

## Climate justice: a new way of looking at environmental issues

Justiça climática: uma nova forma de olhar para as questões ambientais

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### ABSTRACT

Climate change is a concerning topic, as it is impossible to deny its damaging effects on the planet. Different policy responses have been offered regarding climate change adaptation, and these have brought forward issues related to climate justice. As this topic is still not very well known in Brazil, this paper aims to raise awareness on climate justice concepts and related issues. This is a literature review which analyses climate justice theories and their relation with the concept of climate change adaptation in order to offer a new point-of-view on the topic. This paper has come to the conclusion that the concept of climate change has been created due to the increased importance of climate justice. Its origins lie in climate change activism, which seeks to help the most affected communities. That was when the fight for sharing the burden of climate change emerged, giving rise to the concepts of mitigation and climate adaptation. Thus, the most affected populations should receive assistance in the form of climate change impact adaptation, financed by the countries which are responsible for most greenhouse effect gas emissions, in name of climate justice.

**Keywords:** Climate justice; Climate change; Climate change adaptation

### RESUMO

A mudança climática é um tema que causa preocupação, não havendo como negar seus efeitos danosos ao planeta. Diferentes respostas políticas vêm sendo propostas em relação a adaptação às mudanças climáticas, e essas trouxeram à tona questões relacionadas à justiça climática. Trata-se de um assunto ainda pouco divulgado no Brasil, o que motivou a realização desse artigo, com o objetivo de esclarecer à sociedade conceitos e aspectos relacionados à justiça climática. Foi feita uma revisão da literatura, que traz explicações sobre justiça climática e sua relação com o conceito de adaptação às mudanças climáticas, trazendo um novo olhar sob o tema. O artigo concluiu que o conceito de justiça climática nasceu a partir da importância que passou a ser dada à justiça ambiental, se originando do ativismo relacionado a mudança climática, onde se iniciou a busca na promoção de ajuda para comunidades mais afetadas. Foi então que começou a luta pelo compartilhamento dos encargos da mudança climática, emergindo os conceitos de mitigação e adaptação climática. Assim, as populações mais afetadas devem receber auxílio por meio de oportunidades de adaptação aos impactos da mudança climática, financiados pelos países mais responsáveis pelas emissões dos gases de efeito estufa, fazendo-se justiça climática.

**Palavras-chave:** Justiça climática; Mudanças climática; Adaptação às mudanças climáticas

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## 1 INTRODUCTION

Climate change can be explained, according to Born et al (2007, p.6), as “changes in the climate system provoked by human-generated greenhouse effect gases”. According to Teixeira (2013), these changes lead to the warming of the planet, which intensifies climate events such as droughts, hurricanes, floods and storms. Moreover, it raises the ocean levels and changes rain patterns, thus, causing impacts on agriculture, on urban housing, on the usage of hydro resources and on the energy grid. All these consequences cause social and economic damages of unprecedented scale. Therefore, promoting actions that can mitigate climate change becomes essential. These include actions to reduce carbon and other greenhouse effect gases emissions, as well as offering society, especially the populations most vulnerable to extreme climate events, the means to adapting to the effects of these changes.

In this context, international negotiations have pondered on topics related to the relative responsibility of different nation-states in reducing greenhouse effect gases emissions, as well as how should climate change adaptation be financed and to which extent should different actors have a spot in the negotiating table (BULKELEY et al., 2013).

“Climate change adaptation” is a strategy to mitigate the effects of climate change on day-to-day life. Burton (1992 apud SMIT et al. 1999, p.203.) defines it as “the process through which people reduce the adverse effects of climate on their health and well-being and enjoy the opportunities which their climate environment provides.” Another definition for adaptation was given by Pielke (1998) and refers to the behavior adjustments by individuals, groups or institutions in order to reduce their climate vulnerabilities.

Climate justice, adaptation and change issues have been raised internationally as well as within different national contexts. The recent debates on a “carbon tax” in Australia are a good example of these issues, which are based on wider debates

about who might benefit and who might be harmed by these measures (BÜCHS et al., 2011; BULKELEY et al., 2013).

