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Международное сотрудничество, сталкивающееся с новыми угрозами безопасности: теоретическое объяснение

International cooperation facing new security challenges: theoretical explanation

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**Abstract**

This study is about finding a possible explanation about cooperation that can help to tackle upcoming future challenges. Thesis probes empirical data and theoretical explanation in order to reach possible elucidation about cooperation and interstate relations.

Research findings indicate that the new challenges are unique because they are “glocal” and happen sequentially threatening all dwellers on earth. White and blue papers alarm the urgency of cooperation to face climate-related future challenges. However, state actors do not follow cooperative actions that create dilemmas between legislation and function. These problems require an explanation from IR Theories perspective where they are endowed with loopholes concerning predictions about the future. Phase approach helps to eliminate this problem by explaining interactions within time context. Responsibility can rest on people and their interest in demanding cooperation will emerge from “tangible results”. Their voice needs communication and discussion channels that can be implemented using portals.

The thesis is divided into three sections that comprise exploring, understanding, and implementing. It first examines different organizational and governmental reports and documents by collecting data to find out climate-related new challenges. Assessment of reports also provides information about the necessity of cooperation. In so doing, the second section engages in finding a possible explanation from theories of IR by assessing three major theories, namely, Realism, Liberalism, Constructivism, and one new – Green Theory. Probing of the theories provides us with an explanation which also leads to noticing possible gaps in their explanation. The last section covers a new approach that explains the flaws that are left by traditional theories, together with finding dichotomies and providing responsibility argument and recommendations.

**Keywords**: Challenges of International Cooperation, Climate Change, New climate-related problems, IR Theories, New Approach in IR.

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| AIRS  BRI  BRP  CAT  CCPI  CoM  DoD  ESPAS  EU  GAR  GCA  GCP  GhG  GSS  IEA  IEP  IP  IPCC  IR  ISR  MFA  OWID  RCP  SPM  SIPRI  SRMER  ToC  UN  UNEP  UNFCCC  USGCRP  WEF  WHO  WMO | Atmospheric Infra-Red Sounder  Belt and Road Initiative  Belt and Road Portal  Climate Action Tracker  Climate Change Performance Index  Covenant of Mayors  Department of Defense  European Strategy and Policy Analysis System  European Union  General Assembly Resolution  Global Carbon Atlas  Global Carbon Project  Global Shapers Survey  Greenhouse Gas  International Energy Agency  International Environmental Policy  International Panel of Climate Change  International Politics  International Relations  Interstate Relations  Ministry of Foreign Affairs  Our World in Data  Representative Concentration Pathways  Summary for Policymakers  Stockholm International Peace Research Institute  State Report of the Ministry of Environment of Russia  Tragedy of Commons  United Nations  United Nations Environmental Programme  United Nations Framework Convention On Climate Change  United States Global Change Research Program  World Economic Forum  World Health Organization  World Meteorological Organization |

**Abbreviations**

# **Introduction**

*“Climate change is the defining issue of our time – and we are at a defining moment”.*

*Antonio Guterres delivers his speech on 10 September 2018*

Modern-day emerging threats are complex. We are in the time of human competition, discord, and conflicts where cooperation seems vital but unachievable. The challenges have global scope and impact and do not belong to one specific area. Historically, all civilizations faced the problems without knowing or being aware of it. However, the problems that we are going to face have some indications and as Mr. Taalas argues “we are the first generation to fully understand climate change and the last generation to be able to do something about it” (WMO 2018). According to the WEF (2018) report, the main problems that have both impact and likelihood, are going to be climate change and *climate-related problems* that will cause additional global challenges.

In the topic of the thesis, I used the word “new” security challenges because of the upcoming problems that the world is going to face. Sometimes these new challenges are called as “unknown-unknowns” (Van der Berg & Hutten n.d.) and I have also indicated it in *Figure 1*.*1*. Although, these challenges are climate change related, their uniqueness let us interpret it as “new” challenges. For example, SRMER (2017) explains that rising temperature can cause deformation of train rails which is going to be a new challenge for all.

Moreover, we cannot take traditional ways of thinking in terms of security because it can be biased and as Williams (2008, p. 4) denotes “neither neutral nor natural”. For so many years, states defined security in an “excessively narrow way” which can create “false image” (Ullman 1983, p. 129-133). As Ullman (1983, p. 132) asks when state squanders money on the military but cannot provide workplaces, clean water, weather, cannot provide justice system, can we talk about security?! Concomitantly, I should explain why I chose security over safety. According to Maurice et al*.* (2001, p. 238), they differ in the source of the problem. The word “safety” means that source of harm or danger derives from non-human, in other words, non-intentional processes, such as earthquakes and hurricanes and being kept from these dangers. Albrecht (2017) calls theses safety challenges as “natural disaster” and explains that non-human related problems, such as, earthquakes, volcanos happened before human beings which were “hazards”. On the other hand, the definition of security is related to danger or challenge that is intentionally created, or socially constructed and requires to tackle them. There are some accidents that can be added to both categories, such as, Fukushima nuclear catastrophe in 2011, Chernobyl disaster and so on. These catastrophes cover manufacture and external risks which urges cooperation in order to be able to tackle problems because they are becoming complex and tangled. If we see the rise of sea level, we cannot directly label it as safety challenge because it can also happen with an increase of gas emission to the atmosphere which leads to global warming and as a result it creates the rise of the ocean level because of the ice melting. So, we should address both safety and security challenges because they are “complex” issues as Van der Berg & Hutten (n.d., p. 7) argues. Therefore, I chose *security* as a word that comprises both sides and indicates the complex nature of the problems. Additionally, Dewulf (2007) argues that “collaboration” is the most precise definition of the condition. However, Gray (1989) explains that collaboration is somewhere between cooperation and coordination and inclined to versatility, i.e. to the changes. According to the Cambridge and Oxford Dictionary, collaboration means working of two or more people together which is similar to cooperation. Moreover, Gray (1989) indicates cooperation as a more *formal* working system, and in this term, we should think the collaborative ways that also comprise formality. Therefore, cooperation also encompasses collaboration but in a formal way. Although I will argue the role of individuals in IR with a new explanation, my main argument is to reach formal decision making and cooperation in *high politics*.

