 families; according to Narmada Bachao Andolan (NBA), an umbrella organization of indigenous communities against the dam, 85,000 families (around 500,000 people)	More than 1.2 million people	7260 people living in 114 villages	10,000 people	78,000 people (including 23,000 people who left the region due to the conflicts but still owned houses and lands in the area.)
PROFILE OF DISPLACED PEOPLE	Poor farmers and indigenous communities living in 199 villages.	Mostly small-scale farmers engaged in subsistence farming and fewer numbers of communities working in fishery, living in 740-756 villages from nine different ethnicities.	Small farmers and landless peasants maintaining their lives with subsistence farming.	Small farmers, fishing communities, pastoralists, and people engaged in agricultural activities in the riverside lands.	People engaged in agricultural activities (rice) and fishery in the rural area.	The indigenous communities of Adivasi (nearly half of the displaced population), small farmers, landless peasants, and communities living on the riverside.	Mostly poor peasants who were living in 13 cities, 140 towns, and 1350 villages that were submerged.	Poor small farmers and fisherpeople living along the riverside from 25 different ethnic minorities.	The indigenous communities of Basangela, who maintain their livelihoods with agriculture and forestry in the Bundi Valley, which will be submerged by the dam lake, people who were already displaced by the Inga 1 and Inga 2 dams, and other small farmers.	Peasants with small lands or no land, living in severe poverty and low levels of education and standards; different ethnic and religious groups, mostly Kurds, fewer Arabs, and Yezidis; and around 20 to 25,000 nomads who were using Tigris River.
OTHER AFFECTED GROUPS/ COMMUNITIES			50,000 people, constituted by small farmers and river communities living in the lower regions of the river.	100,000 people (farmers, fishing communities, and communities living on the riversides who lost their livelihoods due to water pollution and deterioration, decreases in fish population, and destruction of agricultural lands in the river basin).	6000 farmer and fishing community families whose livelihood resources were disrupted or annihilated.	Millions of people, mostly from indigenous communities living at the downstream of the dam; the indigenous communities of Dalit and Adivasi, farmers, and fishermen who were living in Madhya Pradesh and Maharashtra and whose houses and lands were submerged by floods because the height of the dam is higher than it was planned.	Millions of fisherpeople in China and in neighboring countries which share their river resources with China, whose livelihoods were damaged, and farmers whose water resources were adversely affected.	It is estimated that 70 million people, who were living in Myanmar, Thailand, Laos, Cambodia, and Vietnam, whose primary food resources were freshwater fishes and products, and who were obtaining their fresh water from the low-flow parts of the river were economically displaced.	It is estimated that 75,786 people around the dam and 144,945 people living in the downstream regions were exposed to several adverse effects such as losing livelihoods; multidimensional impoverishment; living in an environment which lacks health conditions; lack of access to clean and healthy food and water, and being unable to benefit from educational opportunities. It is predicted that the lives of another 211,920-333,424 people living in the broader region where transmission lines pass will be adversely affected.	Around 15 to 20,000 landless peasants are not given compensations; to eliminate these people's loss, they are only offered unspecified occupational training in exchange for a loan with a low-interest rate.

1- The dates given in this section refer to estimated date ranges of displacements, starting from right before the constructions of the dams until the constructions are finished.
2- Dates refer to the beginning and end of the constructions during which displacements took place as well.
3- WCD, November 16, 2000, Ibid.; IDMC, April 11, 2017a, Ibid.
4- Ibid.
5- Ibid.
6- Ibid.
7- Ibid.
8- Gaurav Sikka, "Moving beyond economic analysis: Assessing the socio-cultural impacts of displacement and resettlement by Sardar Sarovar Project, India," *Geography, Environment, Sustainability* 13, no. 3 (2020): 90-101. https://doi.org/10.24057/2071-9388-2019-165 ; LSE Blog. *The Sardar Sarovar Dam: Drowning out citizens but who benefits?* (February 13, 2017), https://blogs.lse.ac.uk/southasia/2017/02/13/the-sardar-sarovar-dam-drowning-out-citizens-but-who-benefits/ (Accessed: June 19, 2022).
9- Li Heming, et al., "Reservoir resettlement in China: past experience and the Three Gorges Dam," *The Geographical Journal* 167, no. 3 (2001): 195–212. doi:10.1111/1475-4959.00018
10- IDMC, April 11, 2017b, Ibid.
11- TMP Systems (n.d.), *INGA 3: Too High a Cost: A Study of the Socio-Economic Costs of the Inga 3 Dam for South Africa*, International Rivers and WoMin African Alliance Report, https://3waryu2g9363hdvii1ci666p-wpengine.netdna-ssl.com/wp-content/uploads/sites/86/2021/08/TPM-Inga-3-report-2021.pdf (Accessed: August 2, 2022).
12- Doğa Derneği, *Ilısu Barajı ÇED Raporunun Değerlendirmesi* (February 2006), https://www.dogadernegi.org/wp-content/uploads/2015/09/Do%C4%9Fa-Derne%C4%9Fi-De%C4%9Ferlendirme-Raporu.pdf (Accessed: June 19, 2022); Hasankeyf Koordinasyonu, *Ilısu Barajı ve Hidroelektrik Santralı Projesi Eleştiri Raporu* (August 2019), https://www.hasankeyfgirisimi.net/turkce-ilisu-baraji-ve-hidroelektrik-santrali-projesi-elestiri-raporu/?lang=tr#sdfootnote8sym (Accessed: June 19, 2022); DSİ, *Ilısu Baraj ve HES Projesi Güncellenmiş Yeniden Yerleşim Eylem Planı Değişiklikleri (GYYEP)* (2006), https://docplayer.biz.tr/5482224-Ilisu-konsorsiyumu-ilisu-baraj-ve-hes-projesi-guncellenmis-yeniden-yerlesim-eylem-plani-degisiklikleri-gyyep.html (Accessed: June 19, 2022).

Dams also cause loss of fresh water availability. It is estimated that seven percent of the fresh water worldwide is lost because of dam evaporation. In addition, intensive algae formation and heavy metal accumulation in waters result in pollution and acidification of waters.[47] Algae being carried to oceans and seas via blending in river systems leads to acidification of sea waters which is both a result and cause of climate change.

As opposed to the contentions, hydroelectric power plants do not contribute to stopping climate change; on the contrary, they produce effects that result in continuing climate change. Primarily, they result in the submergence of green areas in the regions where they are built and decreases in natural carbon sinks. In addition, they lead to the emergence of greenhouse gasses, especially coal gas, the most begrime among all, due to the rotting of plant species submerged due to dams. It is calculated that the total amount of greenhouse gasses blended into the atmosphere per year due to dams is around 1 billion tons.[48]

People who lose their livelihoods and commons as a result of all these ecological destructions can be grouped into four:[49]

- The ones who maintain their lives in the regions around dams,
- The ones who come to these regions to work in the construction of dams and the communities who are house owners,
- Communities who live in the downstream areas,
- The ones who do business with the production of the region.

Large dam projects are among the development projects in which the recognition dimension of environmental justice is violated the most. In most cases, people who do not own lands in the areas of dam projects; indigenous communities; people who live in the areas below dams, and people who would be devoid of livelihood and living areas are not counted among displaced people; thus, they are not included in the processes of relocations and compensations. Among other groups, especially people without lands and those who maintain their livelihoods by doing agricultural works and depending on commons such as forests and rivers, experience recognitional injustice due to the construction of large dams. There is also the added burden of participatory injustice. Decision-making processes related to displacements are mostly carried out Malpractices such as not organizing decision-making meetings open to all, not maintaining condi-

tions for effective participation in meetings, or organizing meetings only for one-sided informative purposes where deliberation is not possible. On the other hand, there are many problems regarding recognition since people and groups who are not acknowledged among the ones that would be displaced are not given the opportunity to participate in decision-making processes.

There are several examples worldwide in which thousands of people are displaced and exposed to environmental injustice due to hydroelectric power plants.[50] Some of these examples are listed on page 92-93.

Mining-induced displacements

Mining is one of the leading sectors which cause displacements worldwide. There is no precise information available related to how many people the mining sector, which provides the raw material for the ever-growing production activities and which constitutes the foundation of the growth economy, displaced worldwide. Yet, it is possible to come across an estimated total number of displaced people due to mining in different countries. For example, in India, between 1950 and 1990, it is estimated that around 2 million 550,000 people were displaced.[51] On the other hand, data on a national scale are insufficient because displacements due to the mining sector occur in multiple stages, and the national-level records are not kept accurately. Since two-thirds of the mines worldwide are operated as open pits, and this ratio keeps increasing daily, we can assume that the number of direct and indirect displacements due to mining is ever-growing. Open-pit mines which spread to more expansive lands cause a transformation which irreversibly destructs essential elements of the ecosystem, from soil quality to overground biogeological entities. This results in a gradual increase in ecological destruction and a multiplying number of people and communities displaced due to the mining sector.

When we look at the geographical distribution around the world, mining-induced displacements are predominantly concentrated in Latin America, Asia, and Africa. The countries where land ownership relations are unequal and unsecure, violations of human rights are common, and anti-democratic structures and relations are dominant are the base for mining sector activities, which are built upon displacements. In these countries, mines are opened and operated in the living spaces of people who experience

MINING-INDUCED DISPLACEMENTS IN EUROPE

Mining-induced displacements in Europe, which had frequently occurred in history, have been gradually decreasing in number and size. However, there have still been a number of recent mining-induced displacements in European countries such as Germany, Poland, Romania, and Serbia. It is observed that there are relatively fewer violations of rights during displacements and relocation processes in Europe as a result of higher standards and lesser deficiencies and malfunctions in the operations.[1] However, just as in many other examples elsewhere, it is also discerned that people had to abandon their living spaces, and various rights, such as living in a healthy environment and protecting cultural existence, were violated. For example, in Germany, where coal mining continues in spite of significant investments in the renewable energy field, several historic villages have been destroyed or face the risk of destruction that puts these communities cultural existence into danger.[2] It is estimated that in Germany, by the end of the 2000s, nearly 300 local communities and around 100,000 people were displaced due to activities of excavating mining.[3] Since the mid-1950s, around 40,000 people have been displaced, losing their houses and lands in Rhineland, the coal region of Germany. As a result of the expansion of Garzweiler Mine near Cologne, which so far caused a massive amount of agricultural lands to be annihilated and villages to be evacuated and transferred elsewhere, 1200 thousand inhabitants living in Immerath Village were evacuated and a church built in the 12th century was demolished in 2018.[4] Displacement of six villages located around the area is on the agenda due to the expansion activities of the Garzweiler Mine.[5]

1- Bogumil Terminski, 2012, Ibid.
2- CBC Radio, *German Coal Mine Expansion Threatens to Displace Villagers, Even as Country Charts Green Energy Future* (September 23, 2019), https://www.cbc.ca/radio/thecurrent/the-current-for-september-23-2019-1.5293685/german-coal-mine-expansion-threatens-to-displace-villagers-even-as-country-charts-green-energy-future-1.5291570 (Accessed: June 19, 2022); *Deutsche Welle*, "Unused church torn down in Germany to make way for open-pit coal mine" (January 1, 2018), https://www.dw.com/en/unused-church-torn-down-in-germany-to-make-way-for-open-pit-coal-mine/a-42089253 (Accessed: June 19, 2022).
3- Jeffrey H. Michel, *Status and Impacts of the German Lignite Industry* (The Swedish NGO Secretariat on Acid Rain, 2008), https://www.airclim.org/sites/default/files/documents/APC18SE.pdf (Accessed: June 19, 2022).
4- Stine Krøijer and Mike Kollöffel, "Undermining life: A German coal-mining region [focus]. *Terrain* (2019). doi:10.4000/terrain.18146
5- Loveday Morris, "Germany portrays itself as a climate leader. But it's still razing villages for coal mines," (*The Washington Post*, September 23, 2019), https://www.washingtonpost.com/world/2021/10/23/germany-coal-climate-cop26/ (Accessed: June 19, 2022).

different injustices and inequalities, who are poor, and whose political rights and powers to defend their lives are restricted. On the other hand, although the rules, standards, and laws implemented in the Global North, such as in Europe, where mining-induced displacements were historically common, relatively reduce the effects of mining-induced displacements, they occur nonetheless.[52]

As in all other mega projects such as dams and transportation infrastructure, the mining sector also dispossesses local inhabitants of their houses, lands, and thus livelihoods in different ways in the regions where they operate. The process of providing lands that would be used as mining sites, as in many other types of mega projects, results in injustices. Malpractices that push displaced people to poverty, such as giving

insufficient amounts and late payments of compensations to the displaced people; being kept exempt from any compensation programs and mechanisms unless ownership of land is proven officially; lack of compensation or any other similar mechanisms for losses; lack of or poor implementation of relocation programs; and absence of substituting mechanisms/programs for loss of livelihood are common in areas where mining projects are taking place. However, mining projects, which cause both direct and indirect displacements in the regions where they are located have some specific features in comparison to other development projects. These differences stem from distinct characteristics of the mining sector with respect to its planning, construction, and operating/production phases. The distinctive characteristics of mining-induced displacements can be summarized as:

Longitudinally gradual displacements: Unlike other development projects, displacements in the mining sector take place in phases spread over time. The primary reason is that planning and implementation phases of a mining project function quite dynamically, and there are constant changes during planning. This situation is explained by price fluctuations and sudden changes in various markets —especially in mining and real estate markets—; expectations of the company shareholders; project finances; obligations to change planning and activities according to the changes in the binding legislation and standards, and expending the extent of the project.[53] This results in constant changes in displacement and relocation plans and causes them to be implemented in a flexible manner; at the same time, it corresponds to companies and governments' purpose of obtaining the required sizes of lands with the lowest cost. As a result, the announced numbers of land purchases and displacements in the first phase of mining projects are exceeded in the following phases, from exploration, project designing, and construction to operating, thus, culminating in gradual increases in displacements.[54]

Spatially spreading displacements: The general strategy in mining is to expand mine sites gradually. According to Stepwise-Mining-Expansion-and-Land-Take (SMELT), a widespread mining sector strategy, settlements around mining sites are not included in Displacement and Relocation programs. Living standards of local communities who are exposed to air, water, soil, and noise pollution deteriorate; opportunities for them to maintain their livelihoods decrease. With this situation, negatively reflecting land prices, mining companies add such lands to their sites in the later phases with lower costs. It is a frequent situation that a part of a local community exposed to the *brownfield effect*,

meaning ecological destruction and pollution in a region due to development projects, "willingly" sells their lands at low prices and abandons the region.[55] Apart from this, trying to maintain production due to the exhaustion of the ore in the operated mine brings constant spatial expansion and more people being displaced together.

Resettlement in nearby regions: Different than other development projects, in the mining sector, the "cohabitation" model is frequently employed in relocation plans and programs, and most of the displaced people are resettled in places near mining sites. This strategy aims to prevent any potential conflicts and disputes by enabling the local community who doesn't want to abandon their living areas to remain in proximity to their place of origin, the general view asserted by the international standards indicates that displacements should be reduced to the minimum and used as a last resort. In cases when displacements become a necessity, local communities should not be broken off from their living areas to the extent possible. Mining companies that implement these standards—though mostly on paper—to prevent potential legal and political disputes and make a positive impression on public opinion, argue that they actualize the suggested principles with the "cohabitation" model. Also, finding new lands and providing opportunities for housing and livelihood within the relocation framework are complicated and challenging processes. Companies' desire to lower the costs of land obtaining, relocation, and reducing effects is also among the reasons why they apply the "cohabitation" model.[56]

Confusion over allocation of responsibilities: In comparison to other development projects, project owner and executive mining companies usually take over the responsibility of preparing, implementing, and managing displacement and relocation processes in mining projects. They are in charge of planning and creating relocation areas for displaced people; providing their social security; creating livelihood prospects, and securing the suitable living standards. However, companies often fail to meet these responsibilities fully; in some cases, they don't meet them at all.[57]

Mining operations cause a series of ecological problems, most of which are irreversible in the regions and surrounding areas where they are carried out, such as deforestation; changes in soil usage and quality; disruption of habitat; damage to biological diversity, and air, water, and soil pollution. Although many of these ecological problems are also caused by other development projects, effects and extent of risks differ due to

activities that are specific to mining. Thus, the lives and livelihoods of the inhabitants still living in the region are affected directly. The main ecological problems and destructions induced by mining can be summarized as:

• Underground mining leads to ecological destruction that can cause disruptions in the ecosystem, such as decrease and pollution in underground waters and damage to forests and habitats of living species. On the other hand, open pits, which constitute two-thirds of the mines worldwide, lead to ecological problems such as changes in soil quality and land use, deforestation, and pollution in water availability in wider regions beyond the mining areas. It is estimated that amount of rocks, soil, and other wastes taken out from the excavated areas in open-pit mining is 8 to 10 times higher than in underground mining. In the places where these wastes are dumped, waste rubble mounds that reach the height of a nearly 30-story building are formed. When they are dumped into riverbeds, they create changes in the hydrologic system. Thus, open-pit mines lead to extensive geological and physical transformations which directly affect ecological life.[58]

• Materials such as aluminum, nickel, and copper are released when melting and separating excavated ore at high temperatures in smelters (separating metal substances from ore at high temperatures). Various gasses emitted during these operations cause environmental problems such as *air pollution* and *acid rain*, which directly affect human health. As a result of smelter processes, around 142 million tons of sulfur dioxide per year (13% of the total global oscillation) enter the atmosphere worldwide. Also, a considerable amount of other heavy materials that are harmful to human health such as lead, arsenic, cadmium, and zinc are emitted.

• Mining directly causes decrease in water availability. Massive amounts of soil and rocks that are piled up block water routes, and it prevents the feeding of underground waters. At the same time, large amounts of overground water resources and rivers are used for mining activities. This leads to a constant decrease in water availability affecting wide areas.

• Mining accidents: Valuable metals and minerals are separated form excavated ores through chemical processing. Remaining wastes involve poisonous materials and heavy metals that threaten living beings' health, and they are stored in tailings

EXAMPLES OF MINING ACCIDENTS AND DISPLACEMENTS

➔ In 1998, a truck carrying cyanide in Kumtor Gold Mine in Kyrgyzstan tipped over; around one ton of cyanide got mixed into the river, which was used by 6500 people in Barskoon village near the mine, for drinking water and irrigation. 5000 people got poisoned because of cyanide spill and lives were lost. After the accident, half of the village was evacuated. The villagers, who returned to their village shortly, started having difficulties in selling their agricultural products as people did not want to purchase contaminated products. Although more than 20 years have passed, the villagers have not been compensated gor their losses yet.

➔ The tailings impoundment of Omai Mine, one of the biggest gold mines in the world, located in Guyana, collapsed in 1995. As a result, the wastewater containing three billion cubic meters of cyanide got mixed with the Omai River, one of the tributaries of the biggest river of Guyana, Essequibo. A 51-kilometer area around the river inhabited by 23,000 peasants, who used the river as a water resource and maintained their livelihoods depending on agriculture and fishery, was declared an "Environmental Disaster Area".

➔ The accident in Baia Mare Mine, located in northwestern Romania, which is considered the "Second Chernobyl," happened in 2000. As a result of the tailings impoundment of the mine collapsing, the water waste containing 100,000 cubic meters of cyanide and heavy metals spilled into the Tisza River; from there, it reached the Danube River. While the fish population completely died in certain parts, the drinking water of millions of people got contaminated.

➔ Ok Tedi, the biggest copper mine in the world, also producing gold and silver, located in Papua New Guinea, caused one of the world's longest and biggest environmental disasters. Ok Tedi, which started to operate in 1984, resulted in displacements of nearly 4000 poor peasants and individuals from the indigenous community as a result of the expropriation taking place during the expansion of the mining site and the ecological destruction created by the mining activities. The tailings impoundment collapsed the year that the mine opened; between 1984-2013, the mining wastes were regularly dumped into the Ok Tedi/Fly River system directly. It is estimated that each year, nearly 30 million tons of mining waste containing crushed rocks and heavy metals got mixed with the river waters in the region. Although some precautions were taken later, it is expected that the effects of the emergent ecological and social destruction will last for decades. In addition to soil, water, and air pollution, with the disruption of the rivers and the surrounding ecosystem, 30,000 people lost their livelihoods and faced severe health problems.

➔ Due to the gold mines in the Tarkwa Region of Ghana, around 30,000 people were displaced between 1990 and 1998, and the social, economic, and cultural existence of 14 indigenous communities, mostly poor small farmers, came to an end in the region. Nearly half of the displaced population was excluded from the relocation program; no plan or program for new livelihood resources and social rehabilitation was introduced. The majority of the displaced people, mainly the youth, migrated to the nearby cities. Many of them couldn't find housing because of increases in rents and inadequate housing stock. These people, with low education levels, no skillls, and no savings, were thus pushed to unemployment, low living standards, and deep poverty. Most of the forests—Bonsa, Ekumfi, and Neung—and agricultural lands in the Tarkwa Region were and will continue to be destructed by gold mines. Additionally, gold mines create further ecological destruction and threaten the local inhabitants' health and livelihood by exploitating underground waters and causing cyanide spill accidents in the region.

1- Bruce Pannier, *Even Two Decades after Massive Cyanide Spill, Kyrgyz Poisoning Victims Get Scant Compensation*, (RadioFreeEurope RadioLiberty, August 22, 2020), https://www.rferl.org/a/qishloq-ovozi-kumtor-cyanide-spill-compensation-gold-mining/30797137.html (Accessed: June 19, 2022).
2- Oxfam America, 2004, Ibid.
3- Greenpeace, "The Baia Mare Gold Mine cyanide spill: Causes, impacts and liability," Greenpeace Information Note (April 12, 2000), https://reliefweb.int/report/hungary/baia-mare-gold-mine-cyanide-spill-causes-impacts-and-liability (Accessed: June 19, 2022).
4- WWF (n.d.), "Belching out copper, gold and waste," WWF Information Note, https://wwf.panda.org/discover/knowledge_hub/where_we_work/new_guinea_forests/problems_forests_new_guinea/mining_new_guinea/ok_tedi_forest_new_guinea/ #2 (Accessed: June 19, 2022); WRI (n.d.), *OK TEDI Mine: Unearthing Controversy*, http://pdf.wri.org/wr2002_case_oktedi_papua.pdf (Accessed: June 19, 2022).
5- Thomas Akabzaa and Abdulai Darimani, *Impact of mining sector investment in Ghana: A study of the Tarkwa Mining Region* (SAPRI, January 20, 2001), https://transparencylab.org/Documentation/Additional%20resources/Additional%20documents/Impact%20of%20mining%20investment%20in%20Ghana_2001.pdf (Accessed: June 19, 2022); https://wri-irg.org/en/story/2008/africa-conflicts-and-mining-induced-displacement (Accessed: August 2, 2022).

ponds located in mining sites. With floods, leaks, and downfalls hazardous chemicals and heavy metals in tailings ponds, especially at gold, copper, and lead mines, are released, polluting soil, water, and air across a wide landscape and threaten the lives of all species in these areas. Additionally, accidents during transportation of toxic materials used in mines pose high level of risks since large amounts of hazardous materials might spill.

Social and ecological destruction created by the mining sector causes both direct and indirect displacements of local communities. One of the primary outcomes of the mining sector is called "new poverty," of which "mining induced landlessness" is an integral part. There are four types of mining-induced mining induced landlessness:[59]

- Individuals and communities become landless as their lands are included in mining sites,
- Fertility decrease in the vacant and surrounding mines.
- Fertility decrease in the use of lands around mines due to ecological destruction,
- Loss of access to common lands by landless peasants and other groups.

Through dispossession induced by mining, the poor, peasants, indigenous communities, women, and other disadvantaged groups lose both their commons and their own houses, and their rights housing and livelihood are violated. Additionally, their familial and community relationships deteriorate while their cultural and social existences, in other words their right to culture, is threatened.[60] Moreover, as a result of the "cohabitation" model employed in the mining sector, not only the people who continue to live in the region without being displaced but the displaced communities who are relocated to places near the mining sites are exposed to health risks as well as a series of problems (such as deterioration of ecosystem, air pollution, pollution and decrease in water, and noise pollution, and loss of livelihood). Consequently, people relocated around mines are unable to maintain their livelihoods, including agriculture and fishery. Another life safety risk emerges when the roads built for mining activities are collectively used for both mining activities and transportation for the local inhabitants.[61] Furthermore, the mining sector causes households to lose their houses and lands more than once. These "multiple displacements" occur when relocation areas formed after displacements are included in the areas of expanded mining sites.

