

Is Mankind Victim or Victimiser?: Environmental Refugees in Amitav Ghosh's *Gun Island*

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Abstract This paper intends to deal with *Gun Island* by Amitav Ghosh by focusing on the consequences of anthropogenic environmental degradation which leaves deep scars on members of both human and non-human worlds. Basing the theoretical framework on the term environmental refugee, which is also referred as climate refugee or eco-migrant, the study focuses on how environmental derangement turns into a push factor in migration. Presenting the ecological mishaps arising not only in the Sundarbans but also in Los Angeles, Venice, and Rome as reflected in the novel, this study claims that as environmental degradation ultimately results in either internal or external migration, it is not a local but a global issue threatening the entire universe. To this end, firstly the study attempts to establish the conceptual underpinnings of environmental refugee as a term primarily because it is a topic which has been neglected legally and does not have an accurate definition. Then, it examines how environmental disruption and disasters leave human beings and animals with no choice but to flee from their traditional habitats. As such, the study analyses the novel's text as a research methodology in order to present how environmental degradation leads living beings to migrate as it is conveyed through its human and animal characters and plot.

Keywords environmental refugee; eco-migrant; anthropogenic degradation; Amitav Ghosh; *Gun Island*

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Introduction

Initiating from the genesis, mankind has been enduring migration which has

evolved into a complex socio-political incident in contemporary era. Alluding to the journey of people who either cross international borders or move within their countries, migration arises from various reasons some of which are economic, religious, or political. As a through consequence of migration, the term refugee has come to the fore which is in its simplest sense defined as “a person who has been forced to leave their country or home, because there is a war or for political, religious, or social reasons” (Oxford Advanced Dictionary 1224). Not different from its lexical meaning, its juridical status also has a parochial nature as it mainly refers to those people who are “unable or unwilling to return to their country of origin” since they have a strong fear of being victimized due to their “race, religion, nationality, membership of a particular social group or political opinion” (The United Nations Refugee Agency [UNHCR] 3). However, as the world has been globalising and everything seems to be changing, the nature of migration and scope of the concept of refugee also have been in a state of flux. One of the factors leading to such changes is anthropogenic environmental degradation which leads initially to global warming and climate change and ultimately to natural disasters that result in countless people to be displaced. As such, as a term “environmental refugee” first appeared in a report published by United Nations Environment Programme in which environmental refugees are described as “those people who have been forced to leave their traditional habitat, temporarily or permanently, because of marked environmental disruption (natural and/or triggered by people) that jeopardised their existence and/or seriously affected the quality of their life” (El-Hinnawi 4).

According to a briefing published by European Parliamentary Research Service in 2021, due to extreme weather conditions or natural disasters such as droughts, forest fires, floods, hurricanes, or rising sea levels, more than 318 million people have been pushed out their habitats since 2008 (Apap and de Revel 1). Despite the fact that the number of environmental refugees may experience fluctuations over the years, the recent decades have been witnessing a general upward trend as extreme weather conditions leave those people living in vulnerable regions with no choice but to flee. Although the number of people who have been displaced due to climate induced disasters tend to increase, the measures taken by national or international institutions or governments to deal with the problems of environmental refugees are severely limited which results in inadequate protection of environmental refugees. This mainly derives from the fact that in spite of the increasing concern, there are still complexities regarding the definition of environmental refugees and also they have not been formally or legally recognized.

On the one hand, it is indicated that “the absence of an accurate definition of

what constitutes a person displaced by environmental factors” makes it impossible to determine the exact amount of people who have been already displaced and possible displacement flows (Borges 17). Despite this ambiguity, according to Docherty and Giannini there are six elements which can be used to define an environmental refugee which are “forced migration, temporary or permanent relocation, movement across national borders, disruption consistent with climate change, sudden or gradual environmental disruption, and a ‘more likely than not’ standard for human contribution” (372). Therefore, it can be said that people who are to be affiliated as environmental refugees should be affected by environmental degradation whose responsibility mainly lies with human beings and their actions. Besides, another criterion which can be used to describe environmental refugees is that as they are forced out their homelands, they search for an area where they can settle down permanently or temporarily. However, different from Docherty and Giannini’s criteria, environmental refugees do not only cross national borders but they may cross or at least attempt to cross the international borders legally or illegally; thus, there may come out both internal and external displacement of people.