This study has been initiated with two main *hypothesizes*:

*H1. Human action causes global warming which leads to future security challenges*

*H2. Theories of International Relations explain the ongoing problems but not the future*.

These hypothesizes emerged through my educational years and motivated me to embark on this research. I have taken these hypothesizes as guidance which then deepened by asking three main questions that will be explained in the Research Questions section.

When it comes to the new challenges that are happening or will happen, are sequentially tied to each other. The melting of ice sheets causes a rise in the sea level which at the same time threatens cities below the sea level. Moreover, the rise of temperature makes the weather more changing and disrupts the time period of the weather creating longer drought seasons, more precipitations and so on. Concomitantly, it causes the change of the pattern of how flora and fauna inhabited. When there are longer droughts it harms some plants and vice versa. Lastly, when there is a high temperature, there is going to be more smog in the air because of “ozone particles” (National Geographic 2017) and causes additional health problems which results in a short lifetime. This chain of problems continues disrupting the equilibrium of the world system which is mainly related to IR (Pereira 2017). Environmental degradation, global warming, ozone depletion, etc. and their role in the emergence of new types of problems are global in impact and scale. However, these problems emerge from different locals, i.e. states which becomes global, therefore, the problems in this study are “Glocal” in character as Roudometof (2005) indicates.

These problems require a possible explanation from IR Theories in order to understand how they think cooperation can happen and more concrete, how do they perceive the future of the world system. Finding these explanations requires assessment tasks of the main theories of IR, namely, Realism, Liberalism, Constructivism and Green Theory. Walt (1998) explains that the diversity of theories is better for explaining international politics. Therefore, not one but using several perspectives from different theories and comparing them can reveal us the explanations of the major theories of IR. They can also help us to find predictive descriptions about upcoming challenges and climate change. However, logical assessment of these explanations is also vital which delivers us to the new findings and explanations.

Moreover, theories try to maximize themselves because of the flaws that emerge compared to other theories and all of their weak spots which create chances for the “intellectuals” to adopt a new way of thinking (Walt 1998). Crawford (2016, cited in Pereira 2017) argues that IR should be updated with a new way of thinking and methods. Also, Pereira (2017, p. 16) claims that seeing the future in IR can be possible if it avoids the “archaic” way of theorizing and embraces new ways of thinking. By assessing the traditional theories and finding their gaps, I will try to better explain the upcoming challenges and cooperative behavior. A new approach that will be explained in the last chapter (*see* Chapter III) will possess futuristic and predictive ideas which can be related to “problem-solving” perspective that is different from the critical theories (Baylis, Smith & Owens 2014, p. 236). Taking critical view against all theories and showing their missing points also crucial. First of all, this approach will help to deliver predictability tool to IR that other traditional theories lack according to Walt (1998). Pereira (2017) argues that an explanation of interstate relations is vital for IR, but environmental problems require something much more. This theory does not mean to stipulate prophecies or narrate ideas in that way. We can see several writings from Buzan (1991), Huntington (1996), and Kaplan (1994) where they gave some hints about the future but without its method. Therefore, there is also a need for being able to acquire predictive tools that can help us to explain the future. Moreover, taking IR as a natural process is needed for expressing a new approach that is bonded to the processes which are happening per se. Without accepting this “naturality”, the approach cannot use the positivist method as Fierke (2013, p. 194) explains. Secondly, this approach will help to visualize international politics from up above helping to provide a big picture of international politics.

I will illustrate a quick guide to the thesis structure: Thesis is based on three questions that are divided by three chapters respectively. This way of classification of the thesis is also related to three approaches of security studies: *explore, understand, and do*. The chapter starts with *Tree of Challenges* (1.1), then continues to, *Source of the problems* (1.2), *Actors* (1.3), *Globalization* (1.4), and *Necessity of Cooperation* (1.5). The first chapter is based on searching challenges that make the cooperation vital. In order to grasp the idea of challenges, I am going to illustrate them in the shape of a tree named as “Tree of Challenges” (*see* Figure 1.1), pointing the roots of future challenges, and the emergence of future problems itself by visualizing them as branches that disperses from global warming. In order to explain upcoming challenges and prove its possibility, I will use scientific investigations, i.e. reports (*see* Literature Review). Subsequently, I will examine the source of problems, and lastly, figure out why cooperation is necessary. In the Actors section, I will indicate the role of five major states and companies (using NAZCA) in releasing GhG globally by using different tools. The globalization section is about investigating its role in world affairs and its effect on IR with upcoming challenges. Here I mention “Glocality” of problems where global and local levels gave birth to this phenomenon (Roudometof 2005, p. 123). Last section (*see* 1.5) will explain why cooperation is necessary by examining official papers and reports of organizations and governments.

In chapter two, I am going to assess the theories of IR about future problems and cooperation. The main aim is to find out how these theories explain cooperation, what are their future predictions and visions, and how they explain climate-related problems. Assessment of the theories serves as *understanding* their narration about the future, cooperation, and climate change. I will first start to examine Realist theory (see section 2.1) and its different schools. Then, I will assess another theory – Liberalism (*see* section 2.2) and its different parts, namely, Institutionalism (*see* section 2.2.1) and Regime theory (*see* section 2.2.2). Moreover, another major theory, Constructivism (*see* section 2.3) has been analyzed in order to find an answer to the above-stated factors. Lastly, Green Theory (*see* section 2.4) has been added as a new theory with related explanations that cover climate change and cooperative actions.

In the last chapter, I will try to explain my own approach by evaluating the main theories of IR. The chapter starts with Dilemmas and Dichotomies (*see* section 3.1) where dilemmas and paradoxes will be indicated using white/blue papers and actual behaviors of states, errors of blue papers, and paradoxes in scientific findings. Finding these dilemmas is also followed by digging out the gaps (*see* *Loopholes* 3.2) of traditional theories that will lead us to suggest new explanation in *Phases* section (*see* 3.3) together with Responsibilities (*see* section 3.3.1). The approach itself is *dialectic* which means it is constructed by merging criticism and acceptance of different theories of international relations. Phases are divided into several phases according to the time period and start from 1648 as a start of the Westphalian system. *Modernization phase* will cover the Industrial Revolution and the transition to *ideological phase* happens with the clash of Marxism during the 19th century. Ideological phase itself is divided into two subphases: *capitalist and democratic phases*. Moreover, the eco phase is the entrance to the cooperative system of IR states and the word eco means ecological. Apo-tech phase can happen if cooperation in eco-phase will not work out and the word apo-tech means “apocalyptic & technological”. Also, the *exodus phase* is the last stage that will entail moving to outer space. Moreover, the Responsibility section (see 3.3.1) will explain who can be responsible for building cooperation that can tackle upcoming challenges. Lastly, in the *Next Step* (*see* section 3.4), I will provide recommendations concerning cooperation achievement between “bottom and up”.