Today, climate change is concerns everybody, because its nefarious effects to the planet's well-being and to the survival of life on Earth are undeniable. However, as soon as this issue became a global political issue, positions regarding climate justice were taken in the most recent debates.

Different policy responses have been offered regarding climate change adaptation, and these have brought forward issues related to climate justice. As this topic is still not very well known in Brazil, raising awareness on climate justice concepts and related issues, is one of this paper's goals, along with discussing how this issue has been dealt with internationally.

Therefore, the specific aims of this study were to present conceptual explanations on climate justice and the term's origin, as well as its relationship with the concept of climate change adaptation in order to offer a new point-of-view on the topic. This is a literature review which uses data from books, public documents and papers on the topic. The research was conducted in February and March 2019 using the following online databases: PubMed, Biblioteca Virtual em Saúde (BVS), Google Scholar, and Google. The descriptors *climate justice*; *adapting to climate change*; and *climate change* have been used.

Publications which are fully available online, in Portuguese, English or Spanish, and which could contribute towards the goals of this paper were included in this research. 30 references were selected to be used in this paper, which was divided in two topics in order to better explain to the reader the related concepts discussed here. In the first topic, the origin and the concept of climate justice are described. The second one explains the relation between climate change, climate justice, and climate change adaptation.

## 2 CONCEPT AND ORIGIN

Climate change is currently creating a double inequality due to the inverse distribution of risk and responsibility. Richer nations are more responsible for these changes but predicted to face only moderate adverse climate effects (risks), whereas poorer countries, which are less responsible face greater threats to their economies, wealth and safety, that is, they face the greatest environment risks (BARRETT, 2013).

This means there is a lot of global inequality, as less developed countries, which produce fewer GEE are more affected by climate change than developed ones producing substantially more GEE. Moreover, less developed countries face more obstacles to adapting to climate change than developed nations (LEVY; PATZ, 2015).

The data shows that most poor nations emitted fewer than 115 tonnes of carbon dioxide per capita since 1960, while rich countries emitted between 1,6 and 2,7 kilo tonnes (BARRETT, 2013). The United States and the European Union alone are responsible for over half of total or "historic" global emissions of CO<sub>2</sub> between 1850 and 2011. In the 20th century, China became a great polluter (ELLIOTT; COOK, 2016), which lead other countries to face disproportional adverse consequences and be liable to physical risks, such as floods and storms (BARRETT, 2013).

Furthermore, exposure to and sensitivity to physical events are enhanced by poverty and underdevelopment. Poor education, deficient health infrastructure and inefficient governance structures increase the negative consequences (BARRETT, 2013).

At first, climate activists presented demands which the global establishment would not meet, such as: a 50% cut of GEE emissions by 2020 and a commitment to cut 90% by 2050; paying a rapidly-growing climate debt; ending carbon markets which thus far were favored by elites; and massive investment in renewable energy, public transportation and other transformational infrastructure. When reality showed that these demands were unreal, it was evident that in the next stage of the fight for

climate justice, it would be necessary to step down from this ambitious global reform agenda and be inspired by more direct and realist action (BOND, 2012).

The term “climate justice” originated from another environmental term: environment justice. The discussions on environment justiced started in the United States of America in the 1960s. Their primary objective was to guarantee that Black and minority communities residing in suburbs had the right to breath clean air, be less exposed to toxic wasted and had guaranteed access to quality health care (ALVES; MARIANO, 2017).

The first known reference of the concept of climate justice was in a 1999 report called *Greenhouse Gangsters vs. Climate Justice*, by the London-based *Corporate Watch* group (a non-profit research group, news institution and publisher which conducts research on the social and environmental impact of corporations and corporative power). This report was mostly concerned with analyzing the oil industry and its disproportional political influence, but it also presented a first attempt at defining a multifaceted approach to climate justice, including: 1) To approach the deep causes of global warming and make corporations responsible; 2) To oppose the destructive impacts of oil development and to support affected communities, including those most affected by the growing incidence of climate-related disasters; 3) To look at environment justice communities for strategies to support a fair transition out of fossil fuels; 4) To challenge company-led globalization and the disproportional influence of international finance institutions, such as the World Bank and the World Trade Organization (TOKAR, 2013).