On the other hand, in addition to the obscurity in the definition of the term, environmental refugees are also troubled with the deficiency of a legal status or recognition which is based on basic human rights. It is true that many institutions and organisations, including European Union, are concerned with climate change as it may result in several forms of crises affecting not only some specific countries or regions but also the whole earth and thus they have taken tangible measures to restrain or at least minimise its effect. Nevertheless, none of these institutions has “comprehensive and solid policies and legislative framework yet for climate change-induced migration” (Karayığit and Kılıç 17). The underlying reason for this is that 1951 Geneva Convention (also known as Refugee Convention), which sets out both the definition of refugee and the rights of refugees, has been created after the Second World War and thus it mainly focuses on the war-related issues and geopolitical concerns. Therefore, it is relatively outdated and falls behind the migration movements induced by climate change. Although European Commission acknowledged climate change as a reason for migration in 2019 in European Green Deal Initiative, UNHCR claims that instead of making a new universal treaty or convention which includes those who are displaced due to environmental change, the protection of environmental refugees should be allocated to their national governments mainly because they are different from traditional refugees in that the latter ones believe that their governments are the cause of persecution which makes

it impossible to leave themselves to the tender mercies of their local governments. Contrarily, regarding the environmental refugees, it is claimed that as the root causes of environmental migration are not overtly caused by the fear exposed by the local governments, environmental refugees and their problems might be handled by local governments. Nevertheless, since most of the areas which are hit by climate disasters already suffer from structural problems, entrusting the protection of those victims to local governments worsens the conditions by causing problems to overlap. For this reason, a universal treaty which addresses the climate change related displacement should be formulated.

One of the underlying reasons which puts environmental refugees into legal void is that the term refugee has been precisely defined by the 1951 UN Convention, and anyone migrating because of environmental factors cannot go under this definition. In addition to this, there are some researchers who go against the notion of environmental refugees as they believe that many works about the link between climate change and human flows are shaky and sloppy. In other words, it is claimed that the root causes of migration is more than just climate-induced disasters. In his article “Environmental Change and Forced Migration: Making Sense of the Debate” Stephen Castles (2002), for instance, puts fore that “the notion of the ‘environmental refugee’ is misleading and does little to help us understand the complex process at work in specific situations of impoverishment, conflict and displacement” (5). A reasonable conclusion from Castles quote is that in spite of the fact that environmental factors may be a significant trigger for migration, they sound more sensible when viewed together with some other more significant factors which are economic, social, and political ones. Therefore, it is asserted that factors related to environmental degradation cannot be the exclusive factor leading to migration; contrarily, economic, political, and also social conditions of a susceptible area may directly influence the migrant flows.

Despite the blurred boundaries in its definition or being in legal limbo, the reality is that environmental refugees exist. What’s more, the number of people who leave their houses behind willingly or unwillingly, temporarily or permanently due to climate change induced disasters set to rise. Discussing the refugee definition provided by UNHCR, it is asserted that “the term refugee describes only a narrow sub-class of the world’s forced migration” (McAdam 3), and thus it falls short to cover the current desideratum and tendencies. Myers also addresses the gravity of the case by claiming that despite being considered to be a peripheral issue, the case of environmental refugees is “fast becoming prominent in the global arena” and more significantly “it promises to rank as one of the foremost human crises of our

times” (Myers, *Environmental Refugees* 175). As such, Myer is of the opinion that the differentiations between those people who are forced migrate due to economic, social, and political factors and those who are basically environmental refugees had better be highlighted, and he proposes a concise definition for environmental refugees:

Environmental refugees are persons who can no longer gain a secure livelihood in their traditional homelands because of environmental factors of unusual scope, notably drought, desertification, deforestation, soil erosion, water shortages and climate change, also natural disasters such as cyclones, storm surges and floods. In face of these environmental threats, people feel they have no alternative but to seek sustenance elsewhere, whether within their own countries or beyond and whether on a semi-permanent or permanent basis. (Myers and Kent *Environmental Exodus* 18-19)

Though there may be various typologies about eco-victims, based on Myer’s definition it can be argued that while some environmental refugees may stay within the borders of their own countries which is referred to as internally displaced persons, some tend to go abroad where they hope to find better life conditions such as affordable food or permanent jobs and they are called externally displaced persons.