TABLE 3: EXAMPLES OF MINING-INDUCED DISPLACEMENTS

PROJECT	Roşia Montană Gold Mine[1] *Romania*	Ahafo Gold Mine[2] *Ghana*	Yanacocha Gold Mine[3] *Peru*	Phulbari Coal Mine[4] *Bangladesh*	Grasberg Copper and Gold Mine[5] *Indonesia*	Toromocho Copper, Silver and Molybdenum Mine[6] *Peru*
DATE	2002-2012	Started production in 2006	Active since 1993	The project, which was proposed in 2005, was stopped in 2020	Active since 1972	Active since 2013, expanded in 2020
THE NUMBER OF DISPLACED PEOPLE	1200	5185		According to Global Coal Management (GMC), who was running the mine, 49,487; According to the expert committee appointed by the Bangladeshi government, 130,000.	4000	5000
THE NUMBER OF AFFECTED PEOPLE	3290	4390	1.3 million	It is expected that the number of displaced people will increase to 220,000 as a result of decreases in water availability due to the mine and expansion of the mine.	The livelihoods of the local inhabitants of the East Kalimantan Region were damaged.	
THE PROFILE OF THE AFFECTED PEOPLE	The inhabitants of Roşia Montană village, where 80% of the population is poor, and unemployment is high.	Ten communities mainly constituted by small farmers living off agriculture.	The rural peasant population living in one of the poorest regions of Peru, most of whom live off agriculture and husbandry.	50,000 indigenous peoples and poor peasants living off subsistence farming from a total of 23 tribes.	Amungme indigenous communities	Small farmers, small shop owners
SOCIAL AND ECOLOGICAL PROBLEMS	-Not considering the cultural, archeologic, and architectural dimensions, -Insufficient information and lack of transparency, -Insufficiency of plans and works related to recreating livelihoods and preventing impoverishment, -Insufficient and small lands in inhabitation areas that are created in the framework of relocation compared to the original location, -Not compensating the losses that resulted from blocking access to common areas that are open to collective usage, -The risks and health problems caused by soil, air, and water pollution resulting from tailings impoundments filled with cyanide and heavy metals and the transformation of cyanide.	-Not giving compensations for lands used for agricultural production, -Death of fish, pollution of drinking water and watering resources due to the mining accident in 2009 when cyanide got mixed with waters, -Human rights violations against people opposed to the mine, such as violence and detentions.	-Oppression and violence against the local movement carried out by the local community and NGOs, in the form of of violence, detention, and death, -Water pollution and decreases in water availability; soil pollution and changes in soil quality; decreases/ extinction of the plant species which were used by the local community for making traditional medicine, -Peasants having to sell their lands to the mining company due to oppression, -More than 1000 people getting poisoned and losing their health as a result of the 150 kg of mercury spill along a 43-km-long road in 2000, -Loss of livelihood.	-Annihilation of nearly 5000 hectares of agricultural land, -Not providing new lands as compensation for the taken lands, -General decrease in water availability, exhaustion of underground waters and water resources due to the mine in the region where nearly half of the population has no access to enough water, -Soil, air, and water pollution over time and expected health problems as a result of this, -The produced 572 million tons of coal will evolve into 1.14 million tons of carbon dioxide, and coal gas that is equivalent to 14.2 million tons of carbon dioxide, -Sundarbans Protection Forest (which is the biggest mangrove forest, the habitation of 58 rare plants and endangered species, ranked on the UNESCO World Heritage List) and the wetland ecosystem being at risk of accidents that can happen during the transportation of the coal and fuels that can spill from vats, -Oppression and violence against the local community's movement opposing the mine (During the demonstration in 2006, which 70,000 people attended, three people died, and more than 200 people were injured because of fire openned by paramilitary groups).	-Not paying any compensations to the displaced people, -Destruction of Kopi and Ajkwa rivers in addition to the destruction of a 30,000 hectare rain forest.	-Morococha town was evacuated; most of the 500 people moved to New Morococha, 12 kms away. There are several complaints such as the new settlement area is open to the risks of earthquakes and floods; there are insufficient economic prospects and 52% of unemployment; areas suited for economic activity are far away, and the houses are not in line health and living standards, -40 families who refused to sell their houses and lands to the mining company Chinalco and still maintain their lives in the town encounter problems such as unemployment, lack of essential services, adverse and unhealthy living conditions, and air, water, and soil pollution.

1- Lucian Vesalon and Creţan Remus, "Development-induced displacement in Romania: The case of Roşia Montană Mining Project," *Journal of Urban & Regional Analysis* 4, no. 1 (2012): 63-75.
2- Stephen Aboagye-Amponsah, *Mining and Resettlement of Communities in Ghana: Exposing the Harm Caused by Forced Displacement and Relocation* (Mining Watch Canada, October 2004), https://transparencylab.org/Documentation/Advocacy,%20Monitoring,%20Sustainable%20-%20Responsible%20Initiatives/MiningWatch%20Canada/Mining%20and%20resettlement%20of%20communities%20in%20Ghana_2014.pdf (Accessed: June 19, 2022); Earthworks (n.d.), *Ahafo*, https://earthworks.org/stories/wassa_ghana/ (Accessed: June 19, 2022).
3- Earthworks (n.d.), *Yanacocha*, https://earthworks.org/stories/yanacocha/ (Accessed: June 19, 2022); EJAtlas, *Yanacocha Mine, Peru* (April 10, 2019), https://ejatlas.org/conflict/yanacocha-mine-peru (Accessed: June 19, 2022); Meghan Walsh, "The price of gold: Winners and losers in Latin America's mining industry," *Mongabay* (March 5, 2014), https://news.mongabay.com/2014/03/the-price-of-gold-winners-and-losers-in-latin-americas-mining-industry/ (Accessed: June 19, 2022); Deena Kemp, et al., *Listening to the City of Cajamarca*, Research Paper (CSRM, Sustainable Minerals Institute, University of Queensland, 2013), https://www.csrm.uq.edu.au/media/docs/483/CSRM_Listening-Study_Final-Report.pdf (Accessed: August 12, 2022).
4- International Accountability Project (n.d.), *The Phulbari Coal Project: A Threat to People, Land, and Human Rights in Bangladesh*, https://www.culturalsurvival.org/sites/default/files/Phulbari_Coal_Project_Fact_Sheet_LowRes.pdf (Accessed: June 19, 2022); EJAtlas, *Phulbari Coal Mine Project, Bangladesh* (January 24, 2017), https://ejatlas.org/conflict/protest-against-open-pit-coal-mine-project-in-phulbari-region (Accessed: June 19, 2022).
5- Bogumil Terminski, 2012, Ibid.
6- Gonzalo Torrico, "The Chinese mining giant and the ghost town," *China Dialogue* (January 2, 2019), https://chinadialogue.net/en/energy/11000-the-chinese-mining-giant-and-the-ghost-town/ (Accessed: June 19, 2022); Lin Zhu, *Toromocho Copper Mine Project*, (The People's Map of Global China, March 31, 2021), https://thepeoplesmap.net/project/toromocho-copper-mine-project/ (Accessed: June 19, 2022).

EXAMPLE OF MULTIPLE DISPLACEMENTS: LA GRANJA COAL MINE

The La Granja Coal Mine project in Peru started in 1994 with the mine expolaration activities of Canada-based Cambior company. The plan of expropriation and relocation was prepared following the evaluation phase. Cambior started to buy lands in the region in this period. However, this process progressed precisely in a way that it can be called displacement: The local community's biggest complaint was the oppression tactics of Cambior, who, together with the Peruvian government, pressured the locals to abandon their lands in exchange for a standart determined below the market price. In order to put pressure on the locals, schools and health clinics were shut down so that the local communities were devoid of education and health services. In this process, nearly half of the local inhabitants left and settled in the coastline Lambayeque Region. However, they also faced various difficulties in their new settlement areas, such as maintaining their livelihoods and dealing with traumas.[1] In 2000, the permits for mine searching were transferred to the South Africa-based Billiton Base company, which would merge with transnational BHP later. After the feasibility and search evaluations, BHP-Billiton cooperation decided to withdraw from the project. With the project put aside, the expropriated lands were transferred to the Peruvian government. Based on the decision not to open the mine, the Peruvian government implemented the program of selling the lands back to their previous owners. In 2005, this time, Rio Tinto company, which undertakes numerous mining operations worldwide, got permission to operate in the region. Unlike its predecessor, the company used the method of renting the lands instead of buying. A package that includes hiring, support for building new houses in a different region, and compensations for changing location was prepared for 21 households for the prupose of building facilities and infrastructure for exploration searching activities. As a result, some of the local families have been displaced three times since the beginning of the whole process.[2]

1- Sharon Flynn and Liz Vergara, "Land access and resettlement planning at La Granja," in *CSRM Occassional papers: Mining-induced Displacement and Resettlement Series*, ed. Deena Kemp and John Owen (University of Queensland, 2015), https://www.csrm.uq.edu.au/media/docs/1220/flynn-and-vergarala-granjamidrocasional-paperno1-1.pdf (Accessed: February 27, 2022).
2- John R. Owen and Deena Kemp, 2015, Ibid.

On the other hand, the mining sector's contribution to the local economy is very limited. Most of the jobs in mining, which is a technology-intensive sector, require high qualifications, which means local communities who do not have the necessary qualifications and education are able to find jobs in mines. However, developing local economies by creating employment is among the first assurances given in the start-up phase of mining projects. While much fewer guaranteed jobs are offered, the fact that people who work in these jobs come from outside shows that such a purpose is not fulfilled. On the other hand, the average operation period of an open-pit mine is between 10 to 40 years. This also indicates that the provided jobs, income, and social benefits, are not long-lasting.[62] For example, for the Panguna copper mine located in Bougainville Island, Papua New Guinea, where around 80,000 people from indigenous communities live, 10,000 workers were brought from outside.[63] In the Grasberg mine in Indonesia,

while 17,300 workers were employed, only 100 people from the local community were working in the mine.[64]

It is possible to observe the abovementioned socially and economically devastating effects of mining-induced displacements on local communities in many projects around the world. Some of these examples are listed on page 102-103.

Transportation project-induced displacements

Transportation infrastructure, including roads and airports that are built and used complementary to development projects like dams and mines, is a major contributor to displacements and livelihood loss of local communities. In many cases across the world, transportation projects themselves appear as mega development projects causing massive displacements. Thousands of people lose their houses and lands each year because of land expropriations for highway and railway construction and expansion projects taking place in different parts of the world. Additionally, land need for the new settlements emerging around and along the transportation infrastructure routes cause new displacements. Furthermore, ecological destruction caused by transportation projects such as habitat fragmentation, and pollution, threaten not only humans but the habitats and lives of all species.

Airports occupy an important place among mega transportation projects which result in vast numbers of displacement cases and environmental injustices. As of 2019, the aviation sector has been responsible for 2.9% of the global carbon dioxide emissions, and 12% of emissions caused by the whole transportation sector.[65] Findings of one study show that when other factors such as the contrail cirrus that they leave behind and nitrogen/nitrogen oxides are considered, the aviation sector constitutes around 3.5% of the total human contribution to climate change.[66] The aviation sector is expected to grow 4 to 5% a year on average at the global level. This suggests that to meet the increased numbers of flights and passengers, new airports will be constructed or the existing ones will be expanded. Since the end of 2019, there have been approximately 1000 airport projects in varying sizes introduced globally.[67] Airport constructions lead to various ecological hazards and damages including landslides; destruction of hydrologic systems; air, water, and noise pollution; deforestation; loss of wetland areas, and leakage of aviation fuel. All these ecological effects disrupt and destroy species' habitats.

Moreover, airport constructions that are ever-expanding in size and scale dispossess farmers of their houses, lands, and commons. Also, an increasing number of projects involve construction of *Aerotropolises* (airport-cities) next to airports. In short, as the airport projects increase in size and numbers, a growing amount of agricultural lands, forests, and wetland areas are being lost something which directly threatens the livelihood of local communities.

It is roughly estimated that 90% of the world population has travelled by air. Yet, the aviation sector's social, economic, and ecological costs are put on the shoulders of the poor majority that points to a major environmental injustice situation. Meanwhile, the struggle of Stay Grounded, a transnational movement network constituted by 180 local movements and organizations continues its mobilization against environmental injustices caused by the aviation sector.[68] The Nantes (France) airport project and Aranmula Greenfield Airport project (India)—which would annihilate agricultural lands—and the airport projects in Bangladesh and New Mexico (USA)—which would destroy wetland areas—were canceled as a result of the success of this struggle.[69]

AEROTROPOLISES[1]

Aerotropolis have been an increasingly prevalent mega project across the world. Aerotropolis refers to settlement areas formed around airports, which are founded as tourism and commerce centers in connection to activities at airports. Size and scale of aerotropolises, which are built either as an extension around an airport or together with a new airport, vary depending on spatial and sectoral characteristics. Aerotropolises generally consist of facilities that provide various services including shopping malls, hotels, and entertainment centers mainly targeting the air travel passengers. Some aerotropolises also contain working and residential areas such as offices, housing, and green spaces. When combined with the airport projects, aerotropolises requires vast amounts of land that lead to large amounts of land seizure and displacements. Thus, the scale of displacements and ecological destructions grows apace. Kuala Namu Aerotropolis located in the center of Sei Mangkei Economy Region connecting Belawan and Kuala Tanjung ports in Indonesia, and new settlement areas around Istanbul Airport integrating with another mega transportation project, the 3rd Bosporus Bridge that destroyed the forests and settlement areas in the north of Istanbul, exemplify aerotropolis projects whose numbers are increasing rapidly worldwide.

1- Rose Bridger, "What is an Aerotropolis, and why must these developments be stopped?" (Article for launch of Global Anti-Aerotropolis Movement (GAAM), 2015), https://issuu.com/rosebridger/docs/gaam-what_s_an_aerotropolis_rb_v6 (Accessed: June 19, 2022); Tone Smith, ed., 2020, Ibid.

TABLE 4: EXAMPLES OF MEGA TRANSPORTATION PROJECTS[1]

PROJECT	DATE	DISPLACEMENTS
Cambodia Railways Rehabilitation Project[2]	2006	More than 4000 families lost their lands and houses that were on the railway route.
North Railway Line-South Railway Line Connection Project (Philippines)[3]	In the making	About 35,000 families informally living along the route of the railway lines were forced to leave their houses.
Akhaura-Laksam Double Railway Line Project (Bangladesh)[4]	2015-2019	About 10,000 families were physically and economically displaced within the scope of the project of expansion of the existing railway line and the addition of the second line.
South Yunnan Road Construction Project (China)[5]	1998-2003	Due to the 147-kilometer-long highway built within the scope of the project, 2000 people were displaced, and 19,000 people lost their agricultural lands.
Navi Mumbai Airport (India)[6]	In the making	Displacement of about 3500 families living in ten villages is planned. As a result of the construction of the airport, connection roads, and other infrastructure, the annihilation of the forest, mangrove, and wetland areas in the region, thus, disruption of the ecosystem is in question. With the change in soil usage, this destruction will cause a broader population in the region who are living off agriculture and forestry to lose their livelihood resources.
Nijgadh Airport (Nepal)[7]	In the project phase	Due to the airport and the planned aerotropolis around it, 2.4 million trees will be cut down, which will result in immense deforestation and loss of biological diversity. As a result of this project, 7500 poor farmers will be displaced. Meanwhile, 600,000 people living off forestry will lose their livelihood resources. 1.2 million local inhabitants face the risk of losing their freshwater resources due to the disruption/annihilation of aquifers and water resources in Parsa National Park.
Ogun Airport (Nigeria)[8]	In the making	5000 small farmers in 20 villages were forcefully evacuated from their houses and lands. The local population, whose products by the tons are wiped out and whose hectares of agricultural lands are taken away, lose their livelihood resources, and their livelihoods are at risk due to the airport, which will be used for transporting agricultural products to foreign markets.
New Phnom Penh Airport and Aerotropolis (Cambodia)[9]	In the making (expected to be in service in 2025)	The project, located in Kandal State, will spread to a 2600 hectare wide area. The lands of more than 2000 farmer families, most of whom produce rice, are taken away. Meanwhile, the lake used as a commons in the region is at risk. The farmers who lose their houses, lands, and livelihoods continue their protest against the low and unpaid monetary compensations.

PROJECT	DATE	DISPLACEMENTS
Karad Airport Expansion Project (India)[10]	In the making	Due to the expansion project of the Karad Airport, which opened in 1955 in Maharashtra State, starting in 2011, while some of the 25,000 poor farmers living in the region were physically displaced, they are also losing their livelihoods as a result of ecological problems such as the annihilation of agricultural lands; annihilation of biological diversity; pollution, and decreases in water availability.
Isiolo Airport (Kenya) [11]	Started operating in 2017	For the construction of the 260 hectare airport, more than 200 farmer families were dispossessed of their houses and lands without the implementation of any relocation programs or compensations. The hotels, entertainment centers, and golf fields around the airport are located on the lands of several farmers, and the locals keep losing their houses, lands, and livelihoods.
Yogyakarta International Airport and Aerotropolis (Indonesia)[12]	Opened to flights in 2019	Due to the airport located 45 kilometers from Yogyakarta city on Java Island in Indonesia, more than 11,000 poor farmers were evacuated from the lands where they lived. The locals, who have taken legal actions and organized protests since 2011 against the ecological damages and the situation of being vulnerable to natural disasters such as tsunamis, have met with several human rights violations. In connection with the airport, the construction of an aerotropolis containing industry and tourism areas is on the agenda.

1- Dina Ionesco, et al., 2017, Ibid.
2- Dina Ionesco, et al., *The Atlas of Environmental Migration* (Routledge, Earthscan and IOM, 2017).
3- Ibid.; Railway Technology, *North-South Railway Project, Philippines* (June 26, 2020), https://www.railway-technology.com/projects/north-south-railway-project/#:~:text=The%20North%2DSouth%20Railway%20Project,the%20capital%20of%20Albay%20province (Accessed: June 19, 2022).
4- Dina Ionesco, et al., 2017, Ibid.
5- Ibid.
6- Global Anti-Aerotropolis Movement, *Navi Mumbai Airport – Displacement and Destruction* (2018), https://antiaero.org/2018/01/24/navi-mumbai-airport-displacement-and-destruction/ (Accessed: June 19, 2022).
7- EJAtlas, *Nijgadh Airport and Airport City, Nepal* (February 18, 2019), https://ejatlas.org/conflict/nijgadh-airport-and-aerotropolis (Accessed: June 19, 2022); Mira Kapfinger, *"Airport Conflicts – Struggles for Environmental Justice"* (June 1, 2020), https://stay-grounded.org/airport-conflicts-struggles-for-environmental-justice-webinar-summary/ (Accessed: June 19, 2022).
8- EJAtlas, *Land Grabbing in Igbin Ojo and Cargo Airport Construction Proposal, Nigeria* (April 10, 2019), https://ejatlas.org/conflict/ogun-cargo-airport (Accessed: June 19, 2022); Global Anti-Aerotropolis Movement, *Farmers Resist Land-grabbing for Cargo Airport in Ogun State, Nigeria* (March 8, 2018), https://antiaero.org/tag/igbin-ojo/ (Accessed: June 19, 2022).
9- EJAtlas, *New Phnom Penh Airport and Airport City, Kandal province, Cambodia* (January 24, 2021), https://ejatlas.org/conflict/new-phnom-penh-airport (Accessed: June 19, 2022); EJAtlas, *Karad Airport Expansion, Maharashtra, India* (November 1, 2019), https://ejatlas.org/conflict/karad-airport-expansion-maharashtra-india# (Accessed: June 19, 2022).
10- Prerna Chaurashe, "Maharashtra farmers refuse to allow expansion of Karad Airport, call it 'non-viable'" (*Land Conflict Watch*), (September 18, 2016), https://www.landconflictwatch.org/conflicts/karad-airport-expansion-land-acquisition (Accessed: June 19, 2022).
11- EJAtlas, *Isiolo Airport, Kenya* (January 8, 2019), https://ejatlas.org/conflict/isiolo-airport (Accessed: June 6, 2022).
12- EJAtlas, *New Yogyakarta International Airport (NYIA), Java, Indonesia* (August 26, 2018), https://ejatlas.org/conflict/international-airport-on-the-kulon-progo-coast-indonesia (Accessed: June 19, 2022).

CHAPTER 4

Soaring Dams, Lost Lands: The Brazilian Amazons

With its fauna, flora, and water resources, the Amazon Rain Forests, spreading over a nearly 6.3 million kilometer-square area and lying between the borders of nine Latin American countries, is among one of the most essential elements of global biological diversity, water and climate systems of the planet. The Amazon Rain Forests, which constitute the habitation of a minimum of 30% of all known fauna and flora species worldwide, is home to nearly 40,000 plants, 16,000 trees, 3000 fish, 1300 birds, more than 430 mammals, more than 1000 herptiles, and more than 400 reptile species.[1] The Amazon Rain Forests, the widest and densest rain forest in the world, is also one of the biggest carbon sinks in the world; it is estimated that it sequestrates a total of 123±23 gigaton (billion tons) of carbon.[2] The highly tangled and widespread Amazon River water system constitutes the most extensive freshwater network on the planet. 16 to 18% of the freshwater flowing into the seas worldwide belongs to the Amazon River system.[3] The Amazon basin is not only important on a global level but is also the heart of social life in the local context. It is estimated that the number of people living in the wide Amazon basin, which, in addition to the rain forests, contains seasonal and non-evergreen trees, freshwater swamp forests, and savannas, is around 20 to 50 million.[4] Among these, there are a total of about 1.5 million people from indigenous communities belonging to 385 different ethnicities who have been maintaining their lives as a part of the Amazon ecosystem for centuries and who have been primarily depending on forests and rivers with traditional methods for their livelihood.[5]

The Amazon Rain Forests, which constitute 50% of the rainforests on the planet, face severe risks. Due to human activities, such as lumbering, commercial agricultural and stockbreeding, mining, hydroelectric dams, and road construction, the Amazon Rain Forests are rapidly being deforested. In addition, the results of climate change, such as uncontrolled fires and decreases in rains, also lead to deforestation and the destruction of biological diversity and the ecosystem of the Amazon Rain Forests. The total annihilated area in the Amazon Rain Forests since 1978 reached nearly one million square kilometers. Brazil, which hosts the largest part of the Amazon Rain Forests, is also the area where deforestation is at the highest rate.[6] Brazil, whose acreage is 8.5 million kilometers, holds nearly 60% of the Amazon Rain Forests within its borders.[7] Due to various development and agriculture projects and policies implemented since 1970, in addition to deforestation, ecological destruction also occurs intensely in the Amazon Rain Forests' within the Brazilian borders. The long-standing ecological destruction rapidly decreased between 2004 and 2012 thanks to a series of preservation policies and programs that were

AGRICULTURAL POLICIES AND RURAL POVERTY IN BRAZIL

In Brazil—especially in Brazil's Amazon—the effects of the transformations in agricultural policies and land ownership lie at the roots of the imposed displacements and environmental injustices caused by "development" projects which cause ecological destruction and environmental justice problems. At the end of the 19th century, all across Brazil, agricultural production was dominated by big landowners and carried out in extensive commercial agricultural plantations where agricultural wage laborers and tenant farmers worked in market-oriented production. In addition, there were smallholder farmers and peasants working through sharecropping and tenant farming in certain regions. From the 20th century onwards, market-oriented production became the predominant practice in the agricultural sector, where the percentage of large landowning gradually increased and agricultural wage labor spread.[1] In 1964, the military junta government implemented the "agricultural modernization" program to control the intensified class-based land dispute and conflicts; provide for the needs of the growing urbanized population, and become "independent" in food production. Within the framework of this program, mechanization in agriculture increased while the big landowners who were in political alliance with the junta government were provided with incentives, support, loans, and other financial mechanisms; the cultivation of commercial agricultural products, such as soy, corn, and wheat, became central commodities. At the same time, commercial livestock raising also grew in this period. As a result, Brazil became one of the world's leading agriproduct exporters. However, several ecological, social, and economic problems and destructions also emerged. Foremost among these were the decline in the need for human labor in agriculture, small farmers' losing their lands, and the increase in rural-to-urban migration. It is estimated that due to the rural-to-urban migration, which gained an ample pace between 1960 and 1980, around 28 million agricultural laborers and peasants migrated to the cities.[2]

In the 1980s, capitalization in agriculture gained more speed; it sat on a different route with the effect of the implemented general market and commercial liberalization economy policies. Brazil was integrated into the global food system through the big landowners protected by the government and as a result of operations carried out by transnational agricultural companies who directly produced in complexes they built in Brazil. It is estimated that this caused about ten million people to lose their jobs in the agricultural sector between 1985 and 1995. It was recorded that between 1995 and 1999, around four million more people lost their jobs in the agricultural sector.[3] The left and right-wing parties who came to power in the years that followed attempted a series of agricultural reforms. However, none of these reform attempts could resolve the problem of landless peasants, which was the primary goal. For example, although the Lula da Silva and Rousseff governments, who were in power in the 2010s, made progress in eradicating poverty with the programs of transferring the income obtained by agricultural export products, there was no progress related to landless peasants and the inequality in land distribution.[4] 48% of the lands defined as private property in Brazil belong to the top 2%.[5] It is estimated that about five million families living in the rural do not own land.[6]

The indigenous population constituted by 305 different ethnic groups is estimated to be around 897,000 across Brazil. 12.5% of the country's acreage is defined as the lands of indigenous communities. Yet, the borders of 63% of these lands are not legally determined. Due to this complicated legal position, 1290 of the local communities are devoid of their lands, and 821 are devoid of an appropriate legal status; they are vulnerable to the devastating effects of mining, lumbering, commercial agricultural production, and dams. When the Bolsonaro government's policies toward increasing the usage of Amazon Forests as raw material are combined with its discriminative and exclusionary attitudes toward indigenous communities, the destruction of the lands of indigenous communities in Amazon Forests has intensified in recent years. Only in 2020, 1880-square-meters of land belonging to the indigenous communities were deforested. This ratio is 90% higher than the annual average deforestation happening in the lands of indigenous communities between 2009 and 2018.[7]

1- Leandro Vergara-Camus, "The MST and the EZLN's struggle for land: Newforms of peasant rebellions," *Journal of Agrarian Change* 9, no. 3 (2009): 365-91, https://eprints.soas.ac.uk/13021 (Accessed: February 17, 2022).
2- Leandro Vergara-Camus, 2009, Ibid.; Arilson Favareto, *Beyond "Family Farming versus Agribusiness" Dualism: Unpacking the Complexity of Brazil's Agricultural Model* (CBAA Working Paper 138), Future Agricultures (2016), https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/12717/FAC_Working_Paper_138.pdf?sequence=1&isAllowed=y (Accessed: August 2, 2022).
3- Arilson Favareto, 2016, Ibid.
4- Wilder Robles, "Revisiting agrarian reform in Brazil, 1985 – 2016," *Journal of Developing Societies* 34, no. 1 (2018): 1-34. https://doi.org/10.1177/0169796X17749658
5- Gerd Sparovek, et al., "Who owns Brazilian lands?," *Land Use Policy* 87 (2019). https://doi.org/10.1016/j.landusepol.2019.104062
6- USAID, *Brazil* (May 2011), https://www.land-links.org/country-profile/brazil/ (Accessed: June 27, 2022).
7- Dwayne Mamo, ed., *The Indigenous World 2021* (The International Work Group for Indigenous Affairs (IWGIA) Report, April 2021), iwgia.org/doclink/iwgia-book-the-indigenous-world-2021-eng/eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJpd2dpYS1ib29rLXRoZS1pbmRpZ2Vub3VzLXdvcmxkLTIwMjEtZW5nliwiaWF0IjoxNjI4ODM5NjM2LCJleHAiOjE2Mjg5MjYwMzZ9.z1CuM7PcT5CPkV0evx8ve88y6v0vmwDu_51J0_IwAkM (Accessed: June 27, 2022).