**Aims**

As I explained inthe Introduction (see *section I*), new challenges are threatening the world and security of people globally. These challenges should be tackled by states with cooperative relations, whereas, recent processes indicate its absence in IR. Moreover, theoretical pundits hail for new explanations and theories that can explain these problems and help us to anticipate problems and create a contingency explanation for them. To achieve an intended explanation, we need clear and classified aims.

*My main aim is to clarify that climate change and related new challenges are at stake and find an explanation for building cooperation to tackle them*.

This aim requires *to* *find and reveal* upcoming challenges using scientific reports and data of governments and organizations, the encompass credibility and reliability in their information. Assessment of the ongoing problems is crucial because the creation of predictive theory and “conceivable solutions” require a detailed description of the problems (Rittel & Weber, 1973, p. 136). According to Felix Creutzig (2017), the world will face cultivable soil issues which will dwindle to the size of China. So, we need to define the upcoming challenges first. The first part of the thesis helps to know that there are problems are available and it requires cooperation in order to be able to confront it.

Moreover, in order to reach the aim, I need to *identify* how theories explain cooperation in the advent of upcoming and what predictions they provide about the future of IR. Safety and security problems demand immediate collective response by states but cooperation is in the doldrums per se which requires explanation. Lastly, *revealing* the gaps in the theories of IR that explains the cooperation and form a new approach by eliminating these gaps presented in the previous literature.

**Research questions**

1. *What are the new security challenges that make international cooperation necessary?*

Getting information about the future challenges begs the question why are these problems happening, who creates them, and how to tackle them? Aiming to answer these questions, concurrently, requires tasks to be implemented. My main task to answer this question will be to explore the data from reports about climate change and upcoming challenges. In this case, I will shed light on the emerging security problems and their source of emergency and required cooperative actions.

1. *To what extent do the theories of International Relations explain security cooperation against future challenges?*

In order to find out explanations about these problems and conflictual behaviors, I think we need probe and asses theories of IR. This can help us to achieve our intended goals. First of all, it will provide us information about why states defect and cooperate. Secondly, searching for predictive information can help us to understand how these problems will be solved. The main task for this question will be a literature review of theories of IR.

1. *What are the methods of international cooperation against future challenges and which actors should be responsible for its formation?*

The main task in this question is to compare those theories and identify the gaps and explain them. After the discussion, construct ideas and a new approach that will avoid those flaws. Rittel & Weber (1973) argued that being able to predict future problems, demands questions and solutions. This question can help to find the right object of the study and answer the challenges that block cooperative actions.

**Literature Review**

The literature review is divided into two sections, namely, *primary and secondary sources*. In the primary section, I will review the documents and reports from governments and organizations pointing their similarities and differences that result in dichotomies. These reports are based on historical analysis and comparison of frequencies using scientific researches within the given time period and these reports are released by international organization, countries, NGOs and so on. Similarly, I will review the secondary literature by exploring their main points.

***Primary sources***

To start with the first resolution, it is stated that “changes in climate have an impact on development” and can be solved from “global framework” that includes “all mankind” (GAR 1988, para. 7; para. 11). The same resolution classifies the climate change as “a common concern of mankind” and “urges and encourages” states to approach to the issue seriously with all available means that can also inform “international community” with up to date information. Moreover, the resolution number 201 (GAR 2006, para. 2-7) calls climate change as a global issue and states that the UN is worried about all countries but especially about the developing or least developed countries and the “small island states” that experiences problems which derive from climate change.

Also, “gender” role in the face of “women”, mentioned as a key factor in sustainable development and in addressing upcoming issues (GAR 2008, para. 18). In another resolution, we can see the statement such as “deeply concerned” which is related to the climate change that “have possible security implications” (GAR 2009, para. 9).

Lastly, the UN resolutions (GAR 2000; 2006, para. 2; 2008, para. 20) indicates “principle of common but differentiated responsibilities” and aiming to achieve “ultimate objective” under UNFCC. The same resolution (GAR 2008, para. 2) also indicates that joining the cooperative initiative should be backed by actions not only with the adoption of it.

There are several reports available that try to take the attention of policymakers and ordinary people to climate change, global warming, and upcoming challenges. IPCC (2014) panel consists of 195 worldwide members and they are informing all the actors of IR with up-to-date scientific reports with “objectivity and transparency” (although having some mistakes – *see* section 3.1). IPCC (2014; SMP 2018) report does not only provides scientific assessment but also explains the possible problems to politicians with a summary of the report. The report (IPCC 2014, p.76-102) indicates that cooperation can be possible when “tangible and equitable” results are available. Moreover, the report argues that there is no single option to tackle the problem but “effective implementation” requires cooperation of stakeholders, connection of aims and targets which is also indicated by ESPAS (2015, p. 8) and categorizes cooperation in “international, regional, national and sub-national” levels (IPCC 2014, p. 94-102). The report also mentions institutions and explains that their improvement can help to regulate cooperation (IPCC 2014, p. 94) because states are not capable enough to avoid future challenges that we are going to face which will extinguish our health, environment, and etc. (USGCRP 2018). ESPAS (2015, p. 12-13) also indicates the role of “people power” that will “affect” other actors and can happen with “empowerment of ordinary people” with “mobility and connectivity”. Moreover, technological development with common support and share, also, financial support can have a remarkable effect in achieving targets (IPCC 2014, p. 102).