According to Schlosberg and Collins (2013), the term climate justice was used again in 2002 in the 6th Conference of the Parties (COP 6) in Hague, the Netherlands. The Brazilian Ministry of the Environment (BRAZIL, 2019) explains that the Conference of the Parties is the ultimate decision-making institution in the Convention for Biological Diversity (CBD). It is a large-scale meeting with 188 participating delegations from the 188 members of the Convention for Biological Diversity, as well as observers from non-member countries and representatives from major international institutions

(including those of the United Nations), academic organizations, NGOs, business organizations, indigenous leaders, press and other observers. Schlosberg and Collins (2014) say that the objective is to debate how to guarantee basic rights to individuals who are harmed by climate changes.

According to Bulkeley et al. (2014) environmental justice sees “justice” as a three-sided concept, therefore, climate justice can be seen as a pyramid, whose faces are: distribution, proceeds, and rights and responsibilities. Its base is acknowledgment. These authors defend the development of a new explanation of climate justice as an urban concern, which goes beyond the principles of fair distribution of rights and responsibilities and of procedural demands. It demands participation and access to decision-making, and it leads to the “acknowledgement” of the existing inequality and how climate change policy can magnify or mitigate these underlying structural issues.

Nevertheless, the concept of climate justice has only become a coherent political approach in the international stage after it had failed as a collaborative strategy between major environment NGOs and the global capitalist managerial class. The first real efforts to foster a movement to defend the climate among the global civil society have become the *Climate Action Network* - an encompassing group of environmental NGOs which deal with climate change issues. However, starting in 1997, the *Climate Action Network* has adopted a “false solution” as its main strategy: to emphasize inter-state negotiations with United Nations regulators in order to promote reductions in carbon emissions and related compensation (BOND, 2012).

The problem was that this strategy forgot that climate change causes are fundamentally related to responsibility towards emission reduction. By focusing on rights instead of responsibilities, it tends to encourage self-interested claims, whose competition have an inherent expansionist logic. Moreover, rights can give normative validation to imperatives other than emission-reduction.

This is particularly evident when emission rights become property rights that may be negotiated in markets and, furthermore, acquired by means such as the Clean Development Mechanism (CDM – a flexibilization mechanism created by the Kyoto Protocol – an international treaty establishing stricter responsibilities regarding greenhouse-effect gases – in order to foster the reduction of GEE emissions or the capture/sequestration of carbon), which creates emission rights according to supposedly rejected emissions instead of real reductions (HAYWARD, 2007).

Furthermore, over time it has been noticed that the carbon trade, as an answer to global warming, shall magnify the effects of copollutants coming from the same source. These copollutants include toxic hydrocarbons that cause cancer, mercurial and particulate matter, among others. Nonetheless, as a rule of thumb, those who focus on tradable commodities have a greater weight on aggregate impact, as they are only concerned with global reductions. On the other hand, those who are concerned with equity and justice seek distributive effects. Hence, climate justice is by principle against this type of emission-reduction scheme. In its stead, it seeks affirmative action to weight inequalities. Market systems, which frequently incorporate technological solutions, seek efficiency. But concern regarding distributive effect is opposite to the dominance of efficiency and the excessive trust in technological solutions, which tends to reinforce power and wealth inequalities due to the unequal distribution of technology (BURKETT, 2008).

Thus, is born the current concept of climate justice: that climate adaptation financing should take into account the existing inequality in risk and responsibility distribution. Therefore, developed countries should finance the necessary behavior adjustments of exposed communities so that they may reduce their climate risk. Policy changes in adaptation financing on the community level include: irrigations, drought crops, flood protections, early warning systems, tree planting, conservation agriculture, and distribution of fertilizers. Each policy addresses at least one factor contributing to climate risk, such as droughts, floods, storms, tornadoes and soil erosion (BARRETT, 2013).