The Amazon Rain Forests, which constitute the habitation of a minimum of 30% of all known fauna and flora species worldwide, is home to nearly 40,000 plants, 16,000 trees, 3000 fish, 1300 birds, more than 430 mammals, more than 1000 herptiles, and more than 400 reptile species.

implemented in the 2000s.[8] However, this situation changed in the mid-2010s due to insufficient and loose implementation of the instated measures; and in 2012, deforestation and ecological destruction started to increase again.[9] It is estimated that by 2018, about 20% of the Amazon Rain Forests had disappeared or been destroyed.[10] With the right-wing populist Jair Bolsonaro government, which came to power in 2018 and opened the Amazon all out, especially to transnational agricultural companies and mining companies, despite all objections by the ecology activists and indigenous communities, the situation worsened rapidly.[11] It is claimed that the legal regulations proposed by the Bolsonaro government, which argues that the indigenous communities are "given" "too much" protected land and tries to pave the way for mining and energy projects in the Amazon, will soon be implemented, further increasing the extent of the environmental injustices and displacements in the Amazon in the near future.[12]

In addition to the ecological massacre, Brazil is the leading country worldwide regarding unequal land and income distribution.[13] Poverty rates, which had tended to decrease due to various policies since the beginning of the 2000s, started rising again in the mid-2010s. Today, Brazil, especially the states containing the Amazon Rain Forests, face seriously deep poverty.[14] The groups exposed to poverty and inequality most commonly and most intensely are listed as the youth between 20 and 24, illiterate persons, women, and those who live in the northern and northeastern states whose acreages are covered mainly by the Amazon Rain Forests.[15] Augmenting many other social and cultural discriminations and inequalities, when poverty is combined with the ecological destruction in the Amazon, Brazil turns into one of the countries where displacements, dispossessions, and environmental injustices are very common and intense.

The environmental injustices' relation to the displacements in Brazilian Amazon proceeds on two intersectional lines. On the one hand, there are activities such as opening

THE BOOM-AND-BUST ECONOMY IN THE AMAZONS

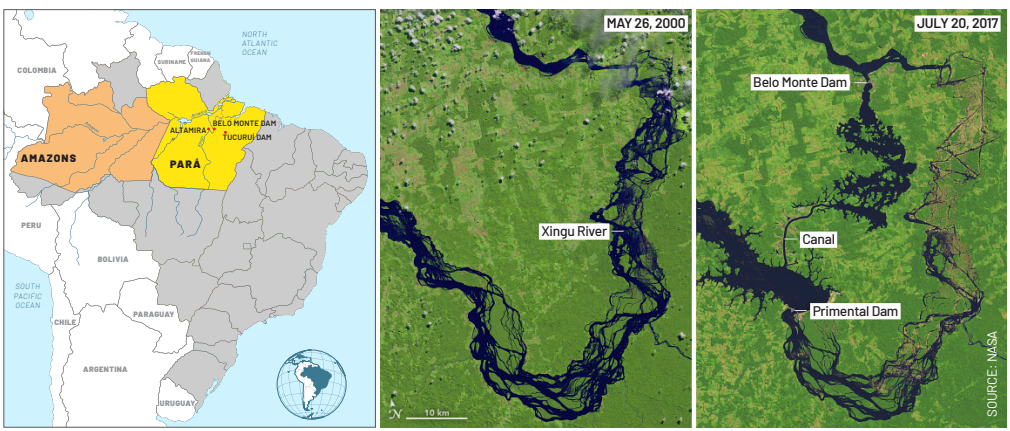
The development process in the Amazons; the effects of lumbering, the opening of agricultural lands, and other development activities such as mining, in the mid and long run on the local economy, are described as a "boom-and-bust economy."[1] The job and transportation opportunities, which have increased with the infrastructure works such as the construction of connection roads and highways, in addition to the agricultural and stockbreeding activities carried out in the lands obtained by deforestation, speed up the migration to these places. For example, the population of Amazonas, the largest state of Brazil, covering the Amazon Region of the country, quadrupled from around seven million in 1970 to about 28 million in 2020.[2] In these places, which were attractive for landless peasants and the poor initially, there was a relative improvement in criteria counted as indicators of development and wealth, such as living standards, literacy rate, and life expectancy. Yet, this situation did not last long. The limited job opportunities in these regions fall short of meeting the demands of migration which leads to unemployment. As a result of emergent ecological problems, such as decreases in soil fertility, water pollution, and increased risk of flood and erosion due to deforestation, all living standard elements which improve initially regress in a short while; unemployment increases, and opportunities to maintain livelihood decrease. New parts of the Amazon Region are deforested to provide for the growing resource needs of agriculture, stockbreeding, lumber, and other sectors.[3] This process, which continues in a vicious cycle, brings along a constant state of displacement. While some of the small farmers, landless peasants, and workers, who are not able to provide for themselves, migrate to the new deforested areas, the ones who have lower capacities due to structural reasons are not able to change their living spaces and imprisoned in deepening poverty.

The local indigenous communities are the groups most intensely exposed to the adverse effects of displacements. 896,900 people from 305 indigenous communities live in Brazil. While nearly one-third of these people live in cities, the living space of the rest majority is rural areas in Amazon Forests. 505 regions, which constitute 12.5% of all the lands in Brazil and all of which are within Amazon Rain Forests, were legally declared the living space of indigenous communities and put under protection.[4] However, the laws are inadequate for protecting the living spaces of indigenous communities. Expanding lumbering, stockbreeding, and agricultural sectors into the Amazon Region causes indigenous communities, who mostly rely on the ecosystem resources that the forests and rivers provide to maintain their lives, to lose their houses, lands, and livelihoods. Another adverse effect of this process is that indigenous communities, who do not want to lose their living spaces, had to come against landless peasants and small farmers, who also seek to ensure their livelihoods in newly opened lands. Conflicting relationships frequently emerge between these groups around issues such as access to resources and usage of resources, as well as cultural issues.

1- Ana S. L. Rodrigues, "Boom-and-bust development patterns across the Amazon deforestation frontier," Science 324 (2009): 1435-1437. doi:10.1126/science.1174002; Danielle Celentano and Adalberto Verissimo, *The Amazon Frontier Advance: From Boom to Burst* (Belem: Imazon, 2007), https://imazon.org.br/en/publicacoes/the-amazon-frontier-advance-from-boom-to-bust/ (Accessed: February 17, 2022).
2- Bruna Alves, *Resident Population in the Legal Amazon Area in Brazil from 1970 to 2020*, Statista (2021), https://www.statista.com/statistics/1251314/amazon-population-brazil/ (Accessed: June 27, 2022).
3- Arilson Favareto, *Beyond "Family Farming versus Agribusiness" Dualism: Unpacking the Complexity of Brazil's Agricultural Model* (CBAA Working Paper 138, Future Agricultures, 2016), https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/12717/FAC_Working_Paper_138.pdf (Accessed: August 12, 2022).
4- Dwayne Mamo, *The Indigenous World 2021* (The International Work Group for Indigenous Affairs (IWGIA) Report, April 2021), https://iwgia.org/doclink/iwgia-book-the-indigenous-world-2021-eng/eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJpd2dpYS1ib29rLXRoZS1pbmRpZ2Vub3VzLXdvcmxkLTIwMjEtZW5nliwiaWF0IjoxNjI4ODM5NjM2LCJleHAiOjE2Mjg5MjYwMzZ9.z1CuM7PcT5CPkV0evx8ve88y6v0vmwDu_51JQ_IwAkM (Accessed: June 27, 2022).

the agricultural lands for market-oriented products like soy and cocoa, opening grasslands for stockbreeding, and expanding the lumbering sector, which the Brazilian government either overlooks or, more commonly, supports. In addition to causing the deforestation of the Amazon, such activities are promoted through various policies, permissions, and programs based on justifications such as lairdship of the landless peasants; fostering economic development on the local level, and providing the basic needs of Brazil, all of which, to the contrary, put small farmers, indigenous communities and workers in inextricable poverty and lead to constant migration mobility in the region.

The other two dangers, which threaten the Brazilian Amazon, are extractivism and the activities of the energy sector. It is recorded that between 2000 and 2015, 7000 hectares of forest area were eradicated in the region due to mining; it is estimated that 10% of the total deforestation happening between 2005 and 2015 is due to mining activities.[16] The extent of the ecological and social damage that the hydroelectric power plant dams create in the Brazilian Amazon in terms of the breadth and depth of the destruction they cause in the forest areas and the water systems; the versatility of the environmental injustices that they lead to, and the massive displacements they result in, are much more significant. It is estimated that the total number of dams that are active or under construction in the Amazon Basin, most of which are in Brazil, is 158, while 351 projects are in the planning phase.[17] It is assumed that the total number of displaced people due to 81 hydroelectric power plants built since the beginning of the 2000s in the Brazilian Amazon is between 150 to 240 thousand.[18] The environmental injustices and displacements



related to dams in the Brazilian Amazon can be observed in depth via the events evolving around the *Belo Monte* and *Tucuruí* hydroelectric dams.

THE BELO MONTE DAM: UNKEPT PROMISES, DEEPENING POVERTY

The massive Belo Monte Dam, located on the Xingu River in the Para state of Brazil, is the fourth biggest hydroelectric power plant in the world as of 2022. The Belo Monte Dam project, one of the six dams the Brazilian government planned to build on the Xingu and Iriri rivers, was first proposed at the end of the 1970s. The indigenous community and environmental organizations opposed Belo Monte (named Kararao in that period) as it would submerge a 1225 square-kilometer area containing villages and agricultural lands. As a result of the protests, the World Bank withdrew from the project, which then was shelved for a while towards the end of the 1980s. The project was then

Belo Monte Dam, 2016.
© Aaron Vincent Elkaim

Boys climb a tree flooded by the Xingu River in 2014.
© Aaron Vincent Elkaim

once again brought to the agenda and put into effect by the Labor Party after protracted discussions, with a revision that reduces the project coverage area. The Belo Monte Dam, whose construction started in 2011 by the collaboration between the Brazilian government and Norte Energia Company, was completed in 2019 in a way that it could operate with a total of 24 turbines and reach the full capacity of 11,233 MW.[19] Unlike the previous ones, for this project, the Labor Party pledged to carry out actual participatory processes, reduce the dam's social, economic, and ecological effects to a minimum, and protect the local community, yet it did not follow through. The dam, which submerged a 441 square-kilometer area, directly affects nearly 1500 square-meter wide area.[20] In and around Altamira, which has a rich biological diversity and a complex ecosystem and is one of the poorest regions of Brazil, several environmental injustices, primarily displacement, occur due to the Belo Monte Dam.

The region that the dam affects is the living space of nearly 1000 people from Jurana, Xikrín, Arara, Xipaia, Kuruaya, Kayapó, and other indigenous communities.

Due to the construction of the Belo Monte Dam, more than 40,000 people lost their lands and houses. Among the displaced people, there are 25,000 people living in 5141 households in Altamira city. Life has also gotten pretty harsh for the non-displaced people. On the other hand, with the start of the construction, Altamira city near the dam area received massive migration; the city's population, which was around 100,000 in 2010, increased to more than 140,000 in 2012. The weak infrastructure of Altamira city became unable to meet the needs of the rapidly increasing population. At the same time, rapid increases in rents and food prices in the city, and the rise of other problems, such as violence and traffic, in addition to other expenditures, decreased the living standards and complicated the livelihoods of the poor, who constitute the majority of the city.[21]

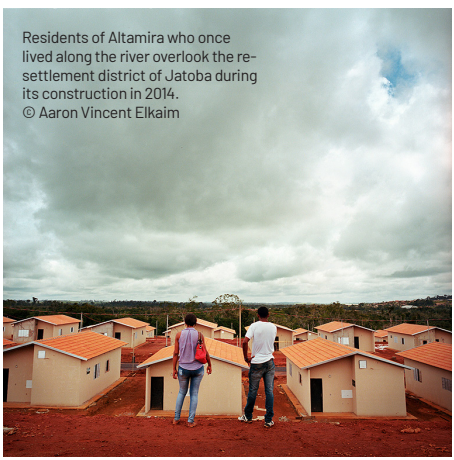
3568 households comprising 18,000 people from the local communities living in *Ribeirinhos*, which are traditional living spaces on the coastlines of the Amazon River and its reaches located in the Belo Monte reserve area, were submerged. In addition to the physical displacements, the Belo Monte Dam makes it difficult for the local community to earn their livelihoods with the destruction it causes in the broader region, leading to economic displacements. The region that the dam affects is the living space of nearly 1000 people from Jurana, Xikrín, Arara, Xipaia, Kuruaya, Kayapó, and other indigenous communities.[22] While some of these communities are directly displaced, others have lost the livelihood they were earning through forestry and agriculture using traditional methods due to ecosystem destructions in the region. Since the dam holds the waters, the water ecosystem downstream of the Xingu River where the water decreases is exposed to massive destruction.[23] Those from *Ribeirinhos* communities, whose basic food and livelihood source is fishery and who were not physically displaced, were exposed to the risk of losing their livelihoods due to decrease in fish population. Yet still, the company and the authorities did not count the downstream indigenous communities living in these areas as directly affected because their living spaces were not submerged by the dam reservoir. Thus, the indigenous communities' losses, caused by threatened or lost livelihoods due to the Belo Monte Dam, were not compensated. Lastly, the small farmers in the area were

also adversely affected by the dam as the construction of the dam and the roads made for the operation of the dam were passing through their lands and widely dividing these lands in a way that could destroy the ecosystem.[24]

The displacements which took place in relation to the construction of the Belo Monte Dam have proceeded as a process that spread over a long time frame and progressed gradually. The Basic Environmental Plan (Plano Básico Ambiental - PBA), which involves the actions and programs to compensate for the estimated destructions that were determined in the Environmental Impact Assessment report prepared by the Norte Energia Company as the constructor and the operator of the dam announced that different mechanisms would be used to compensate the losses of the displaced people: monetary compensation for lands and properties; relocation to an area that is in the same region with the direct management of the company; (in cases where the lands are submerged), building of houses in the same land with the help of the company; relocation of small farmers and landless peasants who lost their lands and houses to the settlement areas which would be built by the company.[25] Nevertheless, since these mechanisms' were not implemented in the way they were proposed and the company neglected to meet the conditions it promised, the process ended up with the grievance of the majority of people who lost their lands and houses due to the construction of the dam.

Those relocated to the new settlement area, which was comprised of social housing built near the region, were exposed to adverse housing, living, and working conditions.

Many riverside residents displaced by Belo Monte were relocated to new communities such as Agua Azul, seen here in 2016.
© Aaron Vincent Elkaim



Residents of Altamira who once lived along the river overlook the re-settlement district of Jatoba during its construction in 2014.
© Aaron Vincent Elkaim

A girl stands alone in a flooded home in the Palifitas neighborhood of Invasão dos Padres, Altamira. The neighborhood has now been completely destroyed by the Belo Monte dam. © Aaron Vincent Elkaim

Before the project started, the constructor and operator company of the dam, Norte Energia Company, announced that to emplace the displaced population, settlement centers located near the original living spaces (maximum two kms away) would be created, with three different types of housing, as well as electricity, water, and sewage infrastructures, and education, and health services. However, the company later changed these plans and built settlement centers that contained a few unstable and tiny houses that could only accommodate some of the displaced population and lacked the promised infrastructure and essential services. While the local community's needs, demands, and expectations were not considered and thus not included in any part of the planning and decision-making processes, the building of the new settlement areas in far regions prevented the local community from gaining their livelihoods in traditional ways.[26]

Those who received monetary compensation for their lost houses and lands also faced several difficulties and obstacles. Firstly, it was necessary for the ones who got

monetary compensation to create their own housing and working opportunities. The first obstacle for those who had to find new lands and houses for themselves was the increase in housing prices in the region following the dam construction. Thus, many people could not afford stable, healthy, and large enough houses and quality lands that were large enough to ensure their livelihoods using the monetary compensations they received. In addition, delayed compensations, uncertainties regarding the payment times and amounts, and having limited negotiation power against the company for the compensation amounts resulted in difficulties in finding new houses and lands in the region for the displaced people.[27]

THE TUCURUÍ HYDROELECTRIC POWER PLANT: ENDLESS DISPLACEMENTS

The events happening in Tucuruí Power Plant, built on the Tocatins River, again in the Para state, is another striking example of hydroelectric power plant dam-induced environmental injustices and displacement in the Brazilian Amazon. The Tucuruí Power Plant construction started in the 1970s by the Eletronorte Company, 52% of which belonged to the Brazilian government, and was completed and started operating in 1984. The additional part of the power plant (Tucuruí-II) was completed in 2007. The Tucuruí Power Plant, one of the world's ten largest hydroelectric power plants, provides the electricity for about 13 million local inhabitants. In return, two-thirds of the produced electricity in the power plant is used by the well-developed aluminum sector in the region.

Tucuruí Dam brought along several devastating ecological and social problems. It would not be wrong to describe this dam as a "development project" that meets the industry's needs rather than the local communities' needs.

There is a long list of devastating effects that were caused by the Tucuruí Power Plant in the ecological balance and biological diversity. Due to the dam, a 3000 square kilometer wide area was submerged, 90% of which was forests.[28] The deforestation in the region continues after the construction of the dam as a consequence of opened roads and migration to the region.[29] In addition, other ecological destructions caused by the construction and operation of the Tucuruí Power Plant include pollution of the underground and overground waters and decreases in water availability; destruction of the ecosystem and hydraulics system in the region as a result of lands' being divided; decreases in fish population; decreases in fishery and agricultural products, and other probable loss of

biological diversity and worsening of the soil quality because of erosion.[30] All these adversely affect the lives of local communities in the region, who earn their livelihoods through forestry, agriculture, and fishery, and deepen the poverty situation that they are in even further. In other words, the Tucuruí Power Plant hardens the conditions for the local population for maintaining their social and economic existence; the local communities are losing their chance of economic survival in their own living spaces.

The Tucuruí Power Plant caused a sizeable local population to directly lose their lands, houses, and living spaces through displacements. In addition to Quilombolas (Afro-Brazilians) and other indigenous communities, such as Asurini, Gavião, Suruí, Parakana, Xikrin, Guajará, and Krikatis, whose living spaces were in the area and covered by the dam and its surroundings, small farmers, communities, who were ensuring their livelihoods traditionally by living in the river coastline, and even migrant workers, who came to the region to work in the mines or in agriculture, had to abandon their living lands.[31] According to official numbers, the number of people who had to abandon their abodes due to the Tucuruí Power Plant is around 32,000.[32] Yet, considering that the indigenous communities are not included in the official numbers, it is estimated that the actual number is much higher. The process of displacement induced by the Tucuruí Power Plant proceeded in a way that was long, complicated, and involved several injustices. The events that took place during the displacement process, which ignored the local community's conditions, and demands, and did not implement the principle of participation, can be summarized as:[33]

- Foremost, the problems related to landlessness and land property, which exist in all of Brazil and intensely occur in the Para state, have also affected the process. As a result of few people holding official property ownership of their lands, the number of people who could benefit from the Eletronorte Company's relocation program was limited. In the Environmental Impact Assessment report, which was prepared two years after the start of the construction of the power plant, it was indicated that between one-third to two-thirds of the local inhabitants would not be able to claim loss of a right as they do not possess "official" ownership of the lands they live in. In point of fact, during the region's evacuation, only 3636 people could demand compensation officially.
- The number of people who would be affected by the construction of the dam was kept low in the estimations that the company made before the project. Although

the number, which was first determined to be around 17,000, was increased to 23,000, it was still way under the number of affected people. The main reason for this "low" estimation is that the affected population was determined as those who lived in the area that would be submerged; those who lived around this area or who were seasonally earning their livelihoods in this area were not included in the calculations.

• As a result of inaccurate calculations of the topography and the water level, some part of the settlement area built by the company within the framework of the relocation program was submerged when the dam accumulated more water. Therefore, around 3700 people were again relocated to somewhere else. Some of those whose allocated lands were partially submerged continued living in these places.

• There were deficiencies in infrastructure and services in areas developed by the company. While it was recorded that several houses had no electricity and tap water and no proper sanitary conditions, it was reported that there was no access to health and transportation services in these settlement areas.[34]

• Apart from the issues in the relocation program, there were other problems such as low monetary compensations paid by the company to those who lost their lands and these compensations lost value in face of inflation since they were paid in installments, and the monetary compensations for the already poor were spent on basic needs rather than obtaining land and housing. This caused many households to be unable to create permanent housing and agricultural production conditions.

• In matters like land and housing, displaced people became obliged to compete with people who migrated to the region from outside as a result of the increase in job opportunities in the lumbering sector that is active in the region, which most of the time turned into conflict.

• The disrupted ecological balance, which is also a result of intense deforestation, annihilated the opportunity to live in a healthy environment. For example, the people who the company relocated were displaced and relocated again due to the threat of an epidemic which is caused by the Mansonia mosquito.

• The Tucuruí Dam submerged the reservation area of three indigenous communities—Parakaña, Pucurui, and Montanha—; it also ripped the indigenous communities living in this area of their traditional living spaces. On the other hand, the energy transmission lines which transmit the produced electricity in the dam pass through four reservation areas that are under protection. As a result of the ecosystem being damaged, the lives of indigenous communities living in the reservation

Indigenous Juruna from the Paquiçamba Reserve at a 2016 public audience where ribeirinho (river-dwelling) communities voice their grievances to Norte Energia, the dam's builder, and Brazil's Public Ministry (independent federal prosecutors). © Aaron Vincent Elkaim

areas of Mae Maria, Trocara, Krĩkati, and Cana Brava were adversely affected; again, because an area near the dam was used within the relocation program, the indigenous communities were denied access. The limited number of vehicles, such as tractors and trucks, and monetary compensations for the losses of the indigenous communities were way under the level that these communities needed to reform their lives steadily and permanently.

• As a result of the 60% decrease in fish population after the dam's construction, the *Ribeirinhos* communities, who were living on the river coastlines and living off fishery, became unable to provide for themselves.

THE MOVEMENT OF PEOPLE AFFECTED BY DAMS (MAB): "WOMEN, ENERGY, AND WATER ARE NOT COMMODITIES!"

The emergence of the anti-dam movement in Brazil dates back to the 1980s. The threatened indigenous communities and small farmers started to mobilize locally and organized protests during this period. The disconnected movements against the active dams in their own regions came together in 1987 and organized the First National Meeting of People Affected by Dams. The solidarity and collaboration between these local movements started developing with this meeting. In the First Congress of People Affected by Dams, organized in 1991, the local anti-dam movements gathered under the roof of the Movement of People Affected by Dams (*Movimento dos Atingidos por Barragens*, MAB).[1]

MAB, which is a national umbrella movement network, advocates for fundamental rights, such as housing, health, education, and access to food, for local communities who lost their lands, houses, and livelihoods due to dams; it objects to ecological destructions caused by hydroelectric power plants. The movement also draws attention to connections between several inequalities and injustices, from gender inequality to poverty, with the advocacy of the rights of displaced people due to dams and fights against these. MAB, which uses the "Women, energy, and water are not commodities!" slogan, argues that as a result of the governments and companies' pursuit of profit, growth, and development, waters, rivers, and natural resources are privatized, and indigenous communities and small farmers are deprived of their living spaces for the sake of the energy production required for the industry. It also argues that the solution is not the implementation of programs promoted under the name of "sustainability" by the capitalist system, which actually is the cause of the problems, and drawing from the idea of the commons such as water, soil, and forests, it argues that the solution is communities' making the decisions related to their lives autonomously and self-governing natural resources.[2]

Through the solidarity practices that it developed on the local level, the movement provides for the basic needs of people, who are adversely affected and displaced by the dams, including housing, food, education, and health-related needs; it makes an effort to develop alternative life prospects on the local level. It is recorded that thousands of people from indigenous communities and small farmers are attending the mass protests and activities of MAB. The movement, which includes ecology organizations and unions, is organized in around 100 dam regions in Brazil. It is possible to understand the enormity of the movement network by the fact that 20,000 people joined the demonstration march in 2017 in Rio de Janeiro that was held to protest the energy policies and operations of the government and energy companies.[3]

MAB, which also makes its presence felt on the transnational scale, organizes collaborative campaigns, protests, and meetings with other national and local social movement networks such as the Movement of Landless Peasants (*Movimento dos Trabalhadores Rurais Sem Terra*, MST), Movement of Small Farmers (*Movimento dos Pequenos Agricultores*, MPA), and Movement of Homeless Workers (*Movimento dos Trabalhadores Sem Teto*, MTST). Also a member of the global network of landless peasants and small farmers *La Via Campesina* (The Path of Peasant, LVC), MAB is among the organizing committee of the International Meeting of People Affected by Dams, first held in 1995, with the participation of water rights and anti-dam movement networks in other regions of the world. Finally, in 2016, MAB led the foundation of the Movement of Dam Affected Peoples in Latin America (*Movimiento de Afectados por Represas en América Latina*, MAR), which is a regional social movement network bringing together anti-dam organizations and groups from 12 countries in Central and Latin America.[4]

1- Movimento dos Atingidos por Barragens (n.d.), *Quem Somos*, https://mab.org.br/quem-somos/ (Accessed: June 27, 2022); Caitlin Schroering, "Resistance and knowledge production: Social movements as producers of theory and praxis," *Revista* CS 29 (2019): 73-102, http://www.scielo.org.co/pdf/recs/n29/2011-0324-recs-29-73.pdf (Accessed: June 27, 2022); Thousand Currents (n.d.), *Movimento dos Atingidos por Barragens*. https://thousandcurrents.org/partners/movimento-dos-atingidos-por-barragens/ (Accessed: June 27, 2022); David J. Hess, "The Anti-dam movement in Brazil: Expertise and design conflicts in an industrial transition movement," *Tapuya: Latin American Science, Technology and Society* 1, no. 1(2018): 256-279.
2- Movimento dos Atingidos por Barragens (n.d.), Ibid.; Caitlin Schroering, 2019, Ibid.; David J. Hess, 2018, Ibid.
3- Movimento dos Atingidos por Barragens (n.d.), Ibid.
4- David J. Hess, 2018, Ibid.