Dzaugis *et al.* (2018, p. 1493) and IPCC (2014, p. 56- 77) argue that reduction in the amount of the emission of GhG will help to reduce the danger of climate change related problems. Without the reduction of GhG and “adaptation efforts” we cannot achieve “long-term” solutions (USGCRP 2018, p. 27). It may not happen during one or two decades but as the report argues, it will lower slowly. Problems deriving from climate change will grow without any plans to tackle it and our future depends on today’s decisions which “will either broaden or limit options” to lower the possible future effects of climate change (Jay *et al.*, 2018, p. 34). Because not acting fast makes it costlier and takes more time to solve climate-related problems that may bring additional “technological, economic, social and institutional” problems (IPCC 2014, p. v). Human-caused climate change “will persist for decades to millennia” and it's “[s]elf-reinforcing cycles” will quicken anthropogenic shifts changing the ecosystem of the earth that will be different from the recent past experiences. According to USGCRP (2018) report, it is stated that models that provide information about climate change “may be more likely to underestimate than to overestimate” the climate-related changes (Hayhoe *et al.* 2018, p. 74-102). It means that “decisions made today” will predict the future of the world tomorrow (USGCRP 2018, p. 26). Also, balancing global temperature will not happen in parallel everywhere because of “intrinsic” nature the world (IPCC 2014, p. 16).

DoD report (2019, p. 2-16) that is released in January of 2019 stated the implications of climate change as “national security issue” that affects all military infrastructure. The future is defined with 20 years in DoD report (2019), whereas, this number is defined by ESPAS (2015, p. 8) as 15 years believing the advent of “new game changers”. According to the ESPAS report (2015, p. 13), the “people power” will show itself in the governments and in the business spheres putting more limits and control over it. Additionally, the transformation of the attitudes and behaviors will stimulate a “bottom-up” approach, whereas, without “global citizenship”. They (ESPAS 2015, p. 13) explain that the emergence of intelligent individuals can have its future consequences too but the European continent is the best place “for intelligent responses to new expectations”.

Moreover, SRMER (2009) also indicates climate-related challenges arguing that it affects “global, regional, subregional [sic] and national levels”. Although the report explains global problems, it particularly focuses on Russian territory. They mention heat-related death and health problems, air pollution in major Russian cities, water contamination, etc. Additionally, the report mentions the future might be challenges that will derive from extreme warming.

***Secondary sources***

Müller (2013) focuses on security between states and talks about it as “organized instruments of force”. Williams (2008) in his book takes an explanatory way to yield an overview of challenges and institutions of the security field. According to Paul Williams (2008), the meaning of security is elastic and “there can be no consensus as to its meaning”.

Kaplan (1994) anticipated the future in terms of environmental problems arguing that wars and conflicts will happen that will surpass the national level which will make regulation of these conflicts hard for states. Kaplan (1994, p. 11) argued a quarter century ago saying that in order to project the problems of the “next fifty years, … one must understand environmental scarcity, cultural and racial clash, geographic destiny, and the transformation of war” – especially indicating the roles of the last two that is the center of “doughnut”.“[F]uture wars” will start from environmental scarcities because “we're degrading earth's best soil” (Creutzig 2017; Kaplan 1994). Creutzig (2017) argues that the overuse of lands leads to a more dangerous future. Therefore, useable lands that should be doubled in the future in order to support livelihoods. Moreover, the cleaning atmosphere will require implanted trees in huge lands equal to the size of India. GhG emission affects all humanity not immediately but over time (Sachs 2015; IPCC 2014, p. 102), therefore, noticing it can be hard for people. As Sachs (2015) explains, climate change is like a frog is thrown into slowly boiling water. Trap like the situation will kill frog unlikely from hot water that frog reflects with a shock effect. These problems are the main concern of IR because they disrupt its equilibrium (Pereira 2017).

Scholars especially indicate the flaws of IR theories in explaining ongoing problems and predicting the future (Terhalle & Depledge 2013; Pereira 2017; Walt 1998). All theories have a weak spot that they cannot explain how states “develop interests and perceptions” about security cooperation (Müller 2013; Pereira 2017; Walt 1998). Terhalle & Depledge (2013) explain the deficits of IR Theories that could not explain and see the ongoing processes. Pereira (2017, p. 16) claims that seeing the future in IR can be possible if it avoids the “archaic” way of theorizing and embraces the new ways of thinking. Theories of IR have some difficulties in explaining the future problems as Rosenberg (2016, cited in Pereira 2017, p. 3) articulates it “prison in [political science]” and we need to free it from this trap by a new way of thinking. Projecting the future exactly can be a naïve assumption, whereas, trying to build a new approach for it is my main aim. Moreover, another argument is that theories are “one way” for the constantly changing world (Pereira 2017). Walt (1998) also compares theories by indicating their “flaws” arguing that diversity is good in order to see these gaps. Oddly, Rittel & Webber (1973, p. 135-136) argued that “theory is inadequate for decent forecasting” and “social problems” are repetitive and cannot be solved which was also indicated by realist proponents.

Moreover, scholars also indicate the role of comparison that can help us to better understand the problems and categorization (Renn 1992; Walt 1998). As Pereira (2017) argues, IR should not be a closed system that eliminates contributions from other subjects. Because it explains the world interaction system that comprises in itself a plethora of actors, ideas, actions, etc., therefore, it requires a timely update with new approaches. Therefore, new approaches in a comparative manner can deliver new insights to IR.

The urgency of cooperation is indicated by scholars that can help to tackle upcoming challenges (Williams 2008; Dewulf 2007; Van den Berg & Hutten n.d.; Ullman 1983). Dewulf (2007) add interest and “domain factor” to this relationship that can help to unite all the different stakeholders. de Coninck (2018, p. 353) mentions the “transboundary” effect of future challenges and argues that this kind of problem requires also global conformation. Dewulf (2007) explains “multi-actor domain” where a single actor became weak in front of “wicked” problems and this kind of situation requires the collaboration of different stakeholders. Ullman (1983) also explained center and periphery relation and mentioned the role of cooperation that can eliminate this gap. Dewulf (2007, p. 1-6) argues that collaboration derives from interdependence where they share “interests and needs” and it is “only viable response” because stakeholders can only solve small “portion of the problem”. As Williams (2008, p. 9) argues, the providers of security can be in “many shapes and sizes” and the states are not the one and only “important” player in the security field (Williams, 2008, p. 4). Limiting emission of CO2 and keeping the world temperature around 1.5°C requires rapid changes in the “next 10–20 years” (Coninck 2018, p. 392) and this fast transition require “people’s support, public-sector interventions, and private-sector cooperation” (Coninck 2018, p. 392).