It could be argued that climate justice is the name of a new movement which has best mixed a variety of political-economic and progressive political-ecological schools of thought in order to fight the most serious threat facing humanity and most other species in the 21st century. This is an appropriate moment for this debate, due to the continuous fragmentation of elite power, including the acquiescence of big environmental NGOs, in a time in which global elite actors are unable of resolving great environmental, geopolitical, social and economic issues. This debate emphasizes the necessity of a climate justice philosophy and ideology, and the practice of its principles, strategies and tactics (BOND, 2012).

However, to reach climate justice, effective action in global (regional and local) and interdisciplinary scale is necessary. Consequently, the development of strategies and solutions to reach it is an urgent need that shall benefit all (humans and non-humans) (CALZADILLA, 2017).

Another important detail which has been neglected is the fact that climate justice research is generally made in international, or at least national, scale, addressing principles of justice, allocation criteria, carbon markets and financing architectures. But the variability and the change of climate are mostly found at the local level, at communities, and require analysis and policy in lower scales, that is, practices of Community-Based Adaptation. In other words, the research on climate justice needs to advance and to evaluate the strategies of climate risk reduction in poor, marginalized and vulnerable communities. It must consider them the main actors defining climate justice analysis. Indeed, it has been observed that recent debates on climate justice and equity do not focus on local-level vulnerable communities (BARRETT, 2013).

Climate change is only one, however, there are multiple environmental stressors, and it is essential that studies identify how these stressors shape long-term vulnerabilities at the local-level. This study approach acknowledges that multiple stressors threaten a system and, instead of focusing on the multiple effects of a single stressor, seeks to understand a more dynamic and evolutionary reality by

incorporating internal and external aspects of vulnerability. In other words, it acknowledges that stressors generate outcomes that strengthen or create other stressors. This type of research argues that: (a) there are different stressors in different environments; (b) stressor ponderation is ambiguous and stressors do not interact in similar manners in different environments; and (c) conducts case studies to understand how individual and composite stressors affect individuals and local systems (BARRETT, 2013).

Thus, the importance of another type of justice is highlighted here: social justice, based on the social character of the human being. It is a concept of justice which can only be reached in the relationship with society, because it deals with the human person in a network of rights and responsibilities towards the other. In terms of community, all members owe something to the others. The most important of these responsibilities is that all should have their human dignity recognized. In the political and legal fields, this means that all have equal rights and responsibilities (BARZOTTO, 2003).

Burkett (2008) explains that depressed locations, both rural and urban, end up determining the educational and economic well-fare levels of its citizens. Unfortunately, communities that are left behind in relation to the rest of the country in these public well-fare indicators are also left without access to health care and environmental services. In other words, they live in a reality of social injustice. In the United States, as well as in other countries, these poorer and neglected communities generally concentrate racial minority communities. In other words, the inherent limits of population growth, industrialization, pollution and resource depletion are unequally imposed on poor and racial-minority communities. These populations are politically powerless and confined in national areas of “environmental sacrifice”.

In the USA, for example, these areas include Navajo territory, or Western Shoshone, Chester, Pennsylvania, and Cancer Alley, Louisiana, among others throughout the country. Hence, environmental risks are higher among middle-class African-Americans, Hispanics and Asian-Americans. The risk is also higher when it

comes to the unequal access to energy. There are multiple causes of the disproportional effects and these include racism, inadequate health care, limited access to environmental information, and the lack of political influence (BURKETT, 2008). It is also true that less developed countries frequently do not have the necessary human, technological and financial resources to adapt to climate change effectively, and many countries in the southern hemisphere claim that this inequality harms their long-term development and poverty-reduction objectives (ELLIOTT; COOK, 2016).