Several dam projects are lined up in the Brazilian Amazon. The 2000-3000 MW-powered giant dam, which is planned to be built on the Tromberat River as part of the infrastructure project named Barao do Rio Branco of the Bolsonaro government, and cover the lands of Quilombolas' (Afro-Brazilians) and indigenous communities, is one of such projects. Tabajara in Rondônia, Castanheira in Mato Grosso, and Bem Querer in Roraima, all of which are part of the "National Energy Plan" of Brazil, are among other dams which are in the project phase. It is not hard to forecast that if these projects are realized, further environmental injustices and displacements will emerge, which will resemble those that occurred during the construction and operation of the Belo Monte and Tucuruí Power Plants.[35] In addition to indigenous communities, landless peasants, small farmers, and ecology activists, national movement networks or transnational movements solidarity networks such as Brazil Movement of People Affected by Dams (Movimento dos Atingidos por Barragens, MAB) and the Movement of Landless Peasants (Movimento dos Trabalhadores Rurais Sem Terra, MST) are also fighting to stop such projects. They object to the violation of rights through legal processes against Belo Monte, Tucuruí, and other existing dams, big demonstrations, protests, and civil disobedience activities.[36]

Dilma Ferreira Silva
Illustration: Cafe.art/Repórter Brasil

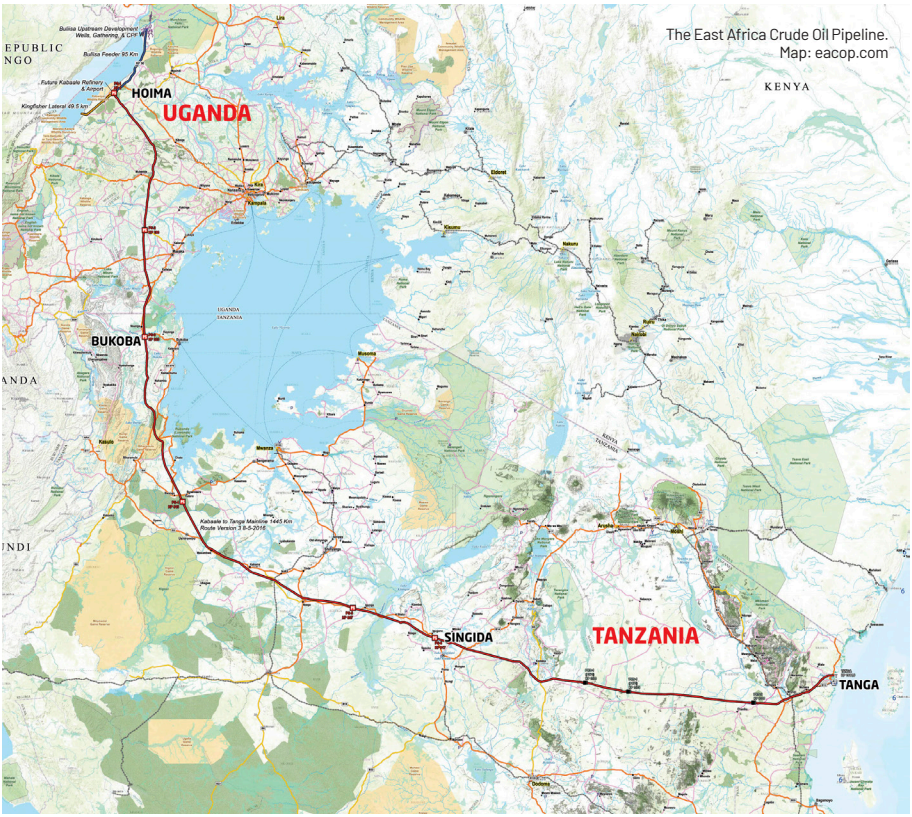
The movements against dams gained some achievements, such as ensuring the payment of late compensations, realizing delayed promises of relocations, or as in the example of Belo Monte, delaying/retarding the project and enforcing improvements in projects. However, it is hard to say that these movements' primary demands, which are participatory, recognitional, and distributive justice, are met. As in many examples, they are exposed to violence and even lose their lives. In the last example where the anti-dam activists were exposed to the violation of the right to live, the coordinator of the MAB Para Region, Dilma Ferreira Silva, who herself was displaced in the 2000s due to the Tucuruí Dam and forced to live in a relocation area, was assassinated on March 22, 2019, with her husband Claudionor Costa da Silva and her friend Hilton Lopes; all of whom lost their lives.[37]

CHAPTER 5

EACOP: The Pipeline That Threatens Life in Uganda and Tanzania

Hundreds of mining and fossil fuel excavation projects for excavating resources in the African continent are either being realized or in the construction process. Among these, the East Africa Crude Oil Pipeline (EACOP) is one of the projects with the highest social and ecological risks. The EACOP project was launched when the United Kingdom oil company Tullow Oil found an oil reserve equivalent to around 6.5 billion barrels in the basin of Albert Lake, Uganda, in 2006. The Ugandan government, under the leadership of authoritarian Yoweri Museveni, in power since 1986, has embarked on the policy of exploiting natural resources for "development" purposes with the aim of "development" for a long time. In line with this approach, the Ugandan government took a decision in 2006, issuing a total of eight search and excavation permissions, five of them to the TotalEnergies company and three of them to Tullow Oil. Consequently, the plan of drilling for crude oil at around 500 oil wells in 31 points located in two regions around Albert Lake was put into force, geared toward a small percentage of consumption in the domestic market and offering the significant remaining portion to the global market. The project involved the construction of a series of facilities and infrastructures such as refineries, storage areas, airports, and roads. More importantly, to be able to sell the excavated crude oil from Uganda—a landlocked country—to foreign markets, a 1443-kilometer-long pipeline, EACOP, will be constructed for the transportation of the oil to the shore of Tanzania.

Lake Albert, Uganda.
©iStock.com/prill



The East Africa Crude Oil Pipeline.
Map: eacop.com

The construction of the oil excavation facilities and oil pipeline planned to be launched in 2016 had been postponed a couple of times due to disagreements that the governments had with the companies and also because banks did not provide loans to the project primarily due to its adverse impact on climate change.[1] The oil excavation project, whose preliminary works spread over a long time, became official in February 2022 with the financial investment agreement.[2] According to this agreement, in the basin of Albert Lake, CNOOC will carry out the oil excavation activities in the Kingfisher region, and TotalEnergies will carry out the oil excavation activities in Tilenga.[3] Also, official steps were taken to construct the 1443-kilometer-long EACOP, starting from Hoima, located in the western region of Uganda and ending at the seaport Tanga in Tanzania to transport the excavated oil. When EACOP, which will be constructed and operated by a coalition of four oil and gas companies, becomes operational, it will be the longest heated pipeline in the world, with a capacity of transporting 216,000 barrels of crude oil

#StopEACOP:
THE INTERNATIONAL CAMPAIGN TO STOP THE PIPELINE PROJECT

An extensive movement network has been formed and mobilized on local, national, regional, and transnational levels against the EACOP project. #StopEACOP is the name of the coalition organizing the transnational campaign to stop the project. The coalition, composed of 260 ecology and human rights advocate organizations worldwide, has a vast action repertoire. The #StopEACOP Coalition carries out activities like legal struggles, protests and demonstrations, pressuring the project partners, carrying out research about the project's effects, and informing the global public about the devastating effects of the project. The coalition has been able to get some results through the pressure it put on the direct and indirect project partners, among whom are especially banks and finance organizations that give loans to the project. For example, as a result of the actions of #StopEACOP and local organizations, the African Development Bank (AfDN) announced that it will not provide a loan for the EACOP project.[1] Likewise, with the effect of the campaign and the protests, Barclays and Credit Suisse also declared that they will not provide financial support.[2] Apart from these, since April 2022, 13 other banks and finance organizations have announced that they will not provide financial support for the EACOP project. #StopEACOP also acts in solidarity with the local NGOs, such as AFIEGO, which are mobilized on the local level against the project.

1- Bob Karashani, "AfDB says no plans to fund Uganda-Tanzania pipeline," *The East African*, B. (April 11, 2020), https://www.theeastafrican.co.ke/business/Groups-lobby-AfDB-to-decline-pipeline-funding/2560-5520818-ddwgd0/index.html (Accessed: July 29, 2022).
2- #StopEACOP, "Barclays and Credit Suisse rule out supporting East African Crude Oil Pipeline in the face of growing community concern," (March 18, 2021), https://www.stopeacop.net/our-news/barclays-and-credit-suisse-rule-out-supporting-east-african-crude-oil-pipeline-in-the-face-of-growing-community-concern (Accessed: July 29, 2022).

a day.[4] The project's total cost was initially calculated as 3.5 billion dollars; it is estimated that this number will increase to five billion dollars. The construction of the EACOP is expected to start in 2023.[5]

EACOP and the Tilenga and Kingfisher oil projects cause many conroversies regarding ecological destruction, displacements, and environmental injustices. The fact that the EACOP project puts all species living in the region under serious threat has led to a series of protests and campaigns from the first day, starting from the local level and spreading to the transnational level. Within the areas where oil excavation activities will be carried out in Uganda and on the route of EACOP lying between Uganda and Tanzania, there are living spaces of critically important and threatened species, 12 forest reserves under protection, around 200 rivers, lakes and water reserves that are vital for their surroundings.[6] In addition to the ecological destruction, the project has caused and will continue to cause physical displacement of people living in areas where the oil

TotalEnergies, announced that due to oil excavation in Tilenga and Kingfisher and the EACOP project, a total of 6400-hectare-area land was obtained, and the total number of affected people was 18,800 people living in 723 households.

wells are located and the pipeline passes through. The destruction that will occur in the water reserves and the ecosystem will push the remaining population to abandon their living spaces in the mid and long-term and lead those with low migration capacities to try to maintain their lives by putting up with worsened living conditions.

It is possible to observe the effects of the oil project, which EACOP is a part of, on living spaces and livelihood resources even during the oil exploration and detection processes. The vibrations emerging during oil exploration and production carried out with seismic detection methods and the infrastructure works, which also involve the use of dynamites, have damaged houses, plantations, storehouses, and other buildings in the region. Meanwhile, this process has also made some parts of the agricultural lands unusable. In addition to the damage to houses and agricultural lands, air pollution, pollution of underground and overground waters, and dust caused by the construction and truck traffic threaten the local community's health. The local community's losses caused by the extensive exploration activities are not sufficiently compensated. In 2009, during Tullow Oil's oil exploration and production activities, the people who lived in the 300-meter-radius area around the well that the company planned to run tests in were asked to abandon their living places for four days. It is stated that the company asked for the evacuation of a smaller area, even though it was known that the adverse effects of the tests would be felt in a larger region and it failed to adequately meet the compensation demands for the loss of the local communities who suffered while not using their houses and lands. It is predicted that noise pollution and seismic vibrations will increase because of the use of heavy vehicles and aeroplanes during the construction and operation of the oil wells, the pipeline and its complementary units; thus damages to houses and other structures will increase.[7]

The EACOP is planned as an underground pipeline. Yet, as part of the project, lands and houses, which are located in the area that the pipeline will pass through and the locations of overground facilities and infrastructure, such as pumping stations, camps,

and connection roads, are expected to be expropriated, and the inhabitants may be displaced. In the Environmental and Social Impact Assessment, the senior partner of the project, TotalEnergies, announced that due to oil excavation in Tilenga and Kingfisher and the EACOP project, a total of 6400-hectare-area land was obtained, and the total number of affected people was 18,800 people living in 723 households.[8] However, the transnational campaign coalition, #StopEACOP, which finds the company's data inaccurate and misleading, argues that the announced official numbers only include those whose lands would be directly dispossessed. On the other hand, locals who lost/would lose access to their cultivated lands are not included in the calculations. According to #StopEACOP this is a deliberate act by the project carriers in order to gain "legitimacy" for the project. The anti-pipeline coalition claims that 86,000 people in 13,000 house-

POVERTY IN UGANDA AND TANZANIA

80% of the Ugandan population works in the agricultural sector. Nearly all of them are constituted by small farmers owning an average of one-hectare land. Their incomes are low, and they have difficulties in ensuring their livelihoods due to reasons such as lack of financial and technological resources, poor infrastructure, the prevalence of informal economy, droughts and decreases in water availability. Around one-fourth of small farmers have to maintain their lives with an income lower than 1.25 USD a day, which is accepted as the poverty line. The income of 37% of the households is at a level that makes it impossible to afford basic food needs; the income of 41% is at a level that only allows affording basic needs such as food and clothes. Around two-fifths of small farmers do not have an official deed indicating they own the land they have and are only considered the owner of the lands they cultivate within the framework of the uncodified law. The percentage of those possessing private-registered land is only 31%. 8% of them are using the common lands jointly. In addition to poverty, problems such as low education levels and lack or limited access to health services are more common for women.[1]

The Tanzanian regions where the EACOP passes through has a similar poverty level to Uganda. According to 2021 data, around 50% of the Tanzanian population live under the poverty line.[2] In addition to low income, there is limited access to infrastructure, which provides basic needs including education, health services, electricity, road, and water. For example, only 29% of the households have electricity; this percentage decreases to 10% in rural households. The lake region in the north of EACOP passing through Tanzania is among the poorest regions of the countrya. This region, where the education level is drastically low, access to health and other services are limited and subsistence agriculture production is dominant, is home to 33% of the poor across the country. In the lake region of Tanzania, 4.6 million people struggle with poverty and 1.3 million live in extreme poverty.[3]

1- Jamie Anderson, et al., J., *National Survey and Segmentation of Smallholder Households in Uganda Understanding Their Demand for Financial, Agricultural, and Digital Solutions* (CGAP Working Paper, April 2016), https://www.cgap.org/sites/default/files/publications/Uganda%20CGAP%20Smallholder%20Household%20Survey%20Report.pdf (Accessed: July 30, 2022).
2- The World Bank, *The World Bank in Tanzania: Overview*, (April 7, 2022). https://www.worldbank.org/en/country/tanzania/overview#1 (Accessed: July 30, 2022).
3- World Bank Group, *Tanzania: Mainland Poverty Assessment Executive Summary* (2018), https://www.nbs.go.tz/nbs/takwimu/hbs/Tanzania_Mainland_Poverty_Assessment_Report.pdf (Accessed: July 30, 2022).

holds in Uganda and Tanzania will lose their lands, and the total number of households which will be affected by the oil project in Tilenga and Kingfisher is 4865. Generally, it is projected that a total of 118,000 people living in the region will be affected adversely mainly due to dispossession of their houses and land, inability to maintain livelihoods, and late payments of the promised compensations.[9] Meanwhile, the relocation and compensation programs that the company pledges are far from compensating the losses of small farmers who live in the poorest regions of Uganda and Tanzania; they do not provide an opportunity to build a sustainable life in a good, healthy and clean environment.

According to data based on field researches, meetings with the local communities, and field observations by civil society organizations, including Oxfam, AFIEGO (Africa Institute for Energy Governance), and BankTrack, the local inhabitants face a series of problems in relation to EACOP-induced displacements:[10]

• The primary problem regarding relocations and compensation payments is that detailed, transparent, and comprehensive information on the content and working of the process has not been shared with the local communities. Claiming that the process is carried out in a transparent and participatory manner, the company indicates that during the environmental and social impact assessment process, information and consultation meetings were organized on different scales, from the national level down to every small village, and a total of 70,000 people attended these meetings (in which the same person can participate more than once).[11] Yet, although legislative regulations are seemingly followed on paper and information meetings are held, especially on the Ugandan side, local communities complain

It was decided that in the lands expropriated in Uganda, the agricultural activities should end in April 2019.

that, in general, sufficient information about the project and the amount and the duration of the compensation payments were not conveyed to them. On the Tanzanian side, where the information process proceeded more aptly, it is also stated that information has not been conveyed regarding the specifics of the project, such as the environmental effects, delays in compensation payments, dates of leaving houses and lands, required skills for the promised job opportunities, and the legislative regulations. Given the low education level of the local population, the procedures and documents of displacement and relocation/compensation that are presented in a highly complicated and technical language—pose obstacles for many locals and prevent them from applying for compensation and relocations and benefiting from these acknowledged rights.[12]

• Another source of grievance is the low prices offered for land and houses by the company. Although in Ugandan laws, there are provisions indicating that the compensation costs should be determined through negotiations with the local communities, locals in the region claim that the company has determined amounts of compensation on its own without carrying out participatory processes. Local communities also claim that security forces used methods of "intimidation" and "force". It has been claimed that several households were made to sign a consent document, although the legal processes regarding locals' complaints and applications were not finalized.[13]

• The majority of the people, who were told that the losses they suffered due to the dispossession of their houses and lands would be compensated, were aggrieved because the compensation payment schedule was delayed. Two or three years elapsed between the time that agricultural production ended in farmers' lands and the date that the compensations were paid, leaving the farmers unable to maintain their livelihood activities. It was decided that in the lands expropriated in Uganda, the agricultural activities should end in April 2019. While those with limited access to their own lands were allowed to cultivate short-term and seasonal products, production of market-oriented and long-lasting agricultural goods was not permitted. Farmers, who could not earn their livelihoods adequately, were not able to perform activities

The incoming migration to the region for the construction and operation of the EACOP has contributed to increases in food prices and food shortages that created further complications for the locals.

essential for maintaining their lives, such as doing the necessary repairs and making necessary investments in their houses and workplaces.[14]

• Another concern of the local population is the interruption of their agricultural activities because of the intensified traffic during the construction process and the damage that heavy construction vehicles give to roads and lands. The incoming migration to the region for the construction and operation of the EACOP has contributed to increases in food prices and food shortages that created further complications for the locals.[15]

• The inadequate compensations for the losses of crops are not enough for the local farmers to meet their needs to maintain their lives.

• It is commonly observed that local communities enter land disputes among themselves with the impact of being devoid of their houses, lands, compensation payments and resettlement opportunities.

• The EACOP project affects women more unequally and adversely, something which further deepens and exacerbates gender inequality when combined with poverty. Women are not compensated since most lands in Uganda and Tanzania are officially in possession of men; in other words, women cannot directly benefit from compensation and relocation programs. Because the meetings on the issues of displacement, compensation, and relocation are organized during hours that women work in the field or at home, they are unable to participate in these meetings. In sum, these exclusionary practices towards women increase the scale of injustices they experience by deepening gender inequality. It is also observed that the conditions and needs of other disadvantaged groups, such as children, the elderly, and the disabled, are also neglected and not included in the process.[16]

• Basic housing rights are being violated in several ways: The number of new houses

provided by the company in return for the expropriated houses falls short; houses built in relocation areas do not meet healthy and comfortable housing criteria, and infrastructure and services are absent in the settlement areas. The cultural existence of the indigenous communities is neglected in the relocation program. The communities are relocated without the recognition of and respect for their differences in terms of culture and identity. Therefore the right to culture is also ignored by putting the cultural existence of these indigenous communities at risk.[17]

In addition to physical displacements, the ecological destruction caused by the EACOP, threatens the lives and livelihood of the local inhabitants in the medium and long run. In that regard, the EACOP leads to economic displacements as well. The broad region where the crude oil is excavated and the EACOP passes through has essential ecological balance and biological diversity qualities. With all the ecological problems that oil production and transportation activities will bring in, the EACOP threatens the fragile ecological balance that needs to be protected in the region. An overview of the ecological destruction that the EACOP causes/will cause is as follows:

• The EACOP threatens several wetlands, such as Victoria Lake, Tanganyika Lake, and Wami/Ruvu and Pagani basins, that are essential to the region's ecosystem.[18] Among these are the Murchison Falls-Albert Delta Wetlands System, Mburo-Nakivali Lake System, Nabugabo Lake System, Nanajjuzi System, and Sango Bay-Musambwa Island, which are part of the Ramsar Wetland Areas of International Importance and habitat to several birds, endemic fish and plant species.[19]

• Around a 460-kilometer part of the EACOP passes through Victoria Lake. Potential pollution caused by the pipeline in the water resources in the region, such as the Kagera River, will jeopardize the access to clean water and the livelihood of around 30-40 million people. In case of oil leakages, pollution of the underground waters is also a concern.[20]

• On the route of the EACOP, there are natural areas which are critical and under protection, such as the Biharamulo Reserve and Wembere Steppe Biodiversity Area, the protected Bugome, Wambabya, and Taala forests in Uganda, and the protected Minziro Natural Forest Reserve, Biharamulo Forest Reserve, Wembere Steppe Biodiversity Area, and the Burigi-Biharamulo Hunt Reserve in Tanzania. The existence

It is expected that the effects of the EACOP on the ecosystem and biological diversity will complicate the livelihoods of the indigenous communities who maintain their lives depending on nature such as the Barbaig, Sandawe, Ndorobo, Maasai, Akie and Taturu in Tanzania, and Bagungu in Uganda.

and quality of these areas, spreading over a total of 2000 square kilometers, are at risk with the construction of the pipeline that will lead to land fragmentation, destruction of the habitat, and illegal hunting.[21]

• The EACOP will pass through the areas which are home to the living spaces and passageways of species such as Eastern chimpanzees, African elephants and lions that are enlisted in the Red List of the International Union for Conservation of Nature and Natural Resources (IUCN) and are under protection as they face extinction. It is predicted that the seismic works and the construction of roads and pipelines during the construction of the EACOP will disrupt the habitat and passageways of species in a 500-kilometre-area. The wildlife will be at significant risk because of all the human activities around the pipeline, such as the construction of settlement areas, the opening of agricultural lands, and an increase in illegal hunting and ivory trade.[22]

• There are two Ecologically or Biologically Significant Areas (EBSA) around the Tanga Port located at the one end of the EACOP, Pempa-Shimoni-Kisite on the north and Tanga Coelacanth on the south. Pollution in the sea, which might occur as a result of potential oil leakages and accidents, presents a great risk for both areas. Functioning as habitats to several species, primarily fish and migratory birds, and having benefits such as being natural flood barriers, the mangrove forests—and coral reefs reciprocally supporting the existence of mangroves—are also at risk due to construction on coasts, tanker traffic and potential oil leakages and accidents.[23]

This ecological destruction, which will occur on a broad scale and at an extensive level, also endangers the living and production areas and activities of the local human communities. It will be harder for the local communities to maintain their lives as they use ecosystem services for their survival. For example, around 150 people in Tanzania live on other resources that the fishery and mangrove forests provide. The destruction of the

biological diversity and decreases in or extinction of fish species will endanger the livelihoods of people living on the coastline of Tanzania, who rely on the fishery.[24] Secondly, decreases in water availability and water pollution adversely affect the agricultural activities of the locals and inhibit access to drinking and running water. This eventually leads people who are in need of accessible fresh water to abandon their living places. It is expected that the effects of the EACOP on the ecosystem and biological diversity will complicate the livelihoods of the indigenous communities who maintain their lives depending on nature such as the Barbaig, Sandawe, Ndorobo, Maasai, Akie and Taturu in Tanzania, and Bagungu in Uganda. As a result of the destruction of their areas of worship, cemeteries and sites that are considered sacred as well as decreases in the plant, tree, and animal species used in medicine, clothes, and objects, these indigenous communities will be prevented from maintaining their cultural activities and existence.[25] Lastly, "displacement" is a human-centric approach that generally refers to humans' loss of their living spaces. Yet, the aforementioned destruction of the ecological balance results in the displacement of living species other than humans since they also are uprooted from their habitats, increasing the risk of their extinction and numerical decrease.

To sum up, the poorest regions of Uganda and Tanzania face intensive and extensive environmental injustice caused by the EACOP project that is implemented in the name of "development". The local communities, already suffering from poverty and deprivation in many ways, are losing their houses, lands, and jobs. In their statements, project executives argue that the EACOP will provide new job opportunities for a total of 5000 people. Yet, 4700 of these jobs are in pipeline construction and temporary. On the other hand, the majority of the jobs that are claimed to be created indirectly are in the service sector, in which precarious and low-wage employment is widespread. The EACOP, which will disrupt livelihood activities including agricultural production, stockbreeding, and fishery, also carries the potential to damage the tourism sector in Uganda and Tanzania, a crucial source of livelihood for the local economies, because of the above-mentioned ecological destruction.[26] Local communities suffering from poverty face several further social, economic, and health-related problems such as food shortage; the eradication of food security; health problems that will emerge with water, air, and soil pollution; stress; children dropping school at early ages; increase in inequality, and aggrievement of community life.[27] Overall, facing such a major environmental injustice, the local communities, who are deprived of their already limited resources and capacities, have nowhere else to go.

CHAPTER 6

Mining-Induced Displacements in Chhattisgarh, India

India is the second leading country in global coal production after China. The total amount of coal excavated across India in 2021 is 771 million metric tons.[1] The ruling Modi government is expected to increase the yearly coal production to one billion metric tons by opening 55 new coal mines and expanding the existing 193 mines by 2022.[2] Considering the coal mines that the Indian government plans to open all across the country, it appears that the country will not easily give up its position as the world's second coal producer.[3] The effects of coal production and consumption in the country on the growth of the climate crisis are undoubted. On the other hand, the coal industry causes devastating ecological and social destruction and intense climate injustice in many regions of India. 93% of all mines across India are operated as open-pit mines, where ecological destruction and changes in soil use are at the highest level. As a result, several ecological destructions, such as ecosystem and biological diversity disruptions, deforestation, and pollution of soil and waters, intertwine with social and economic problems. People who live in coal regions are losing their houses, lands, and livelihoods and are devoid of their right to live in a healthy and clean environment. All across India, many people are displaced short term due to the coal industry; as for the rest, due to the emergent ecological and social destruction, their living spaces are under threat in the mid and long term.