Not only the fiction but also the non-fiction of Amitav Ghosh, a writer of Indian origins, deal with the ecological destruction and its consequences. In most of his earlier works he raises critical questions regarding human-nature equation which directly or indirectly results in environmental degradation that can be observed mostly in the Indian sub-continent. However, in his 2019 novel *Gun Island* Ghosh moves from local repercussions of environmental change to global scale by following Deen, the protagonist of the novel, who travels through the Sundarbans, Kalkutta, Venice, Los Angeles, and the Mediterranean Sea. Therefore, the novel offers ample room to discuss not only the different forms of climate crises such as extreme weather events e.g. cyclones in Sundarbans, floods putting Venice into jeopardy, or wildfires threatening Los Angeles but also the refugees who are somehow pushed out of their permanent habitats due to these extremities. For this reason, the essay aims to argue how environmental changes lead to not only human migration but also different animal species flows in different parts of the world and the desperate plight of eco-victims.

Eco-Refugees in *Gun Island*

In his non-fiction *The Great Derangement: Climate Change and the Unthinkable*, Amitav Ghosh investigates the history, politics and cultural depictions of climate change and it is in Part I of this book where Ghosh explicitly refers to his ancestors as “ecological refugees long before the term was invented” (Ghosh, *The Great Derangement* 2). By dating as far back as mid 1850s, he describes how “the Padma River, one of the mightiest waterway in the land ... suddenly changed course, drowning the village” which was once his ancestors’ permanent land, an incident that led Ghosh’s family to “move westward and did not stop until the year 1856” (Ghosh, *The Great Derangement* 2). As such, Ghosh underlines the repercussions of an environmental disaster which, in his own words, is an “elemental force” that both make his ancestors start a series of journey out of their permanent lands and shape Ghosh’s own life (Ghosh, *The Great Derangement* 2). Standing out on his family history, Ghosh, in his 2019 novel *Gun Island*, explores climate crisis and environmental degradation becoming mise-en-scène for migration which, though in different forms, can be monitored not only in the Indian sub-continent but also in Venice and Los Angeles, taking the novel from local to continent-spanning scale.

In *Gun Island*, which can be seen as a memoir of Ghosh’s 2004 novel *The Hungry Tide*, Ghosh represents an experimental journey into the current globalized world that has been metamorphosed due to anthropogenic climate catastrophes, which is highly likely to prompt migration. The novel follows the journeys made by the protagonist and narrator of the novel Dinanath Datta, also called Dinu or Deen, who is a Brooklyn-based but Sundarbans-native rare book dealer. During one of his trips to the Sundarbans, he observes and testifies the fragile nature of Indian Sundarbans’s ecosystem, which is in sharp contrast with the developed parts of India. Through Nilima Bose’s account book which is labelled as “Cyclone Relief Accounts, 1970”, Deen realizes the fact that islands of the Sundarbans have been repeatedly “swallowed up by the sea” for many years (Ghosh, *Gun Island* 18). By referring to the cyclone that hit the Sundarbans in 1970 which is later given the name of Bhola cyclone, it becomes vividly clear that such natural disasters are contributing factors of “steady flow of refugees”(Ghosh, *Gun Island* 14). Though it is stated that these refugees predominantly come across the Pakistan border as they attempt to escape from the political, economical, and social turmoil, it cannot be denied that “the greatest natural disaster of the twentieth century”, Bhola cyclone, paved the way for uncontrollable migrant flows into India, which in turn has led to the migration of Indians who have been already suffering from a lack habitable

and arable areas because islands of the Sundarbans “are disappearing” due to such natural disasters (Ghosh, *Gun Island* 18).

According to Steve Lonergan (1998), five primary factors, in his own terms “environmental stress”, may result in displacement of people, that is in environmental refugees and he underlines natural disasters which cover “floods, volcanoes, earthquakes, and droughts” as the first push factor (9). In addition to Bhola cyclone, while travelling to a remote part of the Sundarbans in order to record Manasa Devi, which is a shrine presented in a popular Bengali legend called Gun Merchant, Dinu is introduced to Cyclone Aila “which hit the Sundarbans in 2009” (Ghosh, *Gun Island* 52). Having occurred nearly four decades after Bhola during which “three thousand lives lost” (Ghosh, *Gun Island* 13), Cyclone Aila did not result in such large numbers of casualties primarily because:

Starting in the late 1990s warning systems for storms had been put in place across the region so there was plenty of time to prepare. Mass evacuations had been planned in advance and millions of people were moved to safety, in India and in Bangladesh. (Ghosh, *Gun Island* 52)