In Brazil, this is not difference. The state of São Paulo, for instance, faced an extreme drought in 2013 and 2014, disrupting the water supply of its inhabitants. Another example are the intense rains which cause rains and landslides throughout the country which usually affect poorer communities (ALVES; MARIANO, 2017).

Herrmann (2006) highlights extreme climate events which have affected the Brazilian state of Santa Catarina: between 1980 and 2013 there were 1,299 gradual floods, 555 flash floods, 140 landslides, 492 lulls, 502 wind storms, 43 tornadoes, 26 storm tides, as well as Catarina Hurricane in 27 and 28 of March, 2014, the first one in the Southern Atlantic, which hit the Northeastern part of Rio Grande do Sul and the Southern part of Santa Catarina.

Nevertheless, the state of Santa Catarina continues to foster highly erosive agriculture, animal creation, coal mining, intense occupation of coastal areas, and reforestation in such a way that impoverishes the soil and harms bio diversity (BUTZKE; THIBES, 2011).

Lima (2014) highlights another important issue: the cultural loss of indigenous communities. These peoples are described as having traditional practices and a strong bond to their ancestral lands. These are the most susceptible populations to global warming, not only because they already have great vulnerability (due to their state of marginalization, poverty and lack of political power), nor because they are exposed to biophysical and socio-economical risks of climate change, but also

because they are especially sensitive to the cultural impacts of this phenomenon due to their special bond to their territory as well as their high dependency on local natural resources to reproduce their traditional practices. This loss might even go beyond cultural desegregation: it might lead to the very the very disintegration of the people in the most extreme cases.

These facts underscore the urgency of discussing how much countries are offering their population in terms of adaptation and survival to extreme climate events (ALVES; MARIANO, 2017).

### **3 CLIMATE CHANGE, CLIMATE JUSTICE AND CLIMATE CHANGE ADAPTATION**

The 4th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC, 2007) has concluded that climate change is “unequivocal, accelerating and probably induced by mankind.” At the time, the most optimistic forecasts predicted a rise in 2°C in global temperature averages by the end of the century, due to rising concentration of potentially dangerous greenhouse effect gases.

Nevertheless, six years afterwards this forecast has been proven to be strongly underestimating the rise in temperatures. A recent report written by the Potsdam Institute for Climate Impact Research, written for the World Bank, estimated a rise of 4°C by the end of the century if the global community does not act against climate change. This difference is due to the rising “emission gap”, that is, the difference between pledged emission reductions and the necessary emission levels to maintain the global temperature at around 2°C above pre-industrial levels. The implications to socioecological and socioeconomical systems are enormous. The first victims of global warming are biodiversity and ecosystems. The International Union for the Conservation of Nature estimates that up to 35% of avian species, 52% of amphibians, and 71% of coral reef systems have characteristics which make them potentially susceptible to climate change (CAMERON et al., 2013).

According to the IPCC Special Report (2012), climate change already is increasing the frequency of extreme climate events such as floods, droughts,

tornadoes, tropical storms and heat waves. As the population continues to grow and consolidate, and since a growing number of people depend upon fragile soil for their houses and resources, the number of people affected by extreme climate conditions is also poised to go up.

According to the 2003 World Disasters Report, the number of people affected by climate disasters has increased from 740 million in the 1970s to over 2,5 billion in the first decade of the 21st century (CAMERON et al., 2013). According to the UN, climate and geophysical disasters — such as earthquakes and tsunamis — have killed 1,3 million people and either injured, displaced or left in a state of emergency over 4,4 billion in the last 20 years (UN, 2018). The World Bank report warns that a warming of the estimated magnitude (over 4°C) will likely lead to a rise of 0,5 to 1 meter, and possibly even more, of sea levels by 2100. Nevertheless, if the warming is limited to 2°C, the rise in sea levels by 2100 is estimated to be approximately 20 cm lower than if the temperature were to rise 4°C (CAMRON et al., 2013).