The states of Chhattisgarh, Jharkhand, and Odisha, where 70% of the country's coal reserves are located, are the regions where social and ecological destruction is the

Korba, Chhattisgarh.
© Mayank Aggarwal/Mongabay-India

most extensive and intensive. The majority of the population in these states, where coal mining prevails, are poor, constituted by disadvantaged groups with limited access to health, education, and other services. For example, the traditional living spaces of nearly one-fourth of Adivasi indigenous communities, whose total population across India is 26 million, stand within the borders of these three states. Although Adivasis' rights and cultural existence are protected by law, which grants them special status, they are exposed to several economic, social, and cultural injustices in practice. This situation also makes them vulnerable in the face of social and ecological risks caused by the coal sector. Besides, several poor small farmers in these states are also similarly affected by

coal sector-induced displacements, destruction of living spaces, and ecological disruption. The direct and indirect displacements in the short and long terms that Adivasis and poor small farmers are exposed to in the Korba region of Chhattisgarh state reveal the environmental and social injustices that coal projects cause.

The Korba region, located in Chhattisgarh state, is India's largest coal production area. 16% of the total coal production in India takes place in coal mines in Korba. 95% of the coal produced in the region is excavated in three large open-pit mines Gevra, Kusmunda, and Dipka. The remaining 5% is produced in smaller two open-pit and eight closed-pit mines. In addition to the coal mines, there are coal-fired thermal power plants, whose total production capacity is 6428 MW, and coal washing, storing, and transportation facilities. All these coal facilities and the industry that has expanded based on coal make up 60% of the Korba region's GDP (gross domestic product).[4]

Korba is also one of the regions in India where poverty is prevalent and prosperity is low. 41% of the population in the region, constituted mostly by Adivasis, live under the poverty line. 32% of the population who are faced with multidimensional poverty have either restricted or no access to education, health, and other essential services.[5] The monthly income of two-thirds of the population in the region is under 10,000 rupees (as of 2022, around 132 dollars). Only 7% of the households in the rural areas have access to utility water; in the cities, this percentage is estimated to be between 32 to 55%. In only 35% of the households, the energy used in cooking is derived from resources which do not directly pose a threat to human health.[6]

The activities of the coal sector in the region further deepen this poverty. As in several coal regions worldwide, the coal sector in Korba also dominates the local economy. However, it cannot be said that the coal activities correspondingly increase the local inhabitants' prosperity and income levels. Only 10% of the local inhabitants maintain their income by regularly working in the coal sector. On the other hand, other informal jobs related to the coal sector require low-wage, precarious, and irregular work. The majority of the local inhabitants earn their livelihoods through agriculture, forestry, and fishery. Around 20% of the land is used for agriculture; 64% of the labor force works in the agricultural sector as farmers, agricultural workers, etc. 40% of the households in the rural area have ownership of their land. Nearly all of the agricultural lands in the region where small land ownership is prevalent are

Nearly all of the agricultural lands in the region where small land ownership is prevalent are comprised of small plots of two hectares or less, described as "marginal land".

comprised of small plots of two hectares or less, described as "marginal land". In the region where watering and technology opportunities are scarce, the income earned from agriculture is meagre, and agricultural activities are subsistence-oriented rather than profit-oriented.[7]

Chhattisgarh also has quite a rich ecological diversity and ecosystem. Within the state borders, 45% of the land is forestlands. Around 40% of the forestlands are under protection. The region has three national parks and 11 wildlife protection areas.[8] The ecosystem services in these areas are an essential source of livelihood for the local inhabitants. Part of the income of around 44% of the households in the Korba region depends on forestry activities. The forestry activities, undertaken using traditional methods, are one of the primary sources of income of Adivasi indigenous communities, in addition to agriculture. On the other hand, since forestry activities are seasonal, most households have to secure income from multiple jobs. The destruction of forest areas and ecosystem by the coal sector causes the local inhabitants, primarily indigenous communities, to lose their livelihood. The coal sector's contribution to the local economy is minimal, yet it leads to extreme poverty, eradicating livelihood sources through the destruction and pollution of soil, forests and water resources.[9]

Among the chief injustices caused by the coal mines is the loss of lands and homes by indigenous communities and small farmers through displacement. Kusmunda, one of the most important coal mines in the region, is a striking example of this. Kusmunda is the second biggest coal mine in the region and has the capacity to produce 50 million metric tons of coal per year. Around 80% of the coal activities across the country are operated by South Eastern Coalfields Limited (SECL), incorporated by the public corporation Indian Coal Limited (CIL), the world's biggest coal mining and operation company. The open-pit coal mine, which started operating in 1977 with a 10 Mt capacity, became one of the largest mining companies in India today. Each expansion phase of the mine added to the environmental injustices and displacements in the region.

Coal mines near Korba city center.
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The first capacity increase of the Kusmunda mine took place in 2009. The mine site was expanded to increase the capacity to 15 Mt; the lands in five villages (Risdi, Sonpuri, Pali, Padania, Jatraj), where around 3600 people lived, were expropriated. The company increased the annual capacity of the mine site to 18.75 Mt in 2014 without expansion and attempted to increase the annual capacity to 62.5 Mt the same year. Five villages with a total population of around 13,000 people were in the 1127-hectare-wide area which was planned to be included in the mine site. Meanwhile, villagers also started protesting to stop the expansion attempts in the other two large coal mines, Gevra and Dipka. However, despite all the objections of the locals, the capacity of the Kusmunda coal mine was increased to 26 Mt annually with the government's permission. While the local people's protests continued, the company made another application for a capacity increase. In 2018, the government approved to increase the annual production capacity of the mine up to 62.5 Mt; the Indian Ministry of Environment decided that the mine could operate for another 30 years by expanding.[10]

During the long-term expansion process of the Kusmundu coal mine, although there were a series of legal regulations in place on the national level and internation-

LEGISLATIVE REGULATIONS AGAINST DISPLACEMENTS IN INDIA

In the Indian legal system, several laws safeguard indigenous communities' rights to prevent displacement-induced injustices and destructions caused by development projects on protected lands. These laws include:[1]

➔ The Land Acquisition Act, which was in effect until 2013, was based on a general and ambiguous definition of "public interest" and did not contain articles that protect displaced people's rights or enabled the participation of groups affected by the projects in the decision-making processes. This law, which gave way to the displacement of millions of people without receiving any compensation for the losses and damages, was renewed in 2014. The reformed law, which was renamed The Act of Land Acquisition, Rehabilitation and Fair Compensation in Displacements and Transparency (LARR), made it obligatory for big development projects to get local populations' ideas and consent regarding land acquisitions and conduct social impact assessments before starting their projects.

➔ According to PESA, enacted in 1996 to protect the rights of indigenous communities, to acquire land for development projects or for other reasons in the places where protected indigenous communities live, it is obligatory to consult the village councils (*gram panchayat*) whose representatives are chosen with elections recognized by the Indian Constitution.

➔ The Act of Preventing Atrocity Towards Protected Castes and Protected Communities, enacted in 1989 and positively amended in 2016, introduced prison sentences against the unlawful deterritorialization of local communities.

➔ The Environmental Protection Act, dated 1989, makes Environmental Impact Assessment Reports (EIA) mandatory for significant industrial and development projects.

➔ The Forest Rights Act, implemented in 2016, acknowledges the individual and collective rights of indigenous communities in forests, which are their traditional living spaces. The act foresees a central role for the participation of all adults living in villages in the public forums, named *gram sabha*, regarding decision-making processes about the use of forest resources.

1- Amnesty International, *"India: When Land Is lost, Do We Eat Coal? Coal Mining and Violations of Adivasi Rights in India,"* https://www.amnesty.org/en/documents/asa20/4391/2016/en/ (Accessed: July 31, 2022).

al agreements to protect indigenous communities and small peasants from displacements and loss of livelihoods, thousands of people were displaced, dispossessed of their lands, and exposed to climate injustices as a result of the Indian government's and the mining company's failure to comply with these legal regulations and inadequate implementation of the laws. It is estimated that during the whole expansion process of the Kusmunda coal mine, around 9200 households living in 17 villages in the region were directly affected by various injustices such as being dispossessed of their lands, losing their livelihoods, becoming unemployed, their living places being destroyed, and exposure to air, water, and soil pollution. Also seen in many coal regions around the world, the problems faced by Kawar, Gond, Rathia, and Agaria communities of Adivasis living in the regions of the mine for centuries and small peasants

during the expansion process of the coal mine in terms of participatory, recognitional, and distributive justice are listed below:[11]

- The local community was not directly informed about the project assessment meetings' location, time, and agenda, and the required conditions for the meetings being opened to public participation as provided by laws based on the *gram sabha* (village forum) systems were not met.
- The local community did not have access to or had limited access to the meetings since the meetings were organized in distant places.
- The information provided at the meetings about the mine expansion project was insufficient and deficient.
- The *gram sabhas*, which are organized in accordance with the law on the initiative of the villagers, were not recognized; instead, the participatory mechanisms were carried out flexibly and irregularly, as in the example of the local government's organizing separate village meetings to get permission for the project.
- No detailed information was provided regarding the land purchase, compensation, and rehabilitation; no assurance was given for the fulfilment of commitments.
- There was no program aiming at compensating the losses that landless peasants were exposed to as a result of displacements; they were not included in relocation programs and were not paid any compensation.
- The complaints about noise pollution and houses being damaged due to dynamite use during mining activities were not taken into account.
- The lands of those, who were able to attend the meetings, which were limited in terms of participation, were bought, and the rest of the local community was excluded from this process.
- Anxieties, complaints, demands, and needs about relocations, rehabilitations, and compensations were not recorded and not assessed.
- The local community was not informed that their lands would be bought for allocation to the coal mine.
- By using the legal loopholes and contradictions, CIL and SECL acted in reference to the Law of Coalfield Sites, which does not contain any restrictions on human rights violations during displacements, rather than referring to laws which foresee the approval of *gram sabhas*, such as the Panchayat Law (PESA).
- The results and summaries of EIA reports were not shared with the local community.

• There was no social effect assessment work in addition to EIA.
• There was no cumulative effect assessment regarding the pollution and other destructions that the mines caused.

People living in Barkuta Village, located in the north of the Kusmunda mine, are a telling example of the displacement processes that coal mining caused in Korba (and many other places in the world where there is coal production). The central government expropriated the lands in Barkuta Village in 1979 to open them for the use of SECL company. However, in the expropriated lands, there was no coal production activity for a couple of years; villagers were allowed to stay in their houses. Yet, SECL paid compensation to the villagers for their houses and other properties in 1994 and their lands in 1996. SECL's compensation consisted of a one-time cash payment, a small amount of land in the rehabilitation area established about 6 km away, and job opportunities in the coal mine. Most of the inhabitants in Barkuta migrated to either the rehabilitation area or other nearby villages. The rest, living in 35 households, waited to received the promised jobs in the mine. Citing the nature of the jobs in the coal mine, SECL said it could only employ one man from each household, thus women were not able to work in the mine. Those who continued to live in the Barkuta Village in deep poverty were also deprived of opportunities such as borrowing, getting loans or earning income by selling their lands by pledging it as collateral. According to the records of the SECL company, the lands of 187 households were expropriated during the process, and 45 people were hired in the mine. On March 21, 2013, a notification was sent to people who continued living in Barkuta Village, indicating that they had to evacuate their houses in five days. The demolition did not take place as a result of the meetings of the villagers with the authorities, who demanded time to find work, remove their crops, and improve their living conditions. In December of the same year, the villagers, who this time got the notification that they had to evacuate their houses in seven days, were informed that the company authorities paid the compensations, and rehabilitation was completed. While the villagers argued that for intimidation, the SECL company cut the households' electricity and water, 17 houses and schools in the village were demolished in February 2014 without prior notification. Most of the families migrated to the nearby villages of Pali, Sonpuri, and Padania. Yet, these villages remained within the next mine expansion area.

Another mining project situated in Chhattisgarh state, which is a rich forestland, threatens Hasdeo Arand, one of the few dense and undivided forestlands left in the coun-

Hasdeo Arand Forest.
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try. In 2006, the construction of two coal mine operations, Chotia, and Parsa East and Kete Basan (PEKB) was permitted. These are located in and around Hasdeo Arand Forest, which lies toward the north of Chhattisgarh state with rich biological diversity and a fragile ecosystem. In 2010, the Indian government declared Hasdeo Arand a "no entry" zone for mining, but this decision did not put a stop to the mine projects.[12] The PEKB mines were opened in 2013, operated by Rajasthan Rajya Vidyut Utpadan Nigam (RRVUNL) as the public corporation and Adani Company as the subcontractor, with an annual capacity of 15 million ton production, spreading over an 1878-square-kilometre-area, 80% of which is forestland. Chotia I and II coal mines also started production in 2015, operated by Prakash Industries, with a production capacity of one million metric tons per year.[13]

Hasdeo Arand is a habitat for around 450 fauna and flora species. The forest is also home to nearly 20,000 indigenous people from Adivasi communities (Gond, Oraon, Lohar, Kunwar, and others) and forest peasants. With the coal mine being opened, infrastructure construction such as roads for transportation results in deforestation and dividing of the forest, causing a massive ecosystem disruption.[14] It is estimated that only within the life span of the PEKB mine around 370,000 trees will be cut. The usage of

The forest is also an area that the indigenous community considers sacred. Due to the destruction the coal mine will cause in Hasdeo Arand, the cultural existence of the indigenous communities will also be at risk.

soil and changes in the soil quality is also threatening the agricultural activities in the region. This causes the local communities who maintain their lives through forestry activities to lose their food, medicine, and livelihood resources. The forest is also an area that the indigenous community considers sacred. Due to the destruction the coal mine will cause in Hasdeo Arand, the cultural existence of the indigenous communities will also be at risk.[15]

Displacements due to mines are also on the agenda. For example, again, with the expansion of the PEKB mine, it is planned to relocate the entire Hariharpur Village, which remained in the mine site and was previously partially expropriated. It is expected that the devastating results of the coal mines will affect a larger region. There is also the risk that due to the destruction of the river and other water resources in the region, agricultural activities, especially rice production, will be affected adversely, and a large population will not be able to meet their need for water in places that are located beyond Hasdeo Arand.[16]

Indigenous communities and peasants who face all of the abovementioned risks mentioned have been mobilized for quite some time and they still continue their protests. With the approval of *gram sabhas*, the first mass resistance in the region against the project started in 2014, with thousands of people from 17 villages taking action. The peasants who resist the opening of coal mines announced a six-article declaration, which states that their rights granted by the legislations of FRA (Forest Rights Act) and PESA are being violated.[17] Later, they extended their struugle to the legal sphere and started to organize conventional actions such as collecting signatures. The 75-day sit-in in 2019 and the 10-day, 330-kilometer walk ending at the state's capital Raipur, inspired by Gandhi's famous Salt March, are among the protests organized by the local community.

The local community, who are against the injustices such as the blockage of *gram sabhas*, legally recognized participation mechanisms, authorities not asking for their

A protest against coal mining
at Hasdeo Arand Forest.
©Twitter: @SHasdeo

consent regarding the opening and expanding of a mine, and dispossession of their villages and lands, asked first and foremost for the cancellation of all mining projects in Hasdeo Arand.[18] On the other hand, Hasdeo Arand activists face many obstacles and pressures, such as the authorities ignoring their demands, violence, sexual harassment, especially toward women, by the security forces, detentions, and arrests.[19] In short, despite all the objections, the mine project continues to threaten the social, economic, and cultural lives of the indigenous communities and peasants in the region.

> *The authorities, when the Gram Sabhas did not give permission to the project based on the local community's resistance, forced the leaders of the villages to sign fake consent documents in a meeting held behind closed doors. We protest this injustice.*
> Farmer, Sahli Village, Chhattisgarh[20]

CHAPTER 7

Jakarta, the City Sinking in the Grip of Environmental Injustice

The capital of Indonesia, Jakarta, is the world's fastest "sinking" city. While the city is constantly subsiding below sea level, it has to cope with devastating flood disasters of, increasing numbers every year. The city being submerged also brings forth social and economic collapse. The "precautions" taken in the face of this situation cause an environmental injustice which gradually expands and deepens. Far from eliminating environmental injustice, the climate change adaptation (mega) project in Jakarta is a telling example of how such a project can increase injustices specific to displacements.

Jakarta is one of the biggest metropolises in the world. As of 2022, 11 million 75,000 people live in the center of Jakarta, which underwent a rapid urbanization process; the population of the broad metropolitan area, also called *Jabodetabek*, is estimated to be more than 33 million.[1] The city continues to grow swiftly with the effects of national and international policies of integrating with capitalist globalization and creating a global city. It is possible to understand the city's growth rate by looking at the population increase in the metropolitan area: the population, which was 17.14 million in 1990, increased to 20.63 million in 2000; 28 million in 2010, and 31.62 million in 2015.[2] In addition to its rapidly increasing population, Jakarta —just like all across Indonesia[3]—is a city which has witnessed class and ethnicity-based spatial segregation and inequality, a longstanding issue since colonial times, which has deepened in the recent neoliber-

al eras when unplanned growth and economic and policy implementations were put in place the trio of profit—investment—growth at their center. On the one hand, there are regions where work and wealth are concentrated. These regions where the upper and middle classes reside and work are constituted by modern buildings and protected building complexes, have an advanced infrastructure and are connected to global networks. On the other hand, there are *kampung*s, neighborhoods consisting of slum houses of the poor. *Kampung*s, concentrated in the central region encompassing the coastline located in the north of Jakarta, are neighborhoods where the infrastructure is weak and access to health, education, and other essential services in the city are limited. *Kampung*s, where work and social life operate through informal relations and practices, are slum house type dwellings informally built by the poor with their own efforts; and the housing conditions are pretty insufficient.[4]

Jakarta is also one of the cities where people are most frequently and intensely exposed to environmental disasters.[5] Jakarta, which faces several environmental problems, such as air and water pollution, and food shortages altogether, is also highly vulnerable in the face of the climate crisis. The immediate environmental risk that the city is exposed to is being submerged. The first reason for this is rising sea levels. The fact that the rate of increase of sea levels all across Southeastern Asia is higher than the glob-

al average exposes several cities to risk in this region, including Jakarta. The increase in the sea level in Jakarta is calculated as a minimum of one cm per year.[6] In addition, the area where the city is located is constantly sinking. Jakarta is overall sinking every year on average between 7.5 to 11 cm; the annual sinking of some places in the city reaches 17 cms.[7] The city is among the 15 cities in the world threatened the most by the rising sea levels.[8] 40% of the north of Jakarta is below sea level.[9] If climate change continues at its present rate, it is estimated that a total of 110-square-kilometer area will be submerged; around one million 800,000 people will lose their houses, properties, and jobs; and the economic damage that all these will cause will reach 68 billion dollars.[10]

The city is also threatened by floods and spates, which are short-term but frequent and have considerably devastating results. In Jakarta, located on an expansive water network constituted by a total of 13 rivers and human-made canals, lives are lost due to floods and spates every year; the urban dwellers are obliged to abandon their houses. It is possible to understand the extent of flood risk the city is facing by looking at some of the disasters that the city has experienced in the past: During the flood disaster in Jakarta due to heavy rains in 2007, 79 people lost their lives, and 430,000 people, most of whom are those living in *kampung*s located primarily on the river banks, had to aban-

January 18, 2014, the flooding street in Kampung Melayu, Jakarta. iStock.com/danikancil

During the floods occurring in 2013, 256 people lost their lives, thousands of people had to leave their houses, and the economic damage reached three billion dollars. In the flood disaster due to heavy rains in February 2020, nine people lost their lives, and 30,000 people had to abandon their houses.

don their houses. In the city, 75% of which was submerged, the economic damage was calculated at around 900 million dollars. During the floods occurring in 2013, 256 people lost their lives, thousands of people had to leave their houses, and the economic damage reached three billion dollars.[11] In the flood disaster due to heavy rains in February 2020, nine people lost their lives, and 30,000 people had to abandon their houses. In the flood disaster occurring in February 2021, during which approximately 176,000 people were affected, five people lost their houses, and more than 30,000 people temporarily abandoned their living places.[12]

A series of factors play into this adverse situation in Jakarta, among which are the city's alluvial soil quality, being close to the seacoast, the tectonic movements in the region, and the pressure the buildings are applying as a result of excessive construction. The city's historically unorganized and unplanned urbanization processes are also important factors that cause Jakarta to be both temporary and permanent submerged. In the uncontrollably growing city located on an extensive water network;[13]

- the settlements on the riverbanks block the flow of the water,
- the water discharge canals are insufficient due to poor infrastructure,
- the discharging canals, which are already insufficient because of solid waste dumped into the rivers due to a lack of disposal infrastructure and system, are deadlocked,
- the reserve areas where water naturally accumulates are allocated to construction.

It would be insufficient to explain the issue solely based on geological and geographical causes or technical mistakes and deficiencies in urban planning. Inasmuch as the roots of the unequal distribution of the emergent risks and results should be sought in social, economic, and political factors. Emplacing the poor in more risky regions that

are closer to the sea and riverbanks and areas that are at lower levels in the post-colonial period—in a way that reproduces ethnicity-based spatial segregation and inequalities constituted in colonial times under the control of the Netherlands—and expansion of the city with non-holistic and unequal planning contribute to the city being submerged. On the other hand, the cost of this situation is paid by the poor, who are portrayed as the actors creating the problem.[14]

The decrease in underground water availability, which is the primary reason for the land subsidence in Jakarta, turns into the manifestation of the socio-economic injustice that penetrates the city. In addition to the increasing population and construction, one of the primary pressures on the underground waters is that clean water services in the city are privatized. The military dictator Suharto's regime privatizing the water distribution operation in the city in 1998 caused increases in water prices.[15] The price of one cubic meter of water in Jakarta is 2.7 times higher than in Surabaya, the second largest city in Indonesia, where the public sector owns the water operation.[16] Another effect of the privatization is that there are no infrastructure investments to improve the city's already insufficient clean water supply network. In addition, several poor urban dwellers who live in informal settlements do not legally have the right to access the water supply network.[17] In short, Jakarta's water supply network only meets the clean water need of 35% of the households. The remaining 65%, the majority of whom are constituted by the poor, are providing their clean water needs directly from the underground water resources as they cannot use the rivers in the city due to the rivers being polluted with solid wastes, heavy metals, and chemical materials.[18] On the other hand, underground water is not only used by the poor but also by the upper-income class. The rich of the city do not use the water supply network in the city either, and they provide their clean water needs from the underground waters, which they draw in massive amounts thanks to robust and highly productive pumps. This prevents the implementation of specific policies such as differential billing, which can contribute to supporting the poor's water usage and renewing the city's infrastructure. More importantly, high-income groups consume much more underground water than the poor. In other words, the high-income class of the city has a pretty significant share in the ground subsidence and submergence of the city, whereas the devastating results of this situation are suffered by the poor.[19]

The devastating effects of the submerging of Jakarta predominantly affect the disadvantaged groups living in *kampung*s, where poverty and discrimination is pervasive.[20]

*Kampung*s, which already face the risk of displacements due to gentrification and renewal projects in the city, are highly vulnerable regions in the face of disasters, primarily floods, which are increasing in severity and number with climate change.[21] While most life and property losses during floods occur in *kampung*s, those who lose their houses, jobs, livelihoods, and living spaces due to floods and rising sea levels are also the poor living in *kampung*s. In addition, *kampung*s are the neighborhoods where people are most intensely exposed to public health risks during floods. For example, it is recorded that during the flood in 2007, 63% of the underground waters, which provide nearly all of the clean water needs of the poor, was polluted with Escherichia colibacteria. Besides, in the normal flow of everyday life, the pollution in the rivers due to heavy metal intensity and chemical materials constantly threatens the health of people living in *kampung* settlements on the riverbank.[22] In short, it would not be wrong to define *kampung*s as the manifestation of environmental injustice in Jakarta.