Moreover, Dewulf (2007, p. 3) also explains that every actor should “appreciate” cooperation and should open ways for its implementation, However, Müller (2013) defines the hardships of cooperation among the hostile states. He (Müller, 2013, p. 608) mentions three challenges of globalization that made cooperation harder: the emergence of new actors, the role of failed states, and lastly, the advent of new issues. However, he points out that these problems that derive from globalization do not avoid the need for cooperation. Creutzig (2017) then turns to explain common land assumption, explaining that taxing can be the option for protecting lands and this requires global regulation. Chester et al. (2011) clarify the “collective conflict management” role in addressing world problems and assisting in peacebuilding. They explain “CCM” as a voluntary organization without rules where cooperation depends on the *severity of the problem* which involves private and public spheres. However, they argue that “CCM” can be effective when *leader* countries or organizations take the lead that is also mentioned by (Dewulf 2007, p. 8-9) which can eliminate “uncertainties and ambiguities”.

The role of the states is crucial from internal and external sides and citizens rely on it (Ullman 1983, 130). According to the “social contract,” theory people left their “state of nature” where people lived as they wanted to be in order to get security from the government. The one who provided the security became sovereign where people relied on it (Chandler 2009, p. 126). This argument is also backed by Rittberger et. al. where they state that states are keeping their “primacy” and have not surrendered (2010, cited in Müller 2013, p. 620). Moreover, the role of local government also indicated by de Connick (2018, p. 354).

Additionally, Müller (2013, p. 608) explains the rise of new actors because of globalization, where, he explains that their relations do not mean that it will rest on hard means. New relations, such as, “accommodated and being accommodated” will be at stake. These relations explained by Terhalle & Depledge (2013) mentioning how emerging powers showed their assertiveness in power relations that ignored “enmeshed” institutions, organizations, and regimes. Terhalle & Depledge (2013) also point out why “post-Westphalian” order did not happen by pointing out the role of China and the US in the system. Terhalle & Depledge (2013) also argue that assertive states are interested in revisionist attempts in IR and explained that “enmeshment” can help to avoid this problem. Also, because of globalization, “failed” states will become a “burden” in IR according to Müller (2013). Globalization is not a “deus ex machina” that will affect either positive or negatively to IR Müller (2013).

The role of states and ruling system have a big hand on upcoming challenges. Question is can we leave these problems to this small circle of people? Williams (2018, p. 11) explains that “security is simply too important and too complex”, therefore, it cannot be left to some group of people. Rittel & Weber (1973) also argue that control should be taken from small groups (Rittel & Weber 1973). I will argue that the regulation of problems can be countered by individuals by giving them communication channels. Hill (2003) argues that people need voice channels to spread their intentions and problems. Providing communication tools to people can help to achieve development. She takes democracy as the main factor for the change in the world which can lead to development. However, any change is hard because it alters the situation and can be perceived by actors differently, such as slapping businessman or religious person will result differently. However, Hill (2003) points the crucial role of need and interest within capabilities that is the main game changers. I will argue that the main need and interest will rest on the survival instinct of ordinary people that will happen from tangible results, i.e. disasters.

Hardin (1968) explains that interest driven people should have morality because technical solutions are not sufficient. However, Taipale (2004) counters this argument arguing that “wicked problems”circled by the actors with different benefits and in order to solve the future challenges, we should have “technology”, “information” and “resource limitations”. Hardin (1968) explanation is relevant to the prisoner's dilemma and a zero-sum game that overuse of land leads the “tragedy of commons”. This process creates a *vicious cycle* and requires other actors to enter and impose regulations, such as the government. Hardin (1968) mentioned post-Freudian responsibility that can be met bylaws and rules. De Connick (2018) argues that “transition to 1.5°C” counters “tragedy of the commons” idea, whereas, reify such project stuck with some difficulties. Moreover, Hardin (1968) then goes on to explain that some people are able to see the future and initiate cooperative negotiations, whereas, others fail to see it and face tragedies. Ostrom (1990) argues that in this case, scholars should help people to find ways to collaborate together. Creutzig (2017) rightly argues that in the time of power rivalry, experts should spread information to the “public”.

**Methodologies**

I have divided the thesis into three chapters. The first chapter is about finding and collecting quantitative data by using qualitative methods. I have assessed documents, reports, and resolutions in order to answer the first question. I have used qualitative data collection in the first section (see 1.1) in order to be able to visualize “Tree of Challenges”. After that, I needed to collect data from reports in order to find out the main source of these problems. Moreover, in order to find out the main emitter states, I have used tools, namely, Gap Minder, GEP, OurWorldinData, and NAZCA, in order to prove which countries are the most common ones.

When it comes to the second chapter, I mainly used discourse analysis in order to find out relevant information from the theories of IR. I have used books and journals in discourse analysis. Tools such as *Talk to Books* and *Google Scholar* were the main search engines.

Lastly, in the third chapter, I have used collected data from the second chapter where I used discourse analysis and used the method of alternatives in order to compare and mutually criticize theories. Moreover, after analyzing the collected qualitative data, I started to generalize them to create a new approach that can explain future problems.

In order to accomplish my thesis, I have used “qualitative research strategy” that starts with collecting and evaluating specific facts, then the theoretical analysis that leads to developing a new approach.

A close up of a logo

Description generated with high confidence

Figure 1. 1, Tree of Challenges

Roots: human influence and overpopulation; trunk: GHG emission; dispersion spot: G.W. – global warming; branches: a – ice melt, a1-rise of sea level, a2 – lost cities, b – water problems, c – marine heatwaves (MHW), d – wildfire, d1- erosion and mudslide, e-resource scarcity, e1 – conflicts, e2 – undernourishment, f – urban problems, g- migration, h – societal problems, i- economy, j – extreme weather, k – shifts, l – finding other worlds, m – rainfalls, n – inequality, o – infectious diseases, p – air pollution, q – health and death problems, u-u – unknown-unknowns.