Another issue is that climate change also has direct and indirect impacts on human health. For example, the vectors of vector-borne diseases such as malaria, dengue, and yellow fever are sensitive to temperature, humidity and precipitation patterns. As the temperature and precipitation patterns change due to climate change, these diseases will spread to areas where they traditionally did not exist. Moreover, there is the issue of food security and hunger, which are quickly becoming main concerns for governments, which are alarmed by the speed and scale of climate change. According to the World Food Programme, climate change has become an intensifier of hunger risk and, therefore, food security is a major concern in most countries which have developed National Adaptations Programmes of Action (NAPAs) (CAMERON et al., 2013)

The terms climate justice or equity (widely used in debates meaning a distributive justice) have entered public discourse thanks to a concentrated effort from some South Hemisphere countries (most notably India), which recognized the historical differences in climate change responsibility, and, therefore, the different

responsibility of fighting it, be it through emission reduction or through financial contributions to adaptation policies (FISHER, 2012).

In order to afford these climate justice adaptation plans, Caney (2014) argues that there are two different ways of conceptualizing justice. The first one is to highlight how the cost of fighting this issue should be borne in a fair way among those responsible. In this case, responsibility is to do your fair share, and that can be done according to the following principles: those who caused the problem should bear the costs; those who are capable of carrying the burden should do so; and those who benefit from climate change-inducing activities should bear the cost. He calls this perspective *Burden-Sharing Justice*.

The second perspective is based on the imperative of avoiding climate change to deduce who should do what. Its main goal is to avoid catastrophe (or at least to mitigate it to reasonable levels). This perspective is concerned about potential victims, those whose rights are threatened, and attributes responsibilities to defend these rights. The author calls this *Harm Avoidance Justice* (CANEY, 2014).

Nevertheless, many attitudes towards climate change responsibility lean towards *Burden-Sharing Justice* and not to *Harm Avoidance*. Avoiding climate change demands some sacrifices. To recognize the necessity of some sacrifices is to take seriously the need of creating and sustaining an institutional context that leads people to follow through with their responsibility of mitigating climate change and making real adaptation possible (CANEY, 2014).

Thus, Catterton et al. (2012) believe that by developing a climate justice policy which clearly articulates the antagonistic relationships of an unequal capitalism is it possible to build a pre-figurative space and to extend interclass solidarity practices, from north to south of the planet. Hence, climate change activism provides a direct criticism to ecological neocolonialism and to neoliberal globalization.

Thus, according to Elliot and Cook (2016), a climate justice approach towards climate policy stimulates both individual and collective responsibility and can have a

positive influence on mitigation efforts. This can range from inspiring individuals choosing inspiring lifestyles to protect future generations to states which had benefited from prior industrialization supporting mitigation and adaptation efforts of less developed countries. These same authors quote the definition given by Mary Robinson Foundation - Climate Justice : Climate Justice connects human rights to development in order to create an approach centered on human beings, safeguarding the rights of the most vulnerable and sharing the burdens and benefits of climate change in a more equitable and fair manner.

Moreover, climate justice also means to recognize the vulnerable and marginalized of every country/nation. Climate change is most destructive to those who already are affected negatively by other forms of structural inequality within their own countries. Thus, the poor and the indigenous people frequently are the most vulnerable ones (ELLIOTT; COOK, 2016).

It is, therefore, essential that climate justice debates and decisions include the voices of indigenous/native peoples, because the existence and the well-fare of these communities depend on climate justice. Indigenous perspectives and traditional knowledge should orient the assessment and the adaptation to climate change in order to develop culturally appropriate strategies (FERGUSON, 2018).

Furthermore, the impacts might be more heavily felt depending on gender, class, ethnicity, age, and special needs of a person. Especially at risk are women in these groups, for they have limited access to resources and suffer from weak legal protection of their rights and less significant participation in decision-making (ELLIOTT; COOK, 2016).

Hence, Butzke and Thibes (2011) reinforce the idea that the resolution of environmental problems must also involve the resolution of social ones, and this is not always considered in federal, state and regional plans and policies, nor in knowledge production, nor in social movements.