The flood in 2007 was a turning point in Jakarta, already laden with all these ecological and social risks. The Indonesian government decided to start a comprehensive project to prevent Jakarta from being submerged and carried out efforts with the Netherlands government, which has technical know-how and experience, and also with

The "Great Garuda" project.
Image: KuiperCompagnons

experts and companies from the Netherlands. In 2014, the National Capital Integrated Coastal Development (NCICD) project was announced, and its first phase was put into effect the same year. "Great Garuda" project constitutes the backbone of NCICD, which also involves the previously implemented projects across the city such as excavating soil from the sea and rehabilitation of river/stream beds. The primary purpose of the mega project is to save the city from submerging in the face of rising sea levels and big waves. For this purpose, the plans involve building a 25-meter high and 40-kilometre-long giant seawall, one-third of which will be above water, and 17 artificial islands that will be constructed by riprap, connection roads, and other infrastructures. The bird's eye view of the project will take the form of the legendary "Great Garuda," a bird which is a national symbol of Indonesia. Portrayed as the symbol of "national interest" and "national pride," the project's name is derived from the bird. The total cost of the giant project, propounded with the claim that it will "save" Jakarta, is expected to be around 40 billion dollars. According to the plans, the artificial islands built in the sea will contain offices, luxurious housing and shopping malls, and accommodate 1.5 million people. The Indonesian government is planning to finance the project, which they are jointly carrying out with the predominantly Netherlands and partially South Korea based engineering, architecture, and consultancy firms, by selling the built real estate properties on the islands to high-income groups and companies. The expectation is that the project will thus serve the central government and local governments' long time aim of transforming Jakarta into a "global city" and the gentrification and renewal of the impoverished

The total cost of the giant project, propounded with the claim that it will "save" Jakarta, is expected to be around 40 billion dollars.

historical center in the north which is located on the coastline of the city whose center has shifted to the south.[23]

The "Great Garuda" project has been the target of criticism due to the ecological problems, displacements, and environmental injustices it will cause. First, the role of land subsidence in the physical sinking of Jakarta is more substantial than the rising sea levels. The NCICD that the project is a part of, on the other hand, does not foresee the measures and infrastructure work against excessive consumption of the underground waters. Furthermore, there are also arguments that the seawall will not be effective for controlling big ocean waves. In short, the mega project will not save Jakarta from being submerged, which is the project's primary purpose.[24] Meanwhile, among the several ecological problems that the "Grate Garuda" project will create, there is also pollution of the Jakarta Gulf. The area between the built seawall and the coastline is designed as the catchment area for the river and rain waters. Yet, due to insufficient sewage and disposal systems, domestic waste is also being poured into Jakarta's waters, which are already polluted with chemical materials, heavy metals, and solid wastes. The accumulation of river waters, which contain high levels of biological and chemical pollution, in the area between the seawall and the coast will lead to seawater pollution and constitute added new public health and hygiene risks for the city. When the pollution in catchment areas is combined with the destruction that will result from the project's construction, the sea flora and fauna in the Jakarta Gulf are under considerable threat.[25] Besides, the remaining segments of the mangrove forests along the seacoasts, which continue to constitute a natural barrier against extreme weather events such as storms and hurricanes and rising sea levels, function as a carbon sink and are a habitat for several species. These will also face extinction with the project.[26] Also the "Great Garuda" project, which is a mega project, will lead to a high amount of carbon footprint and thus further the growth of the climate crisis since a significant amount of energy and material will be used during its construction.[27]

When all of the above-listed ecological problems are combined with the social and economic inequalities in Jakarta, it is expected that the "Great Garuda" will add new en-

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vironmental injustices to the existing ones. The foremost are direct and displacements of the poor and the destruction of their social, economic, and cultural living spaces due to ecological destruction. The poor who live in *kampung*s located on the river and canal coasts have already been facing displacements for a long time. Displacements constantly take place to expand the investment areas of the middle and upper classes in the city and to reorganize *kampung*s as work and living spaces within the scope of making Jakarta a global city. Although *kampung*s are made up of slum house type of dwellings that are informally built through the poor's own efforts, they have been legally acknowledged over time. Yet, with the law introduced in 2007, the houses located in areas closer to less than 10 meters to the river, canal, and water catchment areas were declared illegal.[28] The fragmented ownership structure in the *kampung*s leads to displacements in different forms. Some *kampung* dwellers who are title owners are displaced with a process that proceeds with negotiations and mostly ends with monetary compensation. On the other hand, those who are not officially title owners are displaced mainly with the use of physical force despite neighborhood organizations' resistance.[29] Consequently, thousands of urban poor are losing their houses and livelihoods based on several justifications such as "public order" and "creating green spaces" within the scope of the plan and projects of preventing floods and rehabilitating rivers. There is a proposal to evict 24,000 families living in *kampung*s located in the north of Jakarta from

their houses due to the construction of the planned green space aiming to allow for rain waters to penetrate the soil.[30]

The relocation projects, on the other hand, apply to only a small segment of the displaced people due to bureaucratic reasons, such as the evicted people not having ownership of their houses or, in case of such ownership, they have missing official documents. Besides, attention is drawn to a series of problems, such as the housings built in different locations in the city being scarce; being small; and having low construction quality, designed in a way that would not provide the environment and the conditions for traditional livelihood activities.[31] The displaced urban poor are not only losing their housing and livelihoods. Like many other informal settlement regions in cities all around the world, *kampung*s are spaces where, alongside conflicts and competitions taking place, solidarity relations that are shaped by various collective practices and social networks from food sharing to pooling resources for health expenditures and forming social help groups through reciprocity, prevail as part of survival strategies and activities.[32] Those forcefully kicked out of *kampung*s are also devoid of all these informal solidarity networks and relationships. The rehabilitation and creation of green space in scope of the "Great Garuda" project displaced thousands of urban poor; it is expected that this project will increase the extent of environmental injustices and inequalities that people are already exposed to.[33]

It is possible to anticipate the social, economic, and ecological destruction that the "Great Garuda" project will cause by looking at the fishery sector in the city in detail. Fishery is one of the primary livelihood sources for the poor of Jakarta. The number of fishing boats in the city—over 80% of them small boats—is over 4000. The number of people engaged in the fishery in the city is around 24,000. When all other subsidiary activities of the fishery sector are calculated, this number amounts to 50,000.[34] These people who live in *kampung*s or similar poor fishery settlements face the risk of direct displacement and losing their livelihood resources due to the "Great Garuda" project. Some households living off fishery are already displaced and have lost their essential livelihood resources with the excavating of soil from the sea works starting. For example, those who were evicted from their houses in the fishery settlement called Muara Angke due to the project's construction are having difficulties in maintaining their fishery jobs since the housing provided for them is located far away from the seacoast.[35] It is predicted that as the project's construction progresses, most fishers living in the

coastal regions will be forcefully sent away from their living spaces. 5% of the areas on the artificial islands under construction are planned to be reserved for shelter and working spaces for fishers. Yet, it is hard for fishers who have insufficient income to live in the social housing planned to be built on the artificial islands in scope of the "Great Garuda" project, which can be defined as a real estate project oriented toward the middle and upper class in the city, as life will be expensive in these places. Decreased fish population with the expansion of the destruction in the sea ecosystem that the project has caused will also mean the disappearance of the livelihood resources of fisher communities. Furthermore, the seawall and the artificial islands built on the routes the fishers regularly use during their hunt interrupts fishery activities as it makes the fishers' access to fish difficult. It is recorded that way before the project is completed, only due to its construction, the fishers have already lost tree-fourth of their monthly incomes.[36] It is calculated that if fishery in the Jakarta Gulf is disrupted due to the "Great Garuda" project, the total economic loss will be around 57 million dollars.[37]

The fisher communities, together with other poor *kampung* dweller project victims and several NGOs, have mobilized against the "Great Garuda" project as the Save Jakarta Bay Coalition (KSTJ). The fishers and poor *kampung*s dwellers, who indicate that due to the project, their rights to work, shelter, and cultural existence are violated, and they are to be driven out of these regions, continue their protests while also carrying out legal struggles through cases brought to court. They are also trying to put an alternative participatory project they developed on the public agenda.[38] In short, the "Great Garuda" is a centrally governed technology-based mega project and centrally developed by the politicians, bureaucrats/technocrats, and the private sector. Although its purpose is defined as preventing Jakarta from submerging, this adaptation project is shaped through policies oriented toward transforming the city into an investment area and making it a part of capitalist globalization. The poor living in *kampung*s, who are the real victims of the city being submerged but who are also shown as the primary "misdemeanant" of the floods, are entirely excluded from the project development and implementation processes. The exclusionist, discriminative, and unjust political preferences and applications, which underlie the ecological and socio-economic problems that the mega project is causing, are being ignored.[39] Thus, the "Great Garuda," presented as the project to "save" the "sinking" Jakarta, deepens and reproduces the already existing environmental injustices with all aspects, distribution, recognition, and participation.

CHAPTER 8

While the Black of Coal Suffocates the "Eternal" Tree in Muğla

The world is rapidly moving away from coal. The consumption of coal, which steadily increased worldwide between 1965 and 2013, started to decline after reaching its peak in 2013.[1] For the goal of the Paris Agreement to limit the global temperature increases to 1.5°C at the end of the century to be realized, the OECD (Organization for Economic Co-operation and Development) countries have to completely abandon coal use by 2030. The number of countries worldwide, which implement policies to gradually exit coal, such as not building new thermal power plants; deactivating the old ones; not contributing to the financing of coal/fossil fuel and "net-zero emission", is on the rise. The date of closure of 750 thermal power plants worldwide has been announced. In 2022, the number of countries which will put new coal power plant projects into operation is 34; this number was 41 in 2021.[2] In short, although its speed and extent are debated, there is a worldwide tencendy toward abandoning coal.

Turkey, on the other hand, has no policy of exiting coal. *Development* and *economic growth* have been a priority for the government and for different political actors with different political stances; they constitute the basis for economic and political policies. The main goal of the AKP government's "neoliberal modernization" model, which is gradually growing more authoritarian, is to create development and economic growth.[3] In addition to the construction sector, the energy sector, which has always been under the central control of the state, has critical importance in this model. The government's policies regarding these sectors are centered around controlling the capital accumulation and the flow and distribution of resources and profits.[4] Energy plays a vital part in the mega projects that government uses as a tool of legitimization and hegemony.[5] As part of this model, the growth of the energy sector is adopted as a priority for general economic growth and development goals; the environmental and social costs of this are ignored.[6] No change has been observed in this attitude even after the Parliament approved the Paris Agreement and Turkey became a party to the agreement in October 2021; contradictory energy policies are still in place. The reflection of this situation on numbers is as follows: The general share of fossil fuels in energy production in Turkey was 58% in 2020, increasing to 64% in 2021.[7] September 2021 data shows that there are 68 coal power plants across Turkey with a total of 20,331 MW power.[8] According to TEİAŞ (Turkish Electricity Transmission Corporation) data, 31.43% of the produced electricity in 2021 came from coal power plants.[9] Although most of it is not finished due to financial difficulties and public reactions, the construction of a coal power plant of 1465 MW installed power in total continues. On the other hand, mainly due to reasons such as the cases of annulment, public opposition, and inability to find financial resources since

The date of closure of 750 thermal power plants worldwide has been announced. In 2022, the number of countries which will put new coal power plant projects into operation is 34; this number was 41 in 2021.

the finances for coal projects worldwide are being reduced/stopped, the project of a 10.6 GW capacity coal power plant was shelved.[10]

One of the main goals of Turkey in the energy field is to increase local coal production and consumption instead of imported coal consumption which started to rise in the 2000s.[11] The basis of this goal is the government's political will to consolidate its control with the assertion of providing "energy and economic independence".[12] One of the indicators of this is the goal of increasing the country's installed power of local coal from 10,664 MW to 14,664 MW between 2019 to 2023, as declared in Turkey's "2019-2023 Strategic Plan".[13] Within this framework, the implementation of several incentive mechanisms and programs for the coal sector, such as the guarantee of buying local coal, capacity mechanism and privatization of reserves, continue to be in place.[14] In Turkey, where policies of reducing imported coal consumption and using local coal are implemented, there is also an increase in the share of local lignite coal in electricity production.[15] TÜİK (Turkish Statistical Institute) data shows that the production of lignite coal in March 2022 increased 18.4% compared to February and 33.6% compared to March 2021.[16] In short, although Turkey has shown some development in renewable energy, it does not give up on coal usage; on the contrary, through incentives and investments, it carries out policies and projects toward excavating and using local coal.

Muğla, where coal activities are highly concentrated, is home to Yatağan and Milas, provinces among Turkey's most important coal regions. In the region, both coal mines and coal power plants have been active since the beginning of the 1980s. Today, there are three thermal power plants operating with lignite coal. Started in 1977, the Yatağan Power Plant's first unit was finished in 1982, second unit in 1983, and third unit in 1984. The Yatağan Thermal Power Plant thus reached its total capacity with 620 MW installed power and 4,095,000 KWh annual production capacity. The first unit of the Yeniköy Power Plant, the second thermal power plant in the region with 420 MW installed power in Milas, became operational in 1986 and its second unit in 1987. Lastly, the Kemerköy Thermal Power Plant construction in Milas, the plan of which was launched in 1983, started in 1987. The first two units of the power plant started operating in 1994. The last unit of Kemerköy Power Plant, with

630 MW installed power, was completed in 1995. The government's build-operate thermal power plants were privatized in 2014, together with the coal mines connected to them. Thus, Yatağan Thermal Power Plant was transferred to Yatağan Thermal Energy Production Inc., owned by Bereket Energy Inc.; Yeniköy and Kemerköy Thermal Power Plants were transferred to YK Energy Production Inc., which was founded with the partnership of IC İçtaş Energy and Limak Energy.[17]

The coal mining activities in the region started with the construction of the Yatağan Thermal Power Plant. Yatağan-Eskihisar and Milas-Sekköy lignite mine pits were opened in 1979. With the thermal power plants being completed, the number of coal mines which provide fuel for these power plants also increased.[18] By 2020, there were 12 lignite coal mines in Yatağan and Milas. According to 2019 data, 1390 (insured) workers are working in coal excavation activities in coal mines across Muğla.[19] A 23,360-hectare area in Yatağan and a 23,340-hectare area in Milas have been allocated to the mines.[20]

THE EFFECTS OF MINES AND POWER PLANTS ON ECOLOGY AND PUBLIC HEALTH

Coal activities cause severe and extensive ecological destruction in the region. The disruption/destruction of forests, olive groves, and water resources cause locals to lose their health and livelihood resources and activities, thus resulting in indirect and economic displacements.

In Milas and Yatağan, approximately half of the total area, which has been granted mining licenses, consists of forests, while the other half has olive groves, agricultural lands and residential areas.

68% of Muğla is forestland. Muğla's distriscts, Milas and Yatağan, are also considerably rich in natural life. Yet, the forests which have an important place in the region's ecosystem and the livelihoods of the locals are being destroyed due to coal mines. It is calculated that between 1979 and 2018, there has been coal excavation in an area of around 5000 hectares. It is estimated that nearly half of these areas are forestlands. By 2019, a total of a 46,700-hectare area in Milas and Yatağan has been allocated to coal pits through operation licenses. According to the estimations, nearly half of this area (based on a 43,800-hectare area, 47.3%) is forestland.[21] The other half is composed of olive groves, agricultural lands, and village settlements.[22] It is calculated that in case all the areas operation licenses are issued to are used for coal mining, 12,038 hectares of forestland in Milas and 8714 hectares of forestland in Yatağan will be destroyed.[23] The planting works toward eliminating the effects of the mine pits are pretty limited and ineffective. It is recorded that under the name of rehabilitation, a minimal area has been planted, and non-endemic species and species of fast-growing characteristics were chosen in the area.[24] In addition, the roads and facilities which are/will be opened for the coal mines do/will result in habitat disruption and the destruction of biological diversity.

The power plants and coal mines cause severe ecological problems threatening life and destroying waters and air in the region. The slag and fly ash from the three power plants combined amount to four million tons annually and are stored in forestlands openly without any treatment. For example, the waste area near Kapubağ Village, where the Yatağan Thermal Power Plant slags are stored, is around 130 hectares wide.[25] The area where water is dumped is a crucial spot for the feeding and storing of the underground waters that provide drinking and utility water resources of the region. Research carried out in the region indicates that the underground waters stored contain cadmium and lead levels were over the limit determined by The Environmental Protection Agency (EPA).[26] The over-exploitation of the water resources is also a problem directly affecting the locals' agricultural activities and life in general in the region. The topographical changes that the coal mines induce, such as constituting rock and soil hills and disrupting the riverbeds, threaten the flow and availability of the overground waters. Meanwhile, the thermal power plants and coal mines also ex-

ert extreme pressure on the water availability in the region. Unlike the Kemerköy Thermal Power Plant, which obtains the water it uses from the sea, the water used during production in Yatağan and Yeniköy power plants comes from freshwater resources. According to CAN Europe's calculations, the amount of water that Yatağan Thermal Power Plant uses from the Dipsiz River is 7.5 times more than the total water consumption of the Yatağan district. Yeniköy, on the other hand, uses the water of the Geyik Dam and Dereköy; although the system it uses for the cooling down is a closed cycle one, the water it uses is nearly 2.5 more than the total water consumption of Milas.[27]

The thermal power plants pollute the air with the particles, heavy metals, and gasses they emit into the atmosphere. Milas and Yatağan are one of the most air-polluted places in Turkey. This puts public health in both Yatağan and Milas at serious risk. According to the research HEAL (Health and Environment Alliance) carried out based on 2019 data, the reasons that the power plants in Milas and Yatağan pollute the air are as follows:[28]

• *Particulate matter (PM) emissions:* The Yatağan Thermal Power Plant is listed among the first ten power plants in Turkey with the maximum annual PM (PM2.5 and PM10) emission; it is estimated that it causes a total of 1179 tons of PM emission per year. The PM

The Yatağan Thermal Power Plant ash pond.
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emission of Kemerköy Power Plant is calculated as 336 tons, and Yeniköy Power Plant as 278 tons. Across Turkey, among the places which are affected the most by particle emissions are the Afşin-Elbistan region, Zonguldak, and Çanakkale, in addition to the coal region lying between the Milas- Muğla region.

• *Sulphur dioxide (SO_2) emissions:* Annually, Yatağan Power Plant emits 10,146 tons, and Kemerköy Power Plant emits 10,020 tons of SO_2 into the atmosphere. Both power plants are among the first ten thermal power plants which create pollution by emitting the most SO_2. The annual SO_2 emission of the Yeniköy Power Plant is 8488 tons. HEAL indicates that although all three power plants have DeSOx filtering systems to reduce SO_2 emission to a minimum, there are suspicions because of the lack of transparent information about these filters' running times and maintenance. In addition, HEAL made its calculations based on the assumption that these filters work at total capacity. The probability of the filter system working less than assumed or not working efficiently signals that the amounts of emission can be much higher.

• *Nitrogen dioxide (NO_2) emissions:* When we look at NO_2 emissions, the Yatağan Power Plant is ranked first among the power plants in Turkey, with 18,405 ton emission per year. With its annual 7896 ton emission, Kemerköy Power Plant is ranked fourth; with an annually 6214 ton emission, Yeniköy Power Plant is ranked fifth. These emission rates make Muğla the place exposed to most NO_2 emissions in Turkey.

According to CAN Europe's calculation, breathing the polluted air that the three power plants cause results in around 280 premature deaths yearly. It is estimated that in the region, between 1982 and 2017, a total of 45,000 premature deaths occurred because of this. It is predicted that if the power plants work for 50 years, 5300 people will lose their lives between 2018 and 2043 due to air pollution.[29]

AGRICULTURE UNDER THE THREAT OF COAL

The destruction that the coal sector causes in the region disrupts/annihilates the livelihood resources and activities of the locals. Apart from tourism, the essential livelihood resources of the locals are olive cultivation, citrus production, fruit and vegetable farming, greenhouse cultivation, stockbreeding, beekeeping, and fishery. Olive cultivation has the most significant share in agricultural activities in the region. Olive groves constitute 43% of the agricultural lands. In 114 villages of Milas, olive cultivation is one of the primary livelihood resources. A 52,900 hectare area of the 81,189 hectares wide agricultural land, in other

Olive cultivation, an essential livelihood resource for the locals, is adversely affected due to coal activities. The primary reason for this is the dust emissions containing heavy metals.

words, 65% of it, is constituted by olive groves. When the estimated number of unregistered olive trees is added to around one million registered olive trees—7,785,000 fructiferous, 37,490—it can be said that there are a total of nine million olive trees.[30] The quality of the olive and olive oil produced in Milas is high-quality. The first olive oil in Turkey qualified to have Geographical Indication (GI), determining products that are specific to a geography and have distinctive qualities, has been of Milas.[31]

Olive cultivation, an essential livelihood resource for the locals, is adversely affected due to coal activities. The primary reason for this is the dust emissions containing heavy metals. As the ashes and dust from the power plants cover the olive trees' leaves in layers, the trees cannot get enough sun rays, and synthetization, which provides the formation of fruits, decreases, thus the quality of the fruit of olive trees deteriorates. Meanwhile, the emitted ashes, dust, and sulphur dioxide adversely affect the process of fruit formation as they affect the flowers of the trees; the fruit productivity decreases.[32] The fieldwork carried out confirms these adverse effects through the testimonies of the locals.[33] For example, in the report prepared by Ekolo Kolektifi (the Ecology Collective), the locals stated that the effect of smoke and hazardous gasses emitted from the power plants on plants significantly increases during the night and rainy weather, and the filters on the chimneys are not operated during nighttime, and there is considerable decrease in olive production and productivity over the years.[34]

Other agricultural activities in the region are also exposed to similar ecological destruction. For example, Muğla is one of the most developed places in Turkey for beekeeping. Around 6000 families engage in beekeeping. 2020 data indicates the existence of 755 beekeepers and around 177,000 hives in Milas.[35] This essential livelihood resource is damaged due to the ecological destruction that the coal power plants and mines cause, in addition to the temperature increases related to climate change.[36] The ashes emitted from the thermal power plant chimneys, which contain heavy metals and arsenic, poison bees. Meanwhile, the heavy metals in the liquids that the *basra* insect excretes, which bees use in honey making, transmit to honey; thus the honey produced in the region contains high levels of heavy

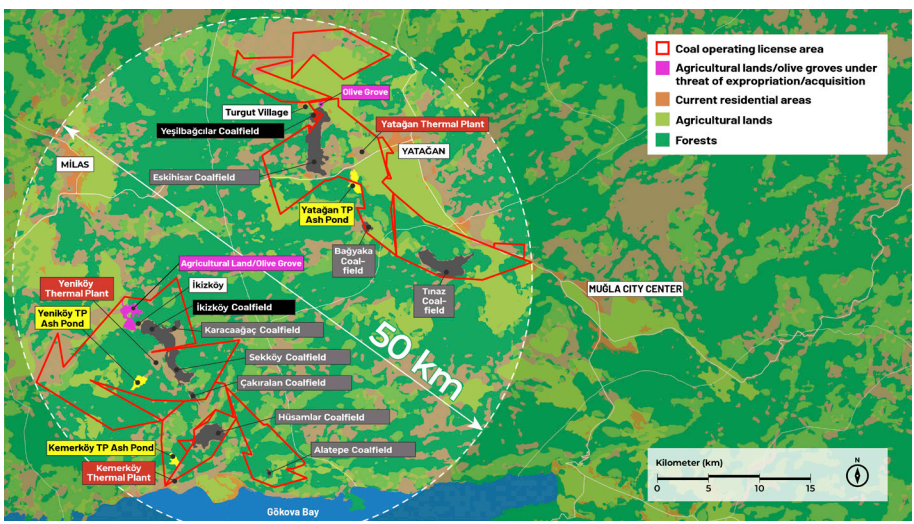
metals.[37] Also, the number of *basra* insects necessary for honeydew honey is decreasing due to deforestation, and ecosystem destruction is also decreasing honey production.

As a result, the people of Milas and Yatağan, whose clean water, clean air, and forests are at risk due to thermal power plants and coal mines, are losing their health and livelihoods. A series of rights, such as right to healthy life, right to the environment, water and food, of those not physically cast away from their houses and lands with direct expropriation and purchasing methods are also violated.

THE VILLAGES UNDER THE SHADOW OF THE COAL MINES IN YATAĞAN AND MILAS[38]

In Milas and Yatağan, where the coal sector is concentrated, mining-induced displacements occur extensively. Until today, ten villages in Yatağan and Milas have been displaced through expropriation or purchasing including their olive groves and agricultural lands. In fact, the first expropriation in the region took place at the end of the 1970s in the Şahinler Village during the construction of the Yatağan Thermal Power Plant. However, in Şahinler, only the agricultural lands were taken away; the settlement areas were not touched. The first mining-induced expropriation in the region took place in the first half of the 1980s.

MAP 1: COAL MINING LICENSE AREAS IN MUĞLA



SOURCE: YASEMİN SAYIBAŞ AKYÜZ, İKİZKÖY ENVIRONMENTAL COMMITTEE ARCHIVE

The houses and lands in Eskihisar, Yatağan, and Sekköy, Milas were expropriated during this period. Later, people living in four villages, namely Bağkaya, Tınaz, Yeşilbağcılar, and Karakuyu, were displaced in phases due to the coal mines in Yatağan. In Milas, on the other hand, the expropriation of villages and displacements, which started with Sekköy, continued with Hüsamlar, Çakıralan, Karacağaç, and İkizköy (Işıkdere Location) up until today.[39] Recently, there have been attempts to take away the villagers' lands and houses in other locations of İkizköy in Milas and Turgut in Yatağan in scope of the expansion works of the mine sites. It is predicted that currently planned and constantly proceeding coal mine projects in Milas and Yatağan will affect around 30,000 people; they will cause some of these people to lose their houses, lands and/or livelihoods directly and will indirectly displace some others in a social and economic sense by destructing their living spaces.[40] According to another calculation, it is predicted that due to the mines that excavate coal for the Yatağan, Yeniköy, and Kemerköy power plants, a total of 48 villages' olive grove areas, 27 in Yatağan and 21 in Milas, will be damaged or destroyed.[41]

What took place in the Yeşilbağcılar Village, one of the displaced villages due to the mines that provide coal for the Yatağan Thermal Power Plant, is narrated in CAN Europe's *The Real Cost of Coal - Muğla Report* as follows: In 2012, residents of the 4500-year-old Yeşilbağcılar village were forced to relocate because of the expansion of the open-pit mine that supplies coal to the Yatağan power plant. Even though residents were notified of the evacuation decision back when the coal reserve was discovered in the 1980s, there had been no developments until the privatization process was completed in 2007. In the five years following 2007, evacuation accelerated when the open-pit mine reached the entrance of the village, damaging houses and exposing the village to the risk of landslides. In 2012, the entire village was evacuated. At that time the Turkish Coal Enterprises (TKİ), which operates the coal reserves, promised to move the whole village as well as the 109-year-old historical Yeşilbağcılar Mosque to another site, but never kept the promise. The new settlement was located at two kilometers from the old village and the Housing Development Administration (TOKİ) built only 127 residences to accommodate the entire village. The rest of the villagers were scattered to different residences that were built in plots allocated by the municipality. The village, as a unit of social life, was scattered. Hundreds of villagers chose to migrate to other provinces and districts to join their relatives. The historical village mosque was never moved and still stands, damaged, at the old Yeşilbağcılar village site near the Yatağan Power Plant coal mine. Recently, villagers who moved to the TOKİ residences have been facing the threat of another relocation on the basis that new coal deposits were discovered under the site.[42]

Işıkdere village.
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Coal ore was detected in 1995 in the lands where Hüsamlar Village is located. In 2008, at the end of the works started by the Turkish Coal Enterprise (TKİ), a 500-decare land was nationalized initially; the land started to be expropriated.[43] Most of the villagers whose agricultural lands were included in the coal mine abandoned their houses and settled in nearby city and district centers; around 20 households were continued to live in the village. The electricity and water of the village, located at the border of the mine site, were cut after the expropriation; those living in the village started to provide their water and other basic needs through their own means. The primary reason these families lived in the village, deprived of using their agricultural lands and essential services, was their limited mobility capacity due to financial impossibilities. Inasmuch as, the sum of money paid to them in exchange for their agricultural lands was not enough to buy land elsewhere and build a house on it.[44] In addition, other factors were their choice to not break off from their traditional lives and continue their social and cultural existence in their own lands. This also holds for the previous inhabitants of the village, who settled in other places. To return to their old social lives in their village and to live together, the Hüsamlar Cultural and Social Solidarity Association, founded in 2015, made an application to buy a plot from the government in Kumluca Location, Pınar Neighborhood, three kms away from the Hüsamlar Village with repayment and build their village again; it is recorded that as of July 2022 their demands have not been met.[45]

A reason for the companies to prefer purchasing is to break the social opposition which emerges in the case of the expropriation phase.