# **Chapter I**

# **Climate-Related Challenges and Urgency of Cooperation for States**

## Tree of Challenges

*“Climate change is moving faster than we are – and its speed has provoked a sonic boom SOS across our world”.*

*Antonio Guterres*

This quote is from the speech of Antonio Guterres where he delivered his message to the world about the upcoming challenges. He stated the urgency of action against the coming problems and vitality of cooperation. We may call new and future security challenges as “unknown unknowns” too because we do not know how problems will find its way. Also, some scholars call the emerging or upcoming new security challenges as “wicked problems” that has “no correct solution” and “no stopping rules” (Taipale 2004, p. 127-128). However, we should keep in mind that the problems that we face today and are going to face, are the consequences of human interaction. These problems can be totally new or sequentially emerging ones which become harder for us to tackle. The manufactural problems emitted GhG, which in turn raised global temperature destroying the environment and ecosystem.

From these resolutions, it is evident how the problem that we are facing requires immediate action. Kaplan (1994, p. 11) argued a quarter century ago saying that in order to project the problems of the “next fifty years, … one must understand environmental scarcity, cultural and racial clash, geographic destiny, and the transformation of war” – especially indicating the roles of the last two. Mandelbaum’s argument about the world policy that is similar to “the shape of a doughnut” which is vacant in the inside requires fulfillment and Kaplan (1994) argued that environmental problems will fill it. Homer-Dixon (cited in Kaplan 1994) concomitantly argued that the “future wars” will start from environmental scarcities because “we're degrading earth's best soil” which was also backed by Creutzig (2017) too.

Climate change is not a new phenomenon and according to Scientific America (Hall 2015), even ExxonMobil knew about it forty years ago. In the article, it is explained that several companies including ExxonMobil started to question scientific findings which caused more release of GhG. The controversy between companies and scientific findings, helped oil companies to stay on business track more. A modern economy is the accelerated GhG emission globally which created climate change and increase global warming (Sachs 2015).

Mitchell (2013, p. 806) classifies the emergence of the challenges by naming them “total ignorance, causal ignorance, and effect ignorance”. The totality does not understand the happenings because they can be “unknown-unknowns” or just because they are being ignored. “Causal ignorance” happens without questioning who does it and the “effect ignorance” happens when uncertainty takes the ground. Moreover, Ehrlich and Holdren (cited in Mitchell 2013, p. 804) indicate three variables, namely, “population”, “affluence”, and “technology”. Also, ecophilosophy explains the source of the problem as lack of interest in preserving the environment, scientific side explains it with human ignorance and with the lack of technology, legal perspective argues that not including the nature to the legal rights creates the problem. Economic side explains that benefits create certain thinking that humans embrace one thing but ignores the other. A political perspective, on the other hand, argues that powerful tend to ignore the environment, whereas, the ones who are less powerful tend to care about it. However, in my explanation, I merged affluence and technology together and give as main root causes of the problems which nourish the tree itself. As it is happening globally, human actions, plus, overpopulation creates global challenges. So, the nutrients are going to be warming or rising temperature which forms the body of the tree – climate change. The climate change, in turn, grows with a multitude of branches. In order to understand and solve the branch-problem, we must start from the foundation or from the roots of the tree.

To start with the global challenges, we may look at the UN Resolutions about these problems and counteraction plans. We have a spectrum of UN Resolutions that is available with the topic named “climate change”. These resolutions start from 1988 and continue till nowadays. These resolutions are followed by meetings of the states in different countries where they have also adopted agreements and facts about climate change. In the first resolution, it is stated that “… changes in climate have an impact on development” (UN 1988, para. 7). Moreover, in the resolution number 201 it is stated that the UN is worried about all countries but especially about the developing or least developed countries and the “small island states” that experiences the problems that derive from the climate change (United Nations 2006, para. 7). Also, in resolution number 281 we can see the statements such as “deeply concerned” and the problems related to the climate change that “have possible security implications” (United Nations 2009, para. 9) and the role of the women as a key factor in sustainable development and “gender” role in addressing these issues. (United Nations 2008, para. 18).

In order to explain the upcoming problems, their root causes, I used the tree shape for its visualization which I call “Tree of Challenges” (*see* Figure 1.1). If we visualize the tree itself, we will imagine that it has roots, trunk, and branches. The roots are the main nutrient carrier to the body of the tree which then gives birth to the branches. The security challenges of the future will also repeat this way of growing. The roots will be divided into overpopulation (IPCC 2014: cite) and human activity. The human activity comprises in itself interest, economic needs (IPCC 2014), emission of GhG and so on. According to National Geographic (2017), they are the main driving forces of climate change and the rise of the temperature. There are several gases such as, methane, chlorofluorocarbon, carbon dioxide, water vapor that keeps the heat which comes from the earth in parallel letting the heat from the sun to enter the earth (National Geographic 2017). So, when this process happens the heat in the atmosphere increases creating the phenomenon “greenhouse gas effect”, i.e. “heating [atmosphere] globally”. This “imbalance” that is enmeshed with GhG and solar radiation causes global warming and then climate change (Shuman 2010). Moreover, scientists from all over the world prove that global temperature is increasing, “with widespread and growing impacts” (Jay et al*.* 2018, p. 36) that in turn affects the ecosystem and population of the earth (Jay et al*.* 2014, p. 53). This development *sequentially* creates new challenges that I have indicated in “Tree of Challenges” (*see* Figure 1.1).

According to the IPCC (2014, p. 44) report, the greenhouse gas emissions have increased starting from the manufactural revolution till our time because of the economic and population factors and it was in its peak during 2000 and 2010 which illustrated the highest emission in the history. The chemical concentrations, such as, “carbon dioxide, methane, and nitrous oxide” has never reached the level in the “800,000 years” (IPCC 2014, p. 44). Starting from the 1970s, the “global cooling” has not happened (Dzaugis *et al.* 2018, p. 1461) and from the Figures 1.2 below we can see that how the emission of CO2 increases and projected to increase in the future. Carbon dioxide (CO2) comprise approximately two-thirds of the GhG which largely derives from “burning fossil fuels” (United Nations n.d.). Anthropogenic emission of GhG is the main cause of climate change and future problems (Hayhoe et al*.* 2018, p. 73). In Figure 1.2, it is visible that starting from the 1950s the global CO2 emission skyrocketed. Human-related GhG emissions increased between 1970 and 2010 and doubled in the period between 2000 and 2010 (IPCC 2014, p. 45). Therein, in Figure 1.3, we can see the comparison of the natural and human-related CO2 emissions globally where anthropogenic emission is much higher and bigger than the natural happening.