In spite of this seemingly positive outcome and the low level of short term destructiveness of Aila, its “long-term consequences were even more devastating than those of earlier cyclones” (Ghosh, *Gun Island* 52). First and foremost, Cyclone Aila left many people landless, whose primary economic mainstay is farming as the cyclone swept away miles of arable areas and resulted in increasing sea levels which occupied the habitable areas and productive farmlands which had never happened before. As a consequence of saltwater intrusions which have “adverse repercussions for irrigated cultivation of rice and other crops and for household water supplies”, farmlands have become uncultivable, leaving native population with no means of living (Myers and Kent, *Environmental Exodus* 143). Upon the interconnectedness of land losses and human displacement, Lonergan states that “likely the greatest impact on people’s decision to move will be degradation of the land” as there will be no resources by which eco-victims may survive (Lonergan 11). Additionally, salinisation has deprived habitants in cyclone-stricken areas of potable water, one of the basic needs for survival, as Moyna, one of the characters in the novel, describes it: “When people tried to dig wells, an arsenic-laced brew gushed out of the soil” (Ghosh, *Gun Island* 53). Thus, as a consequence of water deficit, having no water to drink or to use, and agricultural stress, no farmland to get crops, these people had no alternative but to migrate. At this very point, another devastating effect of

natural disasters or more specifically Aila which “no one could have foretold” turns up. Many victims have been rooted out of their villages and turned into internally displaced refugees because many evacuees who had already been trying to cope with hard life conditions in their homelands believed that their lives “would be even more precarious now” and as such they resolved not to go back (Ghosh, *Gun Island* 53). Therefore, Cyclone Aila and other similar natural disasters, which turn “both land and water against those who lived in the Sundarbans”, have become a prominent factor, though not pre-eminent, to result in migration and ecological refugees (Ghosh, *Gun Island* 53).

Elaborating the results of natural disasters upon the displacement of people, Loneragan alleges that effects of such disasters are not directly connected to the “severity of the disaster” but to “the number of vulnerable people in the region” (9). In underdeveloped or developing countries which are disaster-stricken, poor people, young ones, and women are the most affected individuals as they are generally the most vulnerable groups, which does not necessarily mean that others such as adult males do not struggle with the destructiveness of such disasters. As in the case of Aila, the post-climate-change-intensified periods are the times when “making a life in the Sundarbans had become so hard”, and these times witness “the exodus of the young which was accelerating every year” (Ghosh, *Gun Island* 53). The *prima facie* motivation of this tendency is that these young people long for job opportunities whereby they may have a stable and improved life, and thus Moyna states that they leave no stone unturned to flee from the Sundarbans:

Boys and girls were borrowing and stealing to pay agents to find them work elsewhere. Some were slipping over the border into Bangladesh, to join labour gangs headed for the Gulf. And if that failed they would pay traffickers to smuggle them to Malaysia or Indonesia, on boats. (Ghosh, *Gun Island* 53)

Moyna’s argument indicates that young people - legally or illegally, willingly or unwillingly - leave their homelands to find jobs as it is in the case of Rafi, who illegally moves to Venice where he earns his life by working in different jobs even if he undergoes some forms of exploitation of labour. Not different from Rafi’s case, it is stated in the novel that “over the last couple of years there had been a huge increase in reports of teenage boys and young men leaving home”. This resonates particularly in Venice where many Bengalis or Indians migrate so as to find lucrative job opportunities. In short, the life conditions in those youngsters’ homeland which are worsened by natural disasters and put them into dire predicament lead them to

migrate.

In addition to resolute young people who dare passing borders even illegally, women are another group of vulnerable people who, different from the youngsters, frequently become internally-displaced because they have “very few options in the face of environmental change” or very little mobility (Loneragan 11). As such, they move to “Kolkata or elsewhere” to be able to find jobs though they frequently end up in brothels (Ghosh, *Gun Island* 52). Nevertheless, it is not only the youngsters or women who are pushed out of their homelands as a result of insufficient employment opportunities mainly intensified by natural disasters. Fishermen whose “boats would come back loaded with catch” now think “themselves lucky if they netted a handful of fry” (Ghosh, *Gun Island* 53). As a fisherman, Horen stands out as a vivid representation of those victims whose lives have become unbearable due to natural disasters as Alia not only “capsized two of his trawlers and a couple of other boats” (Ghosh, *Gun Island* 59) but also caused a decline in his profit mainly because “fish catch is down” (Ghosh, *Gun Island* 65). As such, it is claimed that since many people in Sundarbans or more generally in developing areas rely on natural resources in order to earn their lives, environmental degradation which destroys such resources as water and soil and ruins substantial professions leads in severe poverty. Therefore, Tipu, who becomes Deen’s guide on his visit to Manasa Devi, underlines that as a consequence of all the devastating consequences of natural disasters which “blow everything into pieces every year”, it is impossible to “sit on your butts till you starve to death” which ultimately results in mass migration (Ghosh, *Gun Island* 65).