Indeed, the intensification of global warming and climate change has led to the increasing incorporation of global justice issues to climate justice. Indeed, climate justice offers its own path, with its own dilemmas and possibilities. It is a scientifically measurable, totalizing experience which creates new growth opportunities for countries that industrialized later. This path requires a proactive strategy set within a limited timeframe and a comprehensive, yet radically challenging, epistemology. Thus, the emerging dynamics of this climate justice are forcing large-scale transformations in terms of political contests (GOODMAN, 2009).

Climate justice must, therefore, consider which risks should be faced and engaged in a political process towards a climate adaptation that is not only based on apparently urgent solutions for today's anguishing problems. An ideal solution makes climate solutions which cater to all concerns possible. What is needed it to look beyond common discussions about distribution and procedure. Instead, it is necessary to analyze how the inclusion of diversified values and priorities of affected people can influence what is seen as urgent. In other words, an ideal solution does not neglect the concerns of some people nor does it worsen their problems (FORSYTH, 2014).

Thus, it can be seen that adaptation has been as a mechanism to unite environmental justice, climate justice, and social justice for the most vulnerable. Adaptation is also seen as an opportunity to approach many social justice issues globally. The idea of building adaptive capacity and developing communities in a fairer manner has become increasingly common among environmental justice groups (SCHLOSBERG; COLLINS, 2014).

#### **4 CONCLUSIONS**

Climate change has provoked a series of setbacks throughout the planet, pressuring existing vulnerabilities in some locations, causing damage to agriculture, to the health of the environment, among other issues, due to the higher frequency of

extreme climate events. Besides destroying areas after floods, droughts, hurricanes, tornadoes and others, these events change the distribution of vector-borne diseases or magnify air pollution, damaging the health of humans, animals and plants.

This paper has come to the conclusion that the concept of climate change has been created due to the increased importance of environmental justice and climate change-related activism. This activism has been focused on the environmental justice movement and the concern with climate change. It was this concern which drove the search for ways to help the most affected communities. Then, the fight to share the burden of climate change emerged, alongside the concepts of mitigation and climate adaptation.

Climate change adaptation policies have the potential to reduce social inequities and there are significant lessons for their development that can be learned from local adaptation experiences made by native communities — which generally are the most vulnerable ones and the ones with the fewest means to mitigate climate change-related problems.

Thus, it is possible to learn from local experiences in which native populations, with their traditional knowledge, develop simple strategies to mitigate local climate effects and then magnify these strategies in a global scale by using science and technology.

Another important point is that the approach towards the causes of climate change must focus mainly on the responsibility towards emission reduction. For if it focuses on rights, instead of responsibilities, the result are self-interested and individualistic demands, instead of global ones. In other words, they remedy the original problem instead of curing it. If the cause is not solved, individual problems will continue to appear and get worse throughout the world.

It has been observed that climate justice policies link human rights to the development of adaptation projects which are centered on the human being. In these,

the rights of the most vulnerable peoples are defended by sharing the burdens of climate change and providing a fairer and more equitable solution.

Hence, climate change offers an opportunity to undertake real sustainable development on a global scale. Based on the urgent necessity of expanding and transferring green technology to all regions of the planet, as well as of supporting low carbon strategies, this sustainable development seeks to join mitigation and climate adaptation efforts and involve social problem resolution, for this is a pressing issue that is frequently ignored in policies and projects.

Indeed, the countries which have benefited, and still benefit, from the emissions of greenhouse effect gases due to their continued economic development and wealth accumulation have the moral and ethical duty of sharing these benefits with the communities which most suffer from the effects of these emissions.

Thus, the most affected populations — usually from poorer countries — should receive support through climate change impact adaptation opportunities financed by the countries which are most responsible for greenhouse effect gas emissions, so that climate justice be done. And in order to climate justice be effectively done, action in global scale is needed. It is necessary to share the resources and climate adaptation skills with all peoples and communities.

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