A close up of a map

Description generated with high confidenceFigure 1. 2, Annual CO2 Emission

Both figures illustrate the increase in the worst GhG mission in the years 2017 and 2018. Last year we have almost reached to 600 million tons of CO2 emission which is “bad news” for all of us. However, the figure of CO2 emission indicated “408 million” as a maximum, according to SRMER (2017, p.

Source: IPCC (2014, p. 45).

29) which means either indication is “bad”. IPCC (2014) explains the rise of the temperature giving three scenarios, namely, RCP 4.5, 6.0 and 8.5. According to all scenarios, the temperature will exceed 1.5 degrees during the 21st century. With the scenarios RCP 6.0 and 8.5, the condition will be worst reaching 2 degrees whereas with the RCP 2.6 and 4.5 projections we will not reach 2°C (IPCC 2014, p. 60).

A screenshot of a map

Description generated with very high confidenceFigure 1. 3, Anthropogenic CO2 Emission

Globally it is believed that the gas emission will be equal to the 4.5 scenarios which will not pose huge threats, however, the level of the emitted gas is equal to the 8.5 level Source: IPCC (2014, p. 45).

which can create more problems for the world (Jay *et al.*, 2018, p. 41).

The increase in the GhG emission to the earth atmosphere is “directly linked” to the temperature and the emission as I have argued is rising gradually “since the time of the Industrial Revolution” (United Nations n.d.; IPCC 2014; SRMER 2017). Unfortunately, the growing demand for the energy will “put upward pressure” in energy consumption which will worsen the situation by emitting an excessive amount of CO2 to the atmosphere (Jackson et al*.* 2018, p. 1).

A screenshot of a social media post

Description generated with very high confidenceFigure 1. 4, Global Warming

Another point is that we are living in the warmest period since 1850 (Figure 1.4). Since the 1960s the Northern Hemisphere which has always been covered with snow started melting. According to the “tide gauges and satellites,” the sea level is rising because of the ice melting and because of the high temperature the ocean water vaporizes which creates humidity and ocean

Source: Dzaugis et al. (2018, p. 1444).

acidification (Dzaugis et al. 2018, p. 1447). For example, ice melting, a rise of sea level, abnormal changes in weather and temperature, etc. are the visible indicators for ordinary people.

During the period starting from 1983 to 2012, the world faced the warmest three decades in the last 8 centuries and the Northern Hemisphere “in the last 1400 years” (IPCC 2014, p. 40). According to the projections that are provided by the IPCC (2014) the temperature is going to rise “under all assessed emission scenarios”. Therefore, heatwaves and precipitations are going to happen frequently almost in every region (Dzaugis et al. 2018, p. 1476). It will be followed by ocean warming which is faster than land warming and, therefore, will increase the ocean acidity and “global mean sea level” (IPCC 2014, p. 58). Moreover, WMO (2018) also approves that we had the fourth highest warming record including 2018. The warming records are continuing already 2 decades, but the last four years are the highest.

Global warming is also approved by the NASA scientists – Susskind et al. (2019, p. 2) by using AIRS (*see* Abbreviations) “satellite-based” tool which is not related to the land-based measurement. This measurement is a clear demonstration that the world is really going to the warming period with an unbiased result and the year starting from 2015 have been the warmest ones which reached its peak in 2016.

The “global surface temperature” started to increase starting from 1880 reaching the highest temperature in 2016 that is shown by NASA (Dzaugis *et al.* 2018, p. 1473). If the temperature will not linger around 1.5 °C then we may face additional climate-related challenges in the future and “some impacts may be long-lasting or irreversible” boosting the “health, livelihoods, food security, water” and other problems destroying the “ecosystem” (IPCC SPM 2018, pp. 7, 11). If the world temperature will exceed or stays in 4 Celsius then with high confidence as report explains the world species will extinct, food insecurity that will derive from the hardships of adaptation and from the lack of human activities which will be devastating for the earth (IPCC 2014, pp. 19, 65, 69, 77). Moreover, global warming is not happening the same in everywhere, but it will proceed on “during the century” because of the anthropogenic GhG emissions even though it is happening in some parts of the world (Dzaugis et al*.* 2018, p. 1470).

Figure 1. 5, Ice Melting

*A screenshot of a cell phone

Description generated with very high confidence*We can be sure that the “extreme warming events” able to alter the way ecosystem works that lead to a multitude of problems (Gibbens 2019). With the current temperature, we can see the coastal flooding, extreme precipitations, underwater heatwaves and so on. and if the temperature rises 1 Celsius degree then with high confidence it is clear that risks will be high too (IPCC 2014, p. 72).

Source: Hayhoe et al*.* (2018, p. 93)

Moreover, global warming causes problems for the transformation, changing the forms of the railways and much more use of energy resources, according to the SRMER (2017).

Another problem or branch of the climate change is the ice melting (*Figure 1.1,* a) even in the winter times according to the Science magazine by Alex Fox (2019). particularly the Alaska and the Arctic regions are experiencing global warming more rapidly than the global average and we may not see ice even in the summer period (Hayhoe et al. 2018; IPCC 2014; Figure 1.5). Because of climate change, the rise in temperature takes “270 billion tons of ice from Greenland’s more than 1.7-million-square-kilometer ice sheet” and because of it, we experienced the sea rise approximately 7.5 millimeters between the years 1992 and 2011. Moreover, Greenland is becoming rainier which is not good news for this icy area (Fox 2019).

For the first time in 2 million years, we are expected to lose ice sheets on the Arctic Ocean completely by the mid of the 21st century (Hayhoe *et al.* 2018, p. 94). According to Roshydromet (2018, p. 33), the temperature in Kara sea has risen to “4.95o C during the 30 years of period” which is the anomaly. However, in the whole polar region, the temperature rose between 2-4degrees. Starting from 2002, the pace of this process accelerated, and “glaciers” started to melt globally (IPCC 2014, p. 4-42) and in 2017 the permafrost thawed between 12-38 cm in different regions of Arctic (Roshydromet 2018). The Northern Hemisphere is losing its ice sources and the “permafrost temperatures” have risen since 1980 (IPCC 2014) and the Arctic sea and land ice melting faster and the “glacier ice mass are declining” (Hayhoe *et al.* 2018, p. 115-116). The ice sheets started to melt from the edges which cause the icebergs to roam on the ocean, whereas, according to the scientific monitoring, “70% of Greenland’s contributions to sea level rise has come from meltwater, notice” (Fox 2019). The total melt of Greenland can boost the sea level rise to 7 meters which can easily *sink several cities*.