Taking the relationship between the effects of anthropogenic environmental degradation and displacement of people from local to global scale, Ghosh explicitly renders New York, Los Angeles, and Italy, particularly Venice and Rome, as vulnerable areas which are hit by different kinds of climate-change-induced disasters that lead to migration, particularly internal migration. By dwelling on the wildfires that have been on an increase in recent decades which shed light on the anthropogenic climate change, Ghosh highlights the fact that floods or hurricanes are not the only factors which result in environmental disruption and migration. Alleging wildfires, Williams indicate that “human-caused warming has already significantly enhanced wildfire activity in California”, which, besides other factors, undoubtedly reveals anthropogenic climate change as a decent element in wildfire activities (Williams 892). While flying to Los Angeles to participate in a conference, Deen overhears such words as “fire” and “evacuation” which makes him think that “they were talking about a film” as he is far from envisaging what is coming about

(Ghosh, *Gun Island* 125). As it is stated in the briefing published by European Parliamentary Research Service, “EU looks set to become increasingly concerned by forced displacement due to climate change within its own borders” and one of the main reasons of such forced displacement is wildfires which are mainly caused by “extreme temperature and drought” (Apap and de Revel 11). Not much different from the EU countries, wildfires are raging in Los Angeles where the chaos resulted from those massive wildfires is notable as “thousands of acres of land had been incinerated and tens of thousands of people had been moved to safety” (Ghosh, *Gun Island* 126). Besides this, even if it is on the micro level, internal displacement has been witnessed during the conference which Deen participates in Los Angeles. Due to the wildfires which “are moving faster than expected”, all the attendees have been told that they “need to evacuate this building” (Ghosh, *Gun Island* 138). As such, the staff that can be viewed allegorically as the reincarnation of governments have to be hard at work so as to find a new venue where attendees can be moved to. In brief, the turmoil caused by wildfires which lead to “inferno-like landscape” and whose “towering columns of flames were advancing upon orderly, neatly designed neighbourhoods” cause many people to be uprooted from their natural home to find a safe area (Ghosh, *Gun Island* 146).

Extreme weather events largely caused by climate change make life and conditions at home unbearable which, in the end, results in environmental refugees. Discussing the consequences of sharp weather shifts, Myers indicates that weather extremities “have capacity to generate large numbers of environmental refugees, albeit of short term duration for the most part” (Myers and Kent *Environmental Exodus* 47). Through Deen’s odyssey, Ghosh underscores the fact that such catastrophic events and their results are not confined to the Sundarbans or Indian subcontinent; contrarily, they may lead to unpredictable outcomes in any parts of the world, including the United States or Europe, no matter how developed they are. Accordingly, during his stay in Italy, Deen encounters several weather anomalies which are represented as follows:

Soon we learnt that the strange weather was not just a local phenomenon: all of Italy had been affected in different ways: some northern cities had been deluged with rain and hail; many parts of the country had been struck by gale-force winds; in the mountains of the Sud Tirol entire forests had been flattened; elsewhere too trees had been knocked down, damaging houses and blocking roads. (Ghosh, *Gun Island* 276)

The repercussions of these anomalies may be observed through people living in Rome who look for “sheltering from hailstorms” (Ghosh, *Gun Island* 277). Moreover, one of the most striking consequences of these events lie in Gisa’s case, whose family is exposed to the first-hand experience of these extreme weather conditions because of which “they’d left their apartments and moved in some friends; they were planning to spend the night there” (Ghosh, *Gun Island* 278). As indicated, though it may be for a short term, Gisa feels bewildered and explicitly refers to her family as refugees by saying “Can you believe it? In Rome – of all places – my family have become refugees” (Ghosh, *Gun Island* 278). Therefore, though the ultimate result of the relation between climatological reasons and human displacement may seem to be different from the Sundarbans where eco-victims feel obliged to migrate externally to find lucrative opportunities, those victims in Italy also fall under the umbrella term of environmental refugees despite being internally displaced possibly for a short duration.