Other villages were exposed to and continue to be exposed to the right violations and injustices encountered during displacements in Yeşilbağcılar and Hüsamlar. The problems encountered during the processes of coal mine-induced displacement in Yatağan and Milas can be summarized as follows:

• **Purchasing/expropriation processes not being transparent and participatory:** In the period after the privatization, the displacement process generally proceeds in two phases: First, the companies propose the villagers to buy their houses, agricultural lands, and olive groves. Generally, after some of the lands are bought, the rest is taken away from the villagers by expropriation.[46] The companies that pay the expropriation costs initially prefer the direct purchasing method. In this way, they can possess ownership of the land. In the case of expropriation, on the other hand, the ownership is registered to the Treasury; companies can get the right of usage. Another reason for the companies to prefer purchasing is to break the social opposition which emerges in the case of the expropriation phase.[47] One of the major complaints by the locals has been that all these processes are carried out non-transparently and are far from being participatory. Not fulfilling the participatory dimension of environmental justice, such as EIA exemptions; not organizing meetings with the participation of locals; not notifying the decisions beforehand, and practices such as misguidance, the government officials not responding to the villagers' demands of support and protection of their rights increase the injustices.

• **Paying low prices for lands and houses:** The locals often express that their lands and the immovable properties, which are planned to be included in the mine site, are attempted to be bought for much lower prices than their current values. For example, while during the expropriation of Işıkdere Location, İkizköy in 2017, for one decare of land, 10,000 TL and in case it has olive trees, 13,000 TL was proposed, it was recorded that in the nearby villages, one decare of land was between 65,000 and 100,000 TL.[48] This situation makes it impossible for a villager, who sells their land, to maintain their life by working in agriculture nearby. However, there are also some exceptions. The companies use different methods to take possession of the lands. One of these methods is to make

WHAT DO DISPLACED PEOPLE THINK?

The results of the survey carried out by Emre Özsoy, as part of his master thesis in which he analyzes the social results of mining-induced displacements in Milas, present essential findings regarding the extension of environmental injustices in the region.[1] The survey was carried out with 56 people who lost their houses and lands due to expropriations in Hüsam, İkizköy, and Ekizköy, all connected to Milas, and had to later move to İstanbul, Gökçeada, and the center and villages of Milas to maintain their lives. Some of the findings of the survey can be summarized as follows:

The percentage of those who answered "absolutely disagree" to the statement "You currently possess the assets (land, house, trees, etc.) that you had before migrating" is 66%; the percentage of those who answered "disagree" is 32%.

43% of the survey participants responded "absolutely disagree" to the statement "You were able to establish your life"; 34% of them answered, "disagree". Those who expressed adverse opinions present factors related to hardship and unfavorable economic and social conditions as justification for their answers. These reasons include "the obligation of changing living habits"; "the insufficiency of living spaces and conditions"; "a life being abruptly ended after the long-time efforts exerted to establish the necessary conditions and becoming obligated to make a new start"; "the insufficiency of production areas"; "becoming obligated to struggle with the distress of livelihood which emerges related to decreases in production"; "lack of financial resources"; "the physical environment being unsuitable for production"; "the insufficiency of the expropriation prices"; "the difficulty of adapting to city life", and "the expensiveness of city life".

96% of the participants answered "no" to the question "Did you migrate voluntarily?" whereas none of them answered "yes". 34% of the participants described the feeling they experienced while migrating as "fear"; 41% described it as "anxiety".

The percentage of the participants who objected to the expropriation process is slightly more than one-third. Those who did not object enumerate reasons such as "trusting the government"; no hope for a solution"; "the attitude of leaving solutions to time"; "being influenced by those who did not object", and "not having registered estates".

The percentage of those who think that they were "deceived" in the expropriation process is 55%; the percentage increases to 79% when they evaluate their experiences after expropriation. 79% of the survey participants want to return.

1- Emre Özsoy, *İklim Değişikliğine Sebep olan Enerji Faaliyetlerinin Yeni Ekoloji Paradigmasına Göre İstimlak Göçleri Üzerinden Çevresel Değerlendirmesi: Muğla, Milas Örneği*, Unpublished Master Thesis, Mugla Sitki Kocman University, Institute of Science and Technology, Department of Environmental Sciences.

at least some of the villagers sell their lands by paying the market value prices per decare for the lands that are private properties. In doing this, the coal companies aim to prevent villagers from carrying out collective struggles and try to avert their resistance through creatings divisions among them. On the other hand, with the motives of paying lower prices and thus not having a high precedent for later expropriation processes, the values in land title deeds are shown lower, or the lands are registered on the workers.[49]

• **Irregularities:** The cases of keeping the extent of expropriation narrow and operating it as a random process are other problems related to the issue. In an example narrated during the fieldwork interviews, after the houses and lands were expropriated in

Karaağaç due to the mine, the coal excavation had only been done in agricultural lands. It was decided that the settlement area where the houses are located would not be used. Thereupon, the government sold the houses back to their owners. Yet, as they were sold for prices higher than the expropriation values, those who migrated to nearby villages and hardly maintained their lives who now wanted to return to their villages became obligated to get loans to be able to meet these prices. For the villagers who also lost their production means because their agricultural lands were taken away from them in addition to going into debt, this situation means further deepening of the existing poverty.[50] Another claim is that although there had been no information meetings in the region, it was noted down as "done" in official reports.[51]

• **The risk of being displaced again:** The mining sector's gradual displacement practices, which spread over time and space, are also observed in Milas and Yatağan. Coal mines' extension leads to multiple displacements—a process in which people who are already displaced are re-displaced. For example, the inhabitants of Yeşilbağcılar, Yatağan, who settled in TOKİ housings near the mine site, were exposed to the risk of being dispossessed of their houses again since their new settlements remained within the boundaries the mine-expansion site.[52] All in all, although villagers have not been displaced for the second time (for now), the possibility of being displaced more than once leads to feelings of stress and anxiety among these people to say the least. Multiple-displacements, on the other hand, did take place in the region in the the past. In Tınaz Village, Yatağan, as a result of expropriation realized for the mines providing coal for the Yatağan Thermal Power Plant, the villagers moved their settlement place to an area four kms away. After 20 years of living there, their houses were taken away the second time due to the extension of the mine pit; the people of Tınaz were removed from their land and houses one more time.[53]

• **Limited relocation (settlement) opportunities:** In Turkey, application of relocation/settlement programs are confined to emergency situations caused by natural disasters such as earthquakes disasters. On the other hand, relocation/settlement programs are implemented in the coal mine-induced displacement framework. Accordingly, neither the government nor companies offered organized relocation programs for the most part in Yatağan and Milas. The displaced people are generally expected to find new houses or jobs through their own means. It is observed that displaced people predominantly settle in the center of Milas and the nearby villages as long as they can find a job in the mines or power plants.[54] Yet, there are a few examples of relocation to new places after their houses and lands are purchased/expropriated. After the expropriation in 1984,

around 18 families from Sekköy, Milas, and around 40 families and Eskihisar, Yatağan were relocated to Gökçeada, an island in Northern Aegean, far away from the region where their homes were located.[55] They built the Uğurlu Village in the allocated area together with the families from villages in Burdur where land was expropriated due to a dam's construction. They started doing agriculture in the allocated lands. However, instead of commonly cultivated products in this region such as grapes, they have grown products that they are familiar with, such as wheat, corn, and sesame in a region with a different micro climate and soil structure. Even though they moved to their resettlement area together with their nuclear families and other families from their village and region that relatively minimized adaptation problems, these people lost most of their social ties with their relatives, neighbors and friends.[56]

• **Using jobs in the coal sector as a means of oppression:** It is stated that local people are employed in more than half of the jobs in the coal mining operations in the region. One of the reasons for this is that people from nearby villages were hired to increase employment in the period when the government was operating the mines. It is argued that the General Directorate of Mineral Research and Exploration, although temporarily, pervasively employed local people in exploration and drilling. After the privatization of the coal establishments in the region, while an increase in the number of temporary jobs is observed, local people are employed in the mines, although not permanently. As in the example of the mining company financing the archeological excavation works carried out by the Directorate of İkizköy-Milas Museum through a sponsorship relation, the mine companies cooperate with various institutions in the region and thus indirectly create temporary employment.[57] Although it is indicated that in several households in the villages, at least one person directly or indirectly did/does work in the coal sector, this situation also has negative aspects. First, most of these jobs are temporary and precarious. When combined with purchasing/expropriation of the lands, the villagers, who were "dispossessed" by being ripped off from their lands where they did agriculture, have no other income resources left; most of them have no other alternatives than working in temporary and precarious jobs. In addition, it was claimed that by putting pressure on the people who work in mine-related jobs and threatening them with their jobs, mining companies try to take their relatives, who resist purchasing/expropriations, under control.[58]

In short, the adverse issues listed above drag the villagers of Milas and Yatağan whether physically displaced or not into deepening poverty. However, the villagers' losses are not just limited to livelihood and income. At the same time, they face the risk of losing their social

ties and culture; the relationship they built with the place they were born, grew up, and feel they belong to become subject to change. The displaced villagers in the Hüsamlar Village and the villagers facing the risk of displacement in İkizköy narrate this situation in the documentary *Yok Olan Köyler* (Disappearing Villages) as follows:[59]

> *…We never came back. That was the strongest frustration… We are not far away, but as you also said, professionally, there are a only couple of families in the village. We go there, but, the old side of our house is not there. Or the neighborhood is not there, the street where we played ball is not there. I don't know, someone's uncle died in another village, and I had no idea. That was the strongest frustration; I mean, being unable to be together. Otherwise, everyone is studying, living elsewhere, but when a holiday happens, a wedding happens, you come back to your village. We cannot go to our village, we have no village…*
>
> *They stole our past. My past is here. Now, we are struggling for our future. My wife's, my mother's, my father's past is over. They are not even able to come to the village. Everyone takes their belongings, what they can, they say we cannot stand it, the rest of it can stay, they say. There is nothing they can do, they don't want to watch that moment, I mean. Really, the heart can't take that view.*

İKİZKÖY: THE VILLAGE THAT DEFENDS ITS LAND AND FOREST

The mine-induced displacement attempts in İkizköy, Milas, are the last example of the environmental injustices that take place in Muğla. Meanwhile, the struggle of İkizköy people is one of the most striking examples of their search for environmental justice. The Yeniköy Lignite Mine, an open-pit mine, which provides coal for the Yeniköy and Kemerköy Thermal Power Plants and is the root of the resistance against the displacement attempts in İkizköy, was opened at the beginning of the 1980s as a government operation. Within the scope of privatization, the mine was purchased by YK Energy, half of which belongs to IC İçtaş Energy and the other half to Limak Energy. According to the 2015 records, the coal produced from the mine, with a 9.3 million ton capacity, provided 76% of the coal used in the Kemerköy Thermal Power Plant and 78% of that in the Yeniköy Thermal Power Plant.[60] The open-pit mine is spread over four coal basins; Sekköy, İkizköy, Hüsamlar and Alatepe.[61]

In 2017, the project of expanding the mine pit started to be implemented. The mining company first attempted to buy the houses and lands in Işıkdere, in the center of İkizköy,

THE WOMEN AND CHILDREN DISPLACED BY COAL

Women and children are the primary victims of coal mining-induced displacements in Milas and Yatağan. The loss of livelihood, dispossession, and poverty, which generally affect all locals, leave deeper marks on women and children who are situated in an unequal position within the traditional patriarchal order. Based on the observations by Environmental Engineer Deniz Gümüşel, a member of the İkizköy Environmental Committee, some of the problems that the local women and children are exposed to can be summarized as follows:[1]

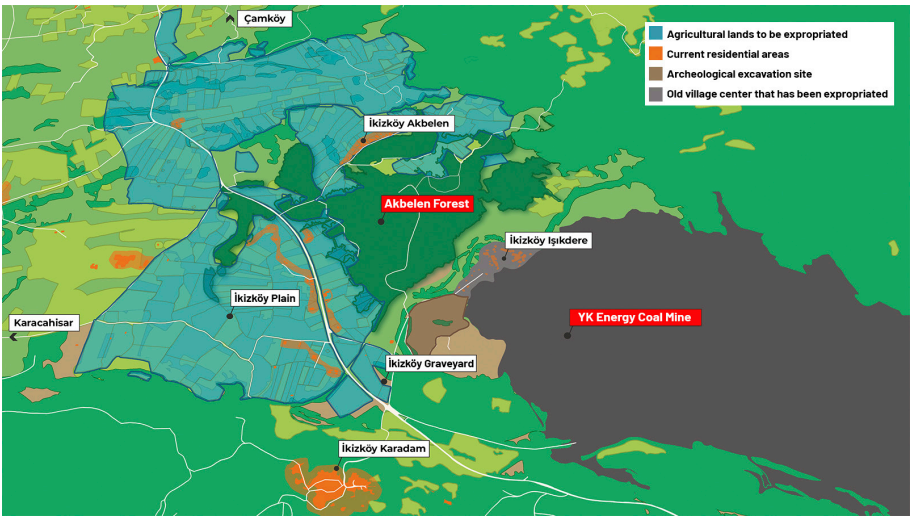
As the population of the villages radically decreased, the children generally became obligated to continue their schools elsewhere. The prevalence of mobile teaching (a system applied in rural parts of Turkey where children from villages without schools are sent to distant schools) leaves many children at risk of traffic accidents daily, as the village roads, which are side by side with the mining sites, intersect with coal transportation roads where heavy vehicle traffic is dense. The children have scarcely any social life. For example, the children of four families who, due to financial difficulties, cannot move somewhere else despite expropriation and live through their own means in Hüsamlar Village live isolated lives. These families, who suffer from deep poverty, are rarely able to go to the nearby city centers as they cannot afford transportation and other expenses. Displaced families are not able to meet their food expenses as their incomes decrease. They cannot feed their animals anymore since the physical conditions of their new settlement places are unfavorable. This situation results in the inability to provide their children with the daily needed nutrients, such as milk, eggs, etc. Thus, problems such as the inability to access food and insufficient and unhealthy nourishment emerge.

Like in several places in Anatolia, the women in this region also traditionally work in agricultural activities. While men in the fields carry out work such as using machinery and ploughing, women generally undertake daily work and animal care which requires hand labor. The agricultural activities that women carry out are a tool which provides women with a say within the family. Yet, the families generally have to withdraw from agriculture and stockbreeding when their agricultural lands are taken away; thus the women are also devoid of this opportunity. In the new settlements, especially in city centers, the contribution of women to the households decreases. They become more dependent on men who have more opportunities to work in other jobs. On the other hand, migration has various reasons, foremost agricultural policies; the youth migrate to cities from villages for different reasons. Displacements, however, force people over a specific age to change their place of settlement. It is already difficult for these people to find new jobs by acquiring new qualifications, whereas women over a specific age have even less chance of finding jobs in the current market conditions. For example, in the villages of Milas, the percentage of women who work in fish farming and the tourism sector does not exceed 10-15%.

Living in cities [as Deniz Gümüşel expressed] also takes away women's "right to be in nature". For example, the Akbelen Forest in İkizköy is an important place for women to socialize and spend time. They take walks in their free time; they sit together and chat; they do activities such as gathering herbs and mushrooms. Women also pass the time by working in the gardens of their houses. The women who become obliged to migrate to city centers due to displacements are stripped of these activities and rights. The primary complaint that the women, who become obliged to settle in the city, mostly express is the question: "What will we do within four walls?" Meanwhile, it is observed that psychological and physical problems, such as diseases related to not having enough physical movement, stress and anxiety, have increased among the displaced women—especially those over a specific age.

1- Field interview, July 1, 2022.

MAP 2: PROCESSES OF EXPROPRIATION AND DISPLACEMENT IN İKİZKÖY



SOURCE: YASEMİN SAYIBAŞ AKYÜZ, İKİZKÖY ENVIRONMENTAL COMMITTEE ARCHIVE

which is at the border of the mine. After the company bought some of the residential areas, agricultural lands, and olive groves there, the rest was included in the mine site through expropriation. The inhabitants of Işıkdere indicate that they were not aware of their rights and acted by trusting the government in that period; they say that they were notified or informed of any decision. There are also claims that when they asked the government officials about the process, they received a response stating that they should "abide by the government decision".[62] As a result, apart from three families, Işıkdere was completely evacuated in 2019.[63]

The process of expanding the mine did not end there. In 2019, the company began its attempts to acquire olive groves as well as other areas in İkizköy, living quarters and agricultural lands in Karadam, Ova and Akbelen. Villages, agricultural lands and olive groves are not the only targets of the mine expansion, which continues today. At the same time, the expansion aims to include the Akbelen Forest, which is physically intertwined with the village and located in the middle of the mentioned locations, to carry out coal excavation operations here. This situation signals a displacement process which will result in impoverishment and various injustices for the rest of İkizköy. Because during and after the displacements in Işıkdere, many of the injustices of participation, distribution and recognition summarized above for Yatağan and Milas in general came to the fore here as well: The in-

habitants of Işıkdere whose houses and lands were expropriated in exchange for low prices, without any information and participatory mechanisms, lost their livelihoods and income; they tried to find new settlement places and jobs through their own means in Milas or other nearby villages; they have been cut from from their traditional ties and cultural existence.[64] The ecological destruction that the mine has caused in the region, such as water pollution; groundwater withdrawal; topographical changes; dust and noise pollution, have a series of devastating effects on the health and livelihood activities of the rest of İkizköy. For example, an inhabitant of İkizköy, who makes a living from husbandry, started to use tap water for his animals because of the water pollution, yet in return, received a very large water bill he could not afford. The inhabitant is thinking of quitting husbandry as he has difficulty feeding his animals because the grazing lands are also covered with dust.[65]

Since the bed of the section of Işıkdere Stream in the mining area is being changed and taken into the channel, the flow of surface waters is also changing. This adversely affects the water availability and livelihoods in İkizköy as well as Ekizköy Plain and eleven other villages.[66] The people living in the rest of İkizköy locations/neighborhoods, who are already exposed to the adverse effects of mine expansion, are facing the risk of losing their livelihood by losing their olive groves and agricultural lands, and their housing rights and cultural existence as a result of expropriation of their houses, lands, and common areas.

The Akbelen Forest, located within the expansion site of the mine, has critical importance not only for İkizköy but also for the vast area around it. The forest is spread over an area of approximately 740 acres. It has a very rich ecosystem and is at the center of the life of the people of İkizköy. Some of the olive trees of the villagers are located in the forest. In addition, the inhabitants of İkizköy collect mushrooms, wild strawberries, and herbs, which they use for medicinal purposes and food, from the forest. The Akbelen Forest is also an inseparable part of the cultural life of İkizköy inhabitants. For example, according to İkizköy inhabitants, collection of "*çıntar* mushroom" (Lactarius deliciosus (L.) Gray] which is a local species and grows at specific times of the year, becomes a festive-like event. The Akbelen Forest is also described as a space for gathering, recreational activities, socializing and spending time in nature. The Akbelen Forest, as an inhabitant of İkizköy described it, "If the forests disappear, everything disappears", is an inseparable part of the livelihood and cultural existence of the İkizköy inhabitants; the cutting down of the forest and turning it into mine will radically effect the life in the region.[67] Moreover, the Akbelen Forest is also a critically important water catchment area that affects the underground and overground

water availability of a vast region. Beneath Çamköy, located at the border of the Akbelen Forest, there are enormous underground water reserves. In case the Akbelen Forest is destroyed, the water flow to these reserves will be blocked; The underground water reserve, which supplies approximately one third of the water used by the Bodrum Peninsula, will be under the threat of extinction.[68]

Until today, several rights violations and injustices took place in scope of mining-induced displacements in Yatağan and Milas. However, the local inhabitants' objections and struggle for rights were expressed individually or by a small group, they were disorganized and short-term reactions.[69] There have been similar attitudes in the inhabitants of the Işık-

THE ANTI-COAL STRUGGLE IN MİLAS AND YATAĞAN

The locals in Milas and Yatağan have been resisting coal activities in different ways for a long time. The protests and activities against the coal sector in the region are listed below:[1]

➔ Mobilization initiatives such as the foundation of Yatağan Environment Protection Association in 1991, and the foundation of Muğla, Denizli, Burdur, Isparta, Antalya Western Mediterranean Environment Platform (BACEP) in 1995,

➔ Well-attended protest marches and demonstrations such as the demonstration in 1993 with the participation of 7000 people against the radiation scattering due to the power plant in Yatağan; again in 1993, the demonstration, in which 3000 people participated, to protest the construction of Kemerköy Thermal Power Plant; the demonstrations between February and December 2014 against privatization, where environmental pollution was also protested,

➔ Petitions such as the Petition of "No to the Kemerköy Thermal Power Plant" in 1984,

➔ The direct actions against land expropriations: such as in 1984, the women not letting the crews carrying out fieldwork for the construction of the Kemerköy Thermal Power Plant; the villagers blocking the construction of the Kemerköy Thermal Power Plant by lying down in front of the construction vehicles in 1986.

The villagers have also been utilizing institutional channels and bringing their grievances to the attention of the authorities many times through presenting petitions about the choice of location for thermal power plants and the air pollution and health problems they cause. For the purpose of raising awareness, there are several studies published and a series of panels organized by professional chambers and environmental NGOs about the environmental, health, and social problems that the coal sector causes. There are legal appeals with the initiatives of NGOs and environmental lawyers on various issues such as stopping the construction of thermal power plants and coal mines; preventing unauthorized tree cutting, and setting gas filtering systems in chimneys to prevent air pollution.[2]

Recently, there have been protests and lawsuits opened by the Turgut Village against the expansion of the mine site by expropriating the agricultural lands in Yatağan.[3]

1- Deniz Gümüşel and Elif Gündüzyeli, *The Real Costs of Coal - Muğla* (CAN Europe, 2019), https://caneurope.org/content/uploads/2019/08/The-Real-Costs-of-Coal-Mugla_Full-Report_Final.pdf (accessed: September 7, 2022).
2- Ibid.
3- Hülya Yıldırım, et al., *Yatağan Termik Santralı: Etki Alanındaki Turgut Köyü Hak İhlalleri Raporu* (Ekoloji Kolektifi Derneği, 2018) https://secureservercdn.net/160.153.137.123/nm7.e04.myftpupload.com/wp-content/uploads/2018/05/Yatağan-Termik-Santralı-Etki-Alanındaki-Turgut-Köyü-Hak-İhlalleri-Raporu.pdf (accessed: July 28, 2022).

dere location of İkizköy against the displacement.[70] Yet, unlike the first time, the second expansion attempt of the company in Işıkdere encountered an organized resistance of İkizköy inhabitants, which was spread over time and involved a diverse action repertoire.

Witnessing what their displaced neighbors and relatives in the Işıkdere location had experienced has motivated the rest of the village to to start their contention against the expansion of the mine and removal of their villages and forests. The impoverishment of the inhabitants of Işıkdere, whose lands and houses were taken away from them for low prices thus jeopardizing their livelihoods and income resources, became a clear indicator of the devastating effects of the displacement process. Another adverse result that the İkizköy inhabitants observed was that those who migrated to nearby city centers, such as Milas, suffered financial difficulties in addition to the loss of their traditional social ties and relationships.[71] Another critical factor for those left in İkizköy to start resisting was the risk of living through multiple displacements. Some of the displaced Işıkdere inhabitants settled in other locations of İkizköy. Yet, during the acquisition/expropriation process in Işıkdere, the company allegedly made a verbal commitment that the mine would no longer be expanded,

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and did the opposite. The expansion of the mine toward the rest of Işıkdere means that the villagers will lose their residences where they settled for the second time. The villagers who also don't want to be cut off from the community and place to which they are attached with a sense of belonging came together and organized. The locals, who also get the support of different NGOs, environmental platforms, and activists, continue their struggle as the İkizköy Environmental Committee. In order to facilitate legal action and official applications, the locals founded Karadam Karacahisar Neighborhoods Nature, and Natural Life Protection Beautification and Solidarity Association (KARDOK) in 2021 despite all emerging/emerged bureaucratic difficulties through which they achieved a legal entity enabling them to act more effectively in institutional channels.[72]

The primary goal of the İkizköy inhabitants' struggle is to stop the expansion of the mine and not to lose their living spaces where they were born, grew up and earned their livelihoods. In doing so, they also protect their houses, agricultural lands, olive groves, and the commons of the village, the Akbelen Forest. Their struggle has two main axes. The first is their legal initiative. Through the legal struggle, which holds an essential place in the action

"MY HEART REMAINED IN MY VILLAGE"

A villager who was displaced while living in Işıkdere and now trying to establish a new life in another locality of İkizköy expresses the things he experienced and felt as follows:[1]

In the village, there were lands of our ancestors, our grandfathers. They were divided into shares. We didn't have that much of a say. We also didn't have much awareness. There were meetings with the district governor of the time. One of us tried to resist. No one stood behind him. The governor used a sentence in that process, "The government does not aggrieve its citizens." Money was deposited in my account. Mister Governor said, "Even though you resist, they will deposit the money in your accounts and remove you by the force of the gendarme." We had minimal financial means. Right next to the Akbelen Forest, we had a place left by our mom. It was divided into shares. I bought the other shares. I decided to build a prefabricated house there. I learned that because our land had the status of being cropland and not a settlement, it was hard to get electricity and water. We applied to the Governor. He said, "Leave your information about the title deed." They called us a week later. "You cannot build a house there," they said. We strived a great deal, I built a prefabricated house with my own means. My village, where my childhood, my youth, my everything passed, where I live, my everything being lost. It has been four years since we moved here. As the saying goes, they put the bird in a golden cage, it said: "My homeland, my homeland." They say, "Let's let it go and see where is its homeland." It goes, we call it "crown of thorns" and settles on top of the thorn. I mean, it is happy there. My heart also remained in my village. Since I came here, I have had dreams about my village over and over, zillion times. There have been those who went to the nearby villages, to Milas. We see them at weddings, on holidays. We hug, we cry. We miss each other deeply. Those who live it know. It is a very painful process.