Besides the sudden-onset events, another push factor that prompts environmental displacement is slow cumulative changes which are also referred as slow-onset changes. As these changes are generally a part of natural processes, they are prone to occur at a slower pace, yet they are frequently accelerated by human activities. One of such cumulative changes is climate warming which results in not only human displacement but also displacement of different animal species. Underlining the global nature of the ecological refugees, in *Gun Island* Ghosh once again moves to a European city, Venice, which is “under significant threat from rising sea levels and flooding” and this makes scientists to refer it as the “true Atlantis” (Apap and de Revel 3). In *The Great Derangement*, Ghosh plainly juxtaposes the Sundarbans and Venice by writing:

Can anyone write about Venice any more without mentioning the *aqua alta*, when the waters of the lagoon swamp the city’s streets and courtyards? Nor can they ignore the relationship that this has with the fact that one of the languages most frequently heard in Venice is Bengali. ... many of them (Bangladeshi refugees in Venice) displaced by the same phenomenon that now threatens their adopted city – sea-level rise. (Ghosh, *The Great Derangement* 63)

In addition to the similar layouts of the landscape that the Sundarbans and Venice have, “an estuarine landscape of lagoons”, Ghosh indicates that they suffer from similar ecological problems (Ghosh, *Gun Island* 162). While the inhabitants of the former have to struggle with tides and dampness, the inhabitants of the latter have

to get used to slowly rising water which is primarily caused by human activities. Regarding this Cinta claims that the primary factor of rising sea levels is global warming which is “happening because there is more and more carbon dioxide in the atmosphere, and other greenhouse gases” emitted from “cars and planes and factories – whistling kettles and electric toasters and espresso machines” things that “nobody needed a hundred years ago” (Ghosh, *Gun Island* 234). In other words, the “things humans have done” lie behind the rising temperature which ultimately “means that the habitats of various kinds of animals are changing” (Ghosh, *Gun Island* 234). One of the most distressing examples of this is shipworms “more and more” of which “are invading Venice, with the warming of the lagoon’s water” (Ghosh, *Gun Island* 251). Shipworms carry a major thematic significance as they cripple the foundations of Venice, “wooden pilings”, which can metaphorically stand for the base of humanity that is going under threat as a consequence of humans’ own actions. Similarly, the pier that Cinta and Deen walk on in Venice topples over due to mass shipworms weakening the wooden base by eating up from the inside which causes Cinta and Deen to be caught in a trap on the pier which is also hit by acqua alta. Here, Ghosh describes the conditions of Cinta and Deen by allegorically highlighting the indifference of the society towards the anthropogenic environmental degradation and its consequences:

The lights of the city were glowing in the distance and things seemed to be carrying on much as usual, despite the flood. I could even hear a band, playing somewhere far away. But our immediate surroundings were in complete darkness; there was not a single light to be seen nearby. (Ghosh, *Gun Island* 252)

By illustrating the regular flow of the daily life despite the hardships that two environmental victims - Cinta and Deen - go through, Ghosh creates a microcosm where the society is indifferent to the devastating effects of anthropogenic climate change. This can be seen as an allegory of societies and governments which do not have any legislative framework concerning the climate-change induced migration, a deficiency leaving ecological victims – particularly refugees- in darkness. Regarding this, Tipu overtly explains that environmental problems such as floods or the arsenic in ground water are not enough attention grabbing for the westerners as he says “none of that shit matters to the Swedes. Politics, religion and sex is what they are looking for (Ghosh, *Gun Island* 67).

In the novel, pollution and global warming play a key role in forcing animals

to alter their movement patterns and become displaced. Dolphins which have been kept under close observation by Piya, a Bengali-based woman with an Indian-American identity, are one of the animal groups whose patterns of movements used to be “regular and predictable. But then the tracks had begun to vary, becoming increasingly erratic” (Ghosh, *Gun Island* 101). Piya clearly stresses the fact that such a shift in animal behaviours is mainly caused by the conditions in their habitats which have been made inappropriate by human actions and it is expressed as follows:

...this was due, Piya believed, to changes in the composition of waters of the Sundarbans. As sea levels rose, and the flow of fresh water diminished, salt water had begun to intrude deeper upstream making the certain stretches too saline for the dolphins. (Ghosh, *Gun Island* 102)

As such, salinisation in water stands out to be a threat not only for human beings but also for animal species as they tend to change their old-settled habitats, which creates more and different dangers. As it is in the case of dolphins, due to the human-based disruption in their habitats, they tend to venture in the upper river, a “populated and heavily fished area”, and they fall victims to fishermen’s nets or accidents which ultimately results in a sharp decrease in the number of this species. In his 2008 research paper, Etienne Piguet expresses that “development projects that involve changes in the environment” is a significant push factor which may result in migration and this echoes in the case of dolphins in the novel as Piya thinks that the refinery which was launched a few years ago around the upriver plays a crucial role in the poisoning the Sundarbans by dumping its chemicals into the river (Piguet 4). As a result of this refinery, Rani, one of the dolphins, and its pod have to abandon their usual habitat which becomes a “huge source of stress for them” (Ghosh, *Gun Island* 106). Discussing the effects of environmental displacement on dolphins, Piya expresses how Rani feels as an ecological refugee:

There she is, perfectly adapted to her environment, perfectly at home in it – and then things begin to change, so that all those years of learning become useless, the places you know best can’t sustain you any more and you’ve got to find new hunting grounds. Rani must have felt that everything she knew, everything she was familiar with – the water, the currents, the earth itself – was rising up against her. (Ghosh, *Gun Island* 106)

Though Piya describes the despair that Rani and its pod feel, this draws an analogy between dolphins and people who have to leave the Sundarbans as it is in the case of Rafi's grandfather who "used to say that things were changing so much, and so fast, that I wouldn't be able to get by here ... one day I would have no choice but to leave" (Ghosh, *Gun Island* 95). Not different from the hardships that people live through mainly caused by environmental degradation, as a result of going under "a huge source of stress" Rani and its pod beach themselves which bears a similarity with the case of Tipu, who leaves the Sundarbans to go to Italy illegally, but stranded in Turkey. On this, Piya feels as if "she were witnessing another stranding" (Ghosh, *Gun Island* 200). Therefore, at the end there appears a world in which "no one knows where they belong any more, neither humans nor animals" (Ghosh, *Gun Island* 106). Similarly, Rafi implies the destiny that animals and the people in the Sundarbans go through by describing "a cyclone, a really fearsome *tufaan*" (Ghosh, *Gun Island* 175). As a consequence of an exceptionally strong cyclone which carries off houses, the water level also starts to rise leaving Rafi and his family with "no choice but to take shelter in a tree" (Ghosh, *Gun Island* 175). However, this is the same with snakes which also climb up to the branches of trees because they also attempt to escape from the high tides. As such, having the same ground to survive in common, both people and animals turn into refugees or asylum seekers who need to leave their traditional habitats due to the disruptive effects of environmental disasters.

Besides dolphins and snakes in the Sundarbans, Ghosh once again draws attention to global nature of the environmental refugees by pointing "yellow-bellied sea snake" in Los Angeles and brown recluse spiders in Venice, both of which are not native to these areas (Ghosh, *Gun Island* 145). Upon yellow-bellied snakes, by referring to an article Piya has read, she explains that they "generally lived in warmer waters, to the south, but sighting in Southern California had become increasingly common: their distribution was changing with the warming of the oceans and they were migrating northwards" (Ghosh, *Gun Island* 147). Similarly, regarding the brown recluse, Larry who is an expert on spiders explains that the range of this species has been extending because "it's getting so much hotter in Europe" (Ghosh, *Gun Island* 223). In brief, global warming whose main agency is human activities put both human beings and different animal species into jeopardy by pushing them to leave their habitats so as to be able to survive and making them environmental refugees.

In addition to elucidating the contemporary effects of climate change on human and animal displacement through different natural and human triggered

environmental disasters, Ghosh also perpetuates old legends to depict the deeply-rooted nature of ecological refugees. On the significance of storytelling and its role, Ghosh states that “it is only through stories that the universe can speak to us, and if we don’t learn to listen you may be sure that we will be punished for it” (Ghosh, *Gun Island* 141). As such, Ghosh recalls the legend of Manasa Devi, the goddess of snakes who is deeply resented by a rich merchant that refuses to become Manasa Devi’s devotee. A figurative reading of the legend makes it clear that while Manasa Devi stands for the power of nature, the merchant symbolizes the greedy nature of mankind who is unconcerned about the power of nature. As a consequence of his rebellious behaviours against Manasa Devi or the nature, the merchant gets “plagued by snakes and pursued by droughts, famines, storms, and other calamities” which makes him an environmental refugee who has to “flee overseas to escape the goddess wrath” (Ghosh, *Gun Island* 17). Believing to be able to find a land where there may be no serpent, an agent of Manasa Devi, the merchant takes refuge in Gun Island. However, he is unable to hide himself from Manasa Devi even in an iron-walled room, where “she had hunted him down: a tiny, poisonous creature had crept through a crack and bitten him” (Ghosh, *Gun Island* 18). After barely surviving, the merchant once again tries to flee from Manasa Devi by moving to a new island, “The Island of Chains” where he is imprisoned by some pirates. However, it is only after promising to be a devotee of Manasa Devi and to build a shrine for her that he becomes free. Through the vain efforts of the merchant, it is implied that it is impossible to ignore the power of Manasa Devi, the embodiment of the Mother Nature, and the close relation between humans and the nature. Thus, it can be said that Manasa Devi attempts to draw mankind’s attention to the natural world and its effects by punishing the merchant through different natural phenomena until he accepts humanity’s dependence on nature which will possibly reconcile the balance between these two. Finally, Ghosh also indicates that the disasters that the merchant suffers from are due to the environmental changes resulting from the Little Ice Age in the 17th century; hence, there appears a parallelism between the legend and the Deen’s experiences because in both there are environmental refugees seeking for asylum as well as having the same setting, Venice.