1- Field interview, July 1, 2022.

In October 2019, a group of villagers from İkizköy, Karacahisar, and Çamköy submitted petitions, indicating that "they do not want their houses and lands to be expropriated" and demanding suspension of this attempt, to the ministries, presidency, and other related institutions.

repertoire of the several local ecology movements in Turkey, they fight for the rights granted to them by the constitution and laws; they emphasize the legality and legitimacy of their demands. The legal action by the İkizköy inhabitants, who opened court cases about the expansion of the mine site being exempt from EIA and the Ministry of Agriculture and Forest permitting the opening of a mine pit in the Akbelen Forest, is still ongoing as of August 2022. In the continuing court cases, there have been some legal gains, albeit temporary, with the courts stay of execution decision.[73]

On the other hand, the second axis is constituted by the İkizköy inhabitants' actions and protests on the site. Through press statements, meetings, and appeals to various state institutions, the locals try to draw the attention of the authorities and create public awareness about their contention. For example, in October 2019, a group of villagers from İkizköy, Karacahisar, and Çamköy submitted petitions, indicating that "they do not want their houses and lands to be expropriated" and demanding suspension of this attempt, to the ministries, presidency, and other related institutions; they visited TBMM (the Grand National Assembly of Turkey) and repeated their demand of the suspension of the mine expansion.[74]

Direct actions are also used by İkizköy inhabitants to protect their villages and forests: Although the legal process has not been finalized, and despite the fact that there are ongoing court cases and the court's decision for stay of execution, YK Energy attempts to carry out its operations in the Akbelen Forest. For example, on July 17th, 2021, the teams of Milas Forestry Operation Directorate cut down around 20-30 trees in the Akbelen Forest. Despite the provision in Article 27 of the Forestry Law that noone except the Forestry Administration can cut trees, YK Energy company teams started cutting down trees in the Akbelen Forest on August 8, 2021.[75] At the time when all attention of the public and authorities was on wildfires widely ongoing in different regions of Muğla, around 100-105 trees were slayed by the YK Energy teams. The villagers, arriving at the area shortly after the chopping, stopped the operation, using their own bodies as shields, and they launched a forest watch to prevent fur-

ther chopping. The forest watch continues despite the security forces' harsh interventions; the locals have been continuously on watch for the Akbelen Forest for more than a year.[76]

A similar direct action took place against YK Energy's attempt to remove olive groves in the area where it wants to operate as a mine site. Even though there is no specific legal regulation preventing the expropriation of olive groves in general, the Olive Cultivation Law's 20th Article prohibits the olive groves being expropriated for the purpose of mine operating.[77] However,the company unlawfully attempts to involve the locals in the process of uprooting the trees in the olive groves expropriated in the region, suggesting that they plant these trees elsewhere or use them as wood. After the villagers were informed about the Olive Cultivation Law's provision of prohibiting the cutting and removing of olive trees, they started objecting to this attempt of the company that would make them partake in the unlawful act. On March 1, 2022, a change was made in the Mining Regulation's 115th Article, which served to pave the way for the company's activities.[78] The company immediately told the villagers to cut/remove their olive trees. The villagers applied to the District Governorship with a petition. They demanded the local authority to take action and protect the olive groves. When the İkizköy inhabitants' call did not get a response, the company started to remove olive trees on March 30; around 30 trees were removed.[79] The villagers, hearing about this, protected the olive groves by standing in front of the diggers to stop the olive tree removals. Despite the security forces' interventions, the villagers resisted. The olive grove removal was thus stopped.[80] Later, it was revealed that the company had no permission from

the Provincial Directorate of Agriculture or the District Governorship.[81] In the face of the increasing reactions, the company announced that it replanted some of the removed trees. Yet, only eight of these trees were planted in a way that the villagers would have access.[82]

In their objection to the mining activities, the İkizköy struggle refrains from being a "Not in My Backyard" mobilization; İkizköy activists support and act together with the other villages facing the risk of displacement in the broad region that it is located. The coal sector triggers other projects in the region, which would end with other displacements. One of these projects is "Bodrum Drinking Water Dam and Material Mines, Breaking-Screening-Washing Facility and Concrete Plant Project".[83] The primary purpose of constructing the 83 million cubic meter capacity dam, as it is indicated, is to provide for the water needs of the increasing population—especially in the summer months—of Bodrum, which is one of the most popular summer resort areas in Turkey. Yet, according to the locals, only a part of the water kept in the dam will be sent to Bodrum, whereas a big portion of it will be used in the thermal power plants. In addition, there are arguments that due to the dam, the underground waters in the mine site will withdrawn; and this is ignored due to its facilitating effect on mining activities.[84] It is expected that 20 families living in Çamlıca Village Dipkayadere Location, which stays within the water catchment area of the Bodrum Dam, will be directly displaced, and several families in the wider lower areas of the dam will be indirectly/economically displaced due to the ecological destruction and loss of livelihoods. İkizköy inhabitants are also acting in solidarity with these villagers.

"We will not give up the Akbelen Forest"
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Overview

The question of "What do people whose living spaces are destroyed or damaged with the ecological destruction, the extent and level of which increase every passing day, do and experience, and to which injustices are they exposed?" lies at the basis of the *Displacements Within the Framework of Environmental and Climate Justice: Concepts, Debates, and Cases* report. In the geological period that we live in, called the Anthropocene or the "Era of Human", there is no field on the planet where humans' production and consumption activities are not felt. Indeed, the effects of human activities on the biological, geological, chemical, and physical processes of the whole planet have become more determinant. In addition, the nine boundaries of the planet are being pushed; some are already crossed. Massive ecological destruction, which threatens all species' lives with its full speed and severity, is occurring across the planet. Climate change; air, water, and soil pollution; the disruption and destruction of living spaces are among the most devastating effects of the human-caused ecological problems that we face. People lose their houses, lands, and livelihoods; their living places become unhabitable. In other words, an increasing number of people across the world are exposed to displacement, which, in a broad sense, means that their living spaces become jeopardized or unhabitable, and they are physically, economically, and socially ripped from these spaces. Ecological destruction results in displacements by merging with economic, social, political, demographical, and environmental factors. Displacements lead to the mobility (and immobility) of individuals and communities. On the other hand, the groups positioned unequally in social power relations and facing other injustices are more exposed to the risk of displacement. Thus, the relationship between ecological destruction-displacement-mobility and its consequences confronts us as an environmental and climate justice issue.

It is possible to consider the correlation between ecological destruction and displacements through two main axes. The first one is constituted by the displacement processes related to climate change. The extent, severity, and frequency of events related to human-caused climate change, such as floods, droughts, extreme weather events, and extreme heat, are gradually increasing. The major devastating effect is the disrup-

It is argued that climate migration will put pressure on the resources in the Global North, cause conflicts and create instability. These "alarmist" discourses, which create panic and fear, justify security policies with the primary purpose of protecting borders.

tion and disappearance of living spaces. In addition, livelihood activities are interrupted due to climate events, livelihood resources perish, and essential needs such as water and food deplete. In short, life is getting harder based on climate events. Places such as coasts and dry lands which are more open to the effects of climate events, and areas in which the existing injustices are widespread, and the capacity to repair the damages of climate events are low—as in the large section of the Global South—are exposed to climate events more acutely. When mainstream media, NGOs, politics, and academia address the topic, they generally assume that there is a direct causal relationship between climate change and migration. According to this view, which was popular for a long time, the world is facing a phenomenon called "climate migration", which is described as a problem.

The prediction about climate migration is that people who will be desperate in the face of the devastating effects of climate change in the Global South and whose numbers will reach hundreds of millions will directly migrate to the Global North, long-distance and permanently. Migration is perceived as another disaster that accompanies climate change which is a massive disaster in itself. Since it is argued that climate migration will put pressure on the resources in the Global North, cause conflicts and create instability. These "alarmist" discourses, which create panic and fear, justify security policies with the primary purpose of protecting borders. Thus, let alone devising administrative and political solutions which would stop climate change and its adverse effects, they open the door for a series of practices which will increase and deepen injustices and inequalities. However, the "climate migration" argument and the security discourses built around it do not have an empirical basis. The alternative views and research, whose number increases by the day, indicate a multidimensional and complicated relationship between climate change and mobility in terms of its reasons and effects. These studies show that direct and permanent international migration toward the Global North, described as climate migration, is only one of the consequences. Generally, climate mo-

bility does not unfold in this way. Based on the findings in the field, the observed main characteristics of the correlation between climate change and mobility are as follows:

- Climate change is only one of the factors resulting in mobility. Climate (and generally ecological) events' effects on people's mobility emerge by merging with a series of social, economic, and political factors and augmenting these factors' effects. In other words, climate mobility is a multifactorial phenomenon.
- Climate mobility can occur for different durations. That is, while climate migration is only one of the possibilities, field findings indicate that climate change mostly doesn't occur permanently. Climate mobility mainly occurs in the short term; it is temporary, cyclical, and seasonal.
- Climate mobility predominantly occurs within borders or neighboring countries, in the same region and close locations, rather than long-distance and internationally.
- Environmental changes based on climate change produce (voluntary or nonvoluntary) immobility as much as they produce mobility. Here, the needs, intent, and capacities (which are constituted by different elements ranging from financial resources to social ties) based on economic, political, social, and cultural factors are determinants.
- Climate mobility has positive results, such as adaptation and reducing vulnerability. Some of these advantages are listed as reducing the exposure to climate risks, diversifying and increasing livelihood and income resources, and sharing information, experience, and technology between different places.
- Mobility can be an adaptation strategy that individuals and communities use consciously and willingly.

The second axis, which deals with the correlation between ecological destruction and displacement, is constituted by development (project)-induced displacements. Mega development projects, such as dam, mine, and transportation projects, are both the driving forces and indicators of dominant growth and correlated development understandings. While such projects provide the necessary energy, raw material, and essential services for all production activities, they are also businesses that gain economic benefit and profit. Such projects are shown as the symbols of "national interest" and "development". On the other hand, development projects, with the ecological destruction they cause, are sources of displacements by extension.

Displaced people are constituted mainly by various disadvantaged groups such as the poor, women, children, indigenous communities, and ethnic and religious minorities. These groups already experience many injustices in social, economic, and political fields, including poverty, inequality, discrimination, and exclusion.

Development-induced displacements occur on two main axes. The first is that the living spaces, agricultural lands, and commons where such projects are constructed and operated are taken away from local people via various methods, and human communities are physically displaced. The second one is that through a series of ecological destruction that they create, such as vast scale deforestation, pollution, decreases in water availability, and topographical changes, such projects disrupt ecosystems and annihilate the necessary conditions for maintaining life. As a result, people in broad regions lose their health and livelihoods; they are socially and economically displaced. In short, in the process of development-induced displacements, local people, who are expected to take care of themselves and whose rights are violated, lose their shelters, lands, production tools, livelihood resources, access to commons, and cultural existences.

These main axes intersect with the environmental and climate injustices they both hinge on and reproduce. As observed in countless examples worldwide, displaced people are constituted mainly by various disadvantaged groups such as the poor, women, children, indigenous communities, and ethnic and religious minorities. These groups already experience many injustices in social, economic, and political fields, including poverty, inequality, discrimination, and exclusion. These groups, which are positioned unequally and disadvantageously in social power relations, have a minimal share in the constitution of climate change and ecological destruction. Moreover, while they benefit minimally from the advantages of the activities causing climate change and ecological destruction, they are forced to bear most of the social, economic, and ecological costs externalized by governments and companies. In addition to their living spaces being taken away or destroyed, they lose the opportunities for healthy life and livelihood. This situation results in the expansion and deepening of poverty, inequalities, and exclusion.

It is possible to mention some attempts to prevent the adverse effects of displacement on various groups. Some of these attempts are to constitute various mechanisms for protecting the rights of those who lost their houses, lands, and living spaces as a result of climate events and to define and acknowledge the term "climate refugee"—not yet recognized in international law—through various agreements and mechanisms on the international level. There are also some standards and regulations that international organizations try to implement regarding development projects-induced displacements. Yet, such efforts and attempts are far from producing effective results since international agreements are not binding, and the nation-states which propound and prioritize "national interests" do not implement such agreements. Moreover, such efforts and attempts mostly consist of some reforms, regulations, and technocratic solutions sought in the legal and administrative fields, whereas displacements and the consequent mobility/immobility are determined by macro, meso, and micro factors.

The macro factors are constituted by economic, political, and social structures such as global capitalism, the nation-state model, and male domination. The merging of such structures with historical and local dynamics makes them differ on national and local levels; varying manifestations of macro structures depending on the national and local context emerge. The characteristics of individuals on the micro level, such as age, gender, education level, and class, are directly related to the economic, social, and political structures on the macro level and are formed in correlation with power distribution inequalities in the social field. Meso-level institutional and legal regulations, guides, standards, and rules are, likewise, not independent from the macro and micro factors. Solutions sought through legal and administrative rules, which ignore the intertwined and interactive factors on different levels and aim for improvements and reforms in the existing system, remain ineffective and insufficient.

Although there are common dynamics and characteristics of displacements related to climate change and ecological destruction worldwide, the different contexts make each displacement distinct. The compensation mechanisms and tools, such as relocation programs for losses and damages, as well as that aim to correct the rights violations and injustices displaced people are exposed to, should be designed and implemented by taking common and distinctive characteristics into account. In short, standardized programs, mechanisms, and policies based on generalizations and assumptions, tailored by central authorities and imposed from the top do not produce a solution.

With all the reasons enumerated above, there is a need to seek and develop solutions for displacements through a comprehensive, dynamic, and integrated process that is grounded on environmental and climate justice. Every stage of this multi-actor, multiscale, and multidimensional process should be implemented based on the main dimensions of environmental and climate justice: recognition, distribution, and participation. The roles that local peoples/communities, civil society, academia, and political actors should assume in research, (trans)local solidarity networks, and negotiation and decision-making processes, and some suggestions to ensure that these main fields correspond to environmental and climate justice are presented below:

RESEARCH

Field research has critical importance in understanding the multifactorial and complicated correlation between ecological destruction and climate change.[1] Collecting long-term data in field research is essential for identifying ecological factors' effects on mobility in a region with its distinctive features. On top of facilitating temporal comparisons, collecting data over extended periods in different places can enable comparative analyses on a spatial basis. Furthermore, integrating local information in research can reveal the specificity of local dynamics and how they shape dimensions of the issue.

When mobility/migration is addressed by politics, civil society, media, and academia, they generally focus on the situations and reasons at the starting point of mobility/migration. On the other hand, the destination points are generally included by looking into a priori results based on commonly held beliefs and assumptions. However, migration is a process which is continuous through time and space and involves transformations and interruptions. When migration occurs, migrants' links with their place of origin mostly continue while they also engage in new social relations and form new ties in the areas they arrive. In this way, financial resources, information, technology, know-how and experiences constantly flow and circulate via a web of ties and connections. In addition, different factors such as conditions, dynamics, practices and policies at the destination are in many ways the determinant of the injustices and problems related to mobility/migration over time. For these reasons, in research and during different policy and program designs and implementations, it is necessary to have an integrated approach considering mobility as a dynamic process spreading over time and space.

Displacements and the consequent mobility have reasons and effects in social, cultural, economic, political, legal, and many other fields. Several violations emerging with displacements, such as loss of livelihood and income, impoverishment, loss of prosperity, discrimination, inability to maintain cultural existence, loss of housing and land, and access to the environment, health, and goods, are not independent of a series of adverse situations in other social, economic, and spheres. On the contrary, there is a strong correlation between these; they trigger each other or mutually increase the extent and intensity of injustices. Researching and understanding this situation of intersectionality is possible with an interdisciplinary approach.

(TRANS)LOCAL SOLIDARITY NETWORKS

Local struggles worldwide try to protect their houses, lands, and common areas against dams, mines, transportation projects, and other mega projects. In many regions of the world, including Turkey, local communities resist development project-induced ecological destruction and displacements through legal processes and protests. Local environmental justice movements advocating for a series of rights can also voice their demands on the international level; they try to get the support of the global public and stop the financial resources for the projects by making themselves heard. Local environmental justice movements established at the transnational level are mostly temporary, and they last as long as campaigns are staged. Yet local struggles establish trans-local ties with the participation of NGOs, academia, and other actors, and regional and global solidarity and advocacy networks are critically important. It is important to highlight that the collaboration between transnational advocacy networks and local struggles had an impact on the 75% decrease in large-dam constructions between 1980 and 2000 across the world.[2] Moreover, thanks to permanent and organized trans-local networks, local groups and local struggles exposed to the risk of displacement can establish permanent relationships between themselves. In this way, they can maintain a regular exchange of ideas, information, and experiences. One effect of this will be to contribute to the strengthening of local communities and groups as political subjects. Through mutual understanding, local communities discover common aspects of their situation and struggle with others, as well as what makes them unique. This would lead to the emergence of various opportunities that would empower their movements and increase their sense of efficacy, such as sharing experiences and building bonds of trust and solidarity. In establishing trans-local ties between local mobilizations which trans-

form into regional and global networks, NGOs can undertake essential roles such as coordination and facilitation of the process.

DELIBERATION

The prevailing management model utilized for climate-related and development-induced migration sets forth seeking and designing solutions on an international scale and then implementing them from top to bottom on the national scale, which cannot prevent environmental injustices caused by displacements. Alternatively, it is possible to think of a multiscale/multicentered and multi-actor, bottom-up dynamic governance model. This model would rely on (1) deliberation processes which proceed simultaneously and are interconnected across scales (local-national-regional-global) and (2) the involvement of a multiplicity of actors in these processes, foremost local communities who are exposed to environmental and climate injustices as well as other parties ranging from NGOs and academia to different political actors and authorities.

In their search for solutions/policies regarding ecological destruction, displacement, and mobility, authorities, NGOs, and other actors need to consider some of the essential characteristics of these three phenomena: First of all, the phenomenon of mobility itself does not inherently constitute a problem; rather, it is a strategy used for adapting to environmental changes. Thus, solutions should focus on economic, social, and political injustices that lie at the root of the problems in relation to mobility rather than preventing mobility. It is possible to consider mobility as a tool that is part of solutions/policies, just as in the case of the planned relocation of local communities, whose lands and living spaces are about to ultimately disappear, as an adaptation strategy. Yet, not considering the social, cultural, economic, and political factors here and not involving the actors in all the processes does not produce results that eliminate injustices.

Secondly, treating displacements—like in climate change—require simultaneous action and policies in different fields, ranging from energy to economy, and should be dealt with holistically. In other words, just as for climate change, displacements must be situated at the intersection of all policy areas.

Third, standardized solutions, which ignore the temporal and spatial differences, cannot be applied to all types of climate- and environment-related displacements. As

it has been indicated throughout this report, although displacements have common characteristics on the global level, each one of them has unique aspects depending on local and historical conditions and dynamics. Thus, solutions should have flexibility and dynamism that allows adaptation to local conditions and changes in time. In addition, it should also be kept in mind that communities in the same context are not affected by the displacement process uniformly on the same scale and in the same way. According to intersectionality, which can be defined as being exposed to more than one injustice simultaneously, there are sub-groups and individuals within each disadvantaged group whose access to resources and services are more restricted, less recognized, and more excluded from the decision-making processes. For environmental and climate justice to be realized entirely, it is vital to consider inner group inequalities and injustices through intersectionality in proposed solutions. In short, instead of one-size-fits-all approaches, solutions that pay heed to intersectionalities and respond to changes that emerge in different conditions and dynamics over time should be designed and implemented in a participatory manner.

DECISION-MAKING

Carrying out decision-making processes in an inclusive and participatory way is essential for providing environmental and climate justice. However, as is the case in many parts of the globe, it is one of the principles fulfilled the least during displacements. The cases of Turkey, Brazil, India, Indonesia, and Uganda-Tanzania analyzed in the report indicate that although participatory processes are foreseen in the laws, regulations, and agreements, these processes are not carried out or executed fully or even partially. Participation mechanisms required by law mostly comprise informing people about the projects unilaterally without engaging them in the decision-making processes. Even though there are places like India where village councils are legally given the authority to make decisions, these mechanisms rarely operate on a regular basis or effectively. In many examples, governments and companies obstruct these participatory decision-making mechanisms and processes through various deceptive and illegal practices, which decrease effectiveness. Some of these practices include the choices of location and time of meetings in a way that hinder the local community's access, not sharing meeting information with the local community, and the presentations of technical details in an incomprehensible way. Here, as much as the full implementation of such mechanisms that are already recognized by law, there is also the challenge of improv-

ing, developing, and extending the scope of participatory mechanisms and processes. First, participation should not be limited to the implementation stages of development projects and climate adaptation and mitigation actions. Local communities which are or will be affected should be able to directly participate in the decision-making during the planning and preparation stages. For example, it is necessary to foster participation starting from the planning phase of a dam or mine; local communities should be able to decide whether these projects will be constructed in their region. Making every phase of policy-making processes open to the participation of all is a complicated objective which can be reached incrementally. Here, monitoring the use of existing mechanisms, ensuring that all groups partake in these mechanisms in a way that ensures recognitional justice, and guaranteeing opportunities for expression to those exposed to more than one injustice, such as women, can be the first steps. In addition, there is also a need for rules and approaches that are concocted in a participatory manner and reached by consensus regarding how to run the process of direct democracy.

In short, solutions and policies which can ensure environmental and climate justice regarding displacements are possible with multi-actor, inclusive, participatory, integrated, flexible, and dynamic negotiations and decision-making processes that proceed on more than one scale and center. Every stage of these processes should focus on the questions of "who/for whom?" toward recognitional justice, "what?" toward distributive justice, and "how?" toward procedural justice. It is crucial not to forget that the encounters of people exposed to injustices caused by ecological destruction and displacement have inherent transformative power in participatory processes developed from the bottom up rather than in a monocentric way. Such encounters can be one of the essential pillars for talking about social, economic, and political inequalities and injustices that lie at the root of displacements and environmental and climate injustices, questioning the paradigms of "growth" and "development" and devising alternatives to these, ranging from commons to degrowth.

Endnotes

CHAPTER 1 – ECOLOGY AND MIGRATION: CONCEPTS, DEBATES

1- The nine planetary boundaries are a) stratospheric ozone depletion, b) vanishment of biosphere integrity (decrease in biodiversity and perishment), c) chemical pollution, d) climate change, e) ocean acidification, f) freshwater use, g) land usage, h) nitrogen and phosphorus, and i) atmospheric aerosol loading. For further details, see Steffen et al., "Planetary boundaries: Guiding Human Development," *Science* 347, 1259855; Stockholm Resilience Center (n.d.), "Planetary boundaries," https://www.stockholmresilience.org/research/planetary-boundaries.html (Accessed: June 13, 2022); Bogazici University Center for Climate Change and Policy Studies (iklimBU), "Planetary Boundaries," http://climatechange.boun.edu.tr/gezegensel-sinirlar/ (Accessed: June 13, 2022).

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4- In this research, "vulnerabilities" and "disadvantages" that social groups such as the poor, women, local communities, children, and the disabled are exposed to are used with attribution to the social, economic and political inequalities, injustices and discriminations. In other words, "vulnerability" and "disadvantageousness" are not qualities that are attributed to the subjects and are not unchangeable. "Vulnerable" and "disadvantaged" refers to the positions that such groups are situated in social life due to the unequal distribution in power relations. Correspondingly, "vulnerability" consists of the dimensions of exposure to environmental/climate risks, the sensitivity and capacity of adaptation; and these dimensions can be described in relation to the issue of justice in social, economic, and political fields such as access to resources and services, and participation in decision-making processes. For detailed information see: Chapter 2 of this report.

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CHAPTER 7 - JAKARTA, THE CITY SINKING IN THE GRIP OF ENVIRONMENTAL INJUSTICE

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CHAPTER 8 - WHILE THE BLACK OF COAL SUFFOCATES THE "ETERNAL" TREE IN MUĞLA

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46- Field interview, July 2, 2022.
47- Field interview, July 2, 2022.
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77- According to the 20th Article of the Law About the Rehabilitation of Olive Cultivation and Grafting of the Wilds: "No facility which leaves chemical waste, produce dust and smoke that can stop the vegetative and generative development of the olive groves can be opened or operated, except olive oil factories, within the olive grove sites and at least 3 kms away from these sites. The olive oil factories built in these areas and the construction and operation of their small-scale agricultural industry business are subject to the permission of the Ministry of Agriculture and Rural Areas…The olive cultivation sites cannot be narrowed. However, in case the olive grove sites located within the municipality borders are included to scope of zoning borders, the total construction, including the infrastructure and social facilities cannot pass 10% of the olive grove area. The removal of olive trees in these sites are subject to permission of the Ministry of Agriculture and Rural Areas based on scientific justification. This permission is subject to favorable opinions from the research institutes connected to the Ministry of Agriculture and Rural Areas and an existing chamber of agriculture on the premises. Even in this case, an olive tree for which a certain imperative is not observed cannot be cut or removed…" For detailed information, see: "Zeytinciliğin Islahı ve Yabanilerinin Aşılattırılması Hakkında Kanun" (Official Gazette, February 7, 1939), https://www.mevzuat.gov.tr/mevzuatmetin/1.3.3573.pdf (Accessed: August 7, 2022).
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OVERVIEW

1- The title of this research references an academic manifesto written by a prominent scholar on the topic of climate mobility. For detailed information, see: Ingrad Boas, "Climate migration myths," *Nature Climate Change* 9 (2019): 898-903.
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