The novel reaches its climax when the Blue Boat, a vessel which is overloaded with refugees, including eco-refugees, from different nations such as “Ethiopians, Eritreans, Somalis, Arabs and Bengalis” moves forward in the Mediterranean Sea to arrive in Italy (Ghosh, *Gun Island* 286). However, it turns out to be a source of a great controversy between the new-right wing government of Italy which has promised to be strict on migration and a group of activists whose main target is to

welcome the refugees in the Blue Boat. In Palash's words, a young Bangladeshi immigrant in Italy, the Blue Boat "has become a symbol of everything that's going wrong with the world – inequality, climate change, capitalism, corruption, the arms trade, the oil industry" (Ghosh, *Gun Island* 218). Despite being the symbol of various socio-ecological problems, it also brings hope as Palash believes that "people will wake up" and "there's still time to make changes" (Ghosh, *Gun Island* 218), and this comes true with the help of mother nature as many different species of animals including dolphins and whales around the boat and birds creating "a halo" above it and bioluminescence create a miracle which was said to be the only way of refugees to "set foot in Italia" (Ghosh, *Gun Island* 207). By taking responsibility, Admiral Vigonovo, the representative of the interior minister of Italy, rescues all the refugees on the boat by explaining that "What the minister has said, in public, was that only in the event of a miracle would these refugees be allowed into Italy." 'And I believe that what we witnessed today was indeed a miracle.' (Ghosh, *Gun Island* 309). Through the self-ascribed responsibility of Admiral, Ghosh signifies that almost everyone "knows what must be done if the world is continue to be a liveable place" (Ghosh, *Gun Island* 237).

Conclusion

Taken as a whole, although there are no solid definition, legal framework, or practical concerns addressing the plight of the vulnerable people who have no choice but to flee due to the fragile nature of their traditional habitats, this does not necessarily mean that environmental disruption or living in high risk areas which are prone to witness weather extremities or anomalies cannot be push factors of large scale migration. It cannot be denied that it is difficult to discern the differences between refugees forced by environmental reasons and refugees driven by other reasons such as economic, political, social, or security-related factors; however, this is not to say that environmental disruption in migration is not a major factor. As such, Ghosh in *Gun Island* represents the conditions which result in climate-induced migration. Starting from the Sundarbans, which is constantly hit by cyclones, floods, or tides that leave the habitants with no arable lands, potable water, or job opportunities, Ghosh explicitly refers to the inexorability of migration. Additionally, by representing the wildfires in Los Angeles, rising water levels in Venice, and extreme weather events in Rome, he reiterates the fact that environmental problems resulting in migration are not confined to a specific area which implies the global nature of the crisis. By depicting different characters from different age groups, genders, nationalities, and socio-economic background all of whom somehow fall

under the term ‘environmental refugees’, Ghosh underlines the desperate plight of mankind. Nevertheless, he also highlights that human beings and animal species are co-dependent in nature which indicates that any environmental problem affecting humans is certain to affect non-human bodies as well. Hence, not very different from Rafi and Tipu, who dare to pass borders illegally at the risk of dying because of the environmental problems that make their traditional habitats uninhabitable, Rani and her friends (orcaella dolphins), who need to leave their habitats because of pollution, move into upper river where they cannot survive and beach themselves. Besides, Ghosh refers to the yellow-bellied snakes and brown reclusive spiders as the embodiment of non-human bodies that turn into environmental refugees because of anthropogenic activities.

Last but not least, regarding the derecognised status of environmental refugees, it is implied that if the authorities can take responsibilities and go into action as it is in the case of Amiral Vigonovo, there may come out a miracle whereby ecological victims may gain recognition or protection. Finally, even though it is laid bare that climate change leading to environmental disruption and forced displacement cannot be considered as two disparate phenomena, possible solutions or measures to be taken are much beyond the scope of this article, yet towards the end of the novel through the story of the Blue Boat Ghosh implies the necessity of political, social, and scientific recognition and awareness about the environmental refugees.

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