Moreover, defrost of permafrost releases methane gas to the atmosphere which will intensify the gas emission and warming together with the anthropogenic emission of GHG (Hayhoe *et al.* 2018, p. 74). Nisbet et. al. (2019, p. 318-319) also mentioned the “unexpected” increase in the amount of methane gas emission globally but not being sure of its cause. They argue that it has started from 2007 and “accelerated in the past 4 years” which might be a rise in emission or the “destruction of methane in the air” which makes harder to meet Paris Agreement goals.

It is expected that ice loss and the rise of temperature will continue “through the 21st century” (Hayhoe *et al.* 2018, p. 94) and if we are going to face the warming that is in between 0.5 and 3.0 Celsius then we will face the extreme ice loss that will result in “7 m to global mean sea level rise” with its dangerous future challenges (IPCC 2014, p. 72; SRMER 2017).

Another sequentially emerging problem is the global sea level (*Figure 1.1*, a.1) rise which has risen more and faster because of the ocean warming and ice melt since 1993 (Hayhoe *et al.* 2018, p. 74). In Figure 1.6, we can see the meteoric rise of sea level starting from 2000 given several scenarios. With the extreme scenario, the level can rise to 2.4 meters at the end of the century which can occur but “cannot currently be assessed” (Hayhoe *et al.* 2018, p. 74). Melting of ice because of the warming is the main contributors to the sea level rise (IPCC 2014, p. 42).

Figure 1. 6, Rise of Sea Level with Different Scenarios

A screenshot of a map

Description generated with high confidenceProjections about the rise of sea level are not cheerful because 95% of world water level is expected to rise (Hayhoe et al*.* 2018, p. 85; IPCC 2014, p. 60) which is dependent on the “future emissions” (IPCC 2014, p. 16). If we keep the global warming below or in 1.5 degrees that will not reach 2 degrees by 2100, then the sea level will be around 0.1

Source Hayhoe *et al.* (2018, p. 85).

meters (IPCC SPM 2018, p. 9). However, if we do not balance the global temperature then the level of the sea will rise exceeding 70% at the end of the century (IPCC SPM 2018, p. 9; IPCC 2014, p. 13). Moreover, without strict rules for reduction for GhG, then some lost things “might be irreversible” which can cause the “near-complete loss” of Greenland ice IPCC (2014, p. 74). This process, in turn, will cause the “larger sea level rise” that can reach to 7 m (IPCC 2014, p. 60).

According to USGCRP (2018, p. 27) and IPCC (2014, p. 51) the climate change*, i.e*. raining and ice melting affects the water (Figure 1.1, b) quality and quantity which is concomitantly dangerous for the needs of people for the “agriculture, energy production, industry, recreation, and the environment”. As an example, shortage in rainfall that caused water scarcity happened in Cape Town (WMO 2018, p. 6). The “mismatches” between the water accessibility and the precipitation time will have “risky” consequences too (USGCRP 2018, p. 27; IPCC 2014, p. 65). Also, the water quality problem has been indicated in the SRMER (2017, p. 93) as contaminated and “not being changed”. Water problem may also affect the security negotiations and may have an indirect effect on the conflicts (Gleditsch 2012).

Another challenge according to Smale et al. (2019 p. 4) is the Marine heatwaves (MHW) (Figure 1.1, c) which had risen to 50% in 29 years (1987-2016) when compared to the last measurement in 1925-1954. Increase of the temperature in the water is damaging the ocean ecosystem which WEF interprets as “bad news”. With 1.5°C global warming, it is calculated that coral reefs would decline by 70-90 % and if it reaches 2ºC then we can expect the total loss of the underwater nature (UN n.d.). Smale argues that you can see heatwave induced wildfires which is also happening underwater too which is boosted by “a number of threats, such as plastic pollution and ocean acidification” (Rosane 2019; Marine Biological Association 2019). Another bad news from (IPCC 2014, p. 58) is that temperature in the oceans will keep increasing and the heat waves will happen frequently together with acidity.

Another problem which derives from the rise of temperature is the wildfire (Figure 1.1, d) related disasters. According to Gonzalez *et al.* (2018, p. 1115), climate change dried forests that make them susceptible to wildfire. DoD (2019, p. 16) indicates wildfires as the most “dispersed” challenge against US military assets. Moreover, when the regions face wildfires they can also have “mudslides or erosion when rains follow fires” (Figure 1.1, d1). In Figure 1.7, we can see that without climate change the wildfires would be two times lower in the Southwest part of the US.

A screenshot of a cell phone

Description generated with very high confidenceFigure 1. 7, The US Wildfires

Wildfire-related death reaches more than 100 people that happened in Greece and California, whereas, more than 1600 people died because of the heat waves (WMO 2018, p. 6). Moreover, regions such as British Columbia reached to the

Source Gonzalez (*et al.* 2018, p. 1115).

peak “for the most area burned” reaching in “1.35 million hectares” last year in November (WMO 2018, p. 10).

The extreme heat also caused the drought in the summer season in some parts of the world. The central and southern part of Scandinavia experienced the warmest and driest season. Countries such as, Sweden, Finland, and Estonia are those countries that recorded this drought period (WMO 2018, p. 8). Other European states, such as Germany, Switzerland, Portugal, etc. can be added to this category. The high temperatures also happened in Oman in the summer, where the temperature fell only 46 degrees at night (WMO 2018, p. 9). The wildfires destroyed the “49,38% of forests” in Russia by 2017 which has been indicated in the SRMER (2017, p. 222). Wildfires can also impact the “individual safety and property”, pollute the air and worsen the health resulting in “respiratory illness” (USGCRP, 2018, p. 2).

Another challenge according to the National Assessment (2018, p. 29) is the agricultural productivity (Figure 1.1, e) problems which derive from “drought, wildfire on rangelands, and heavy downpours” that is happening because of increasing temperature. This leads to food security, prices and to the people living in rural areas. So, it also impacts food security which can be interpreted as “dwindling of resources”. Because of the differences in regional locations, the impacts of climate change differ, whereas, the risks are already moderate especially for the “crop production” and will be higher under the condition of 2oC according to IPCC (2014, p. 72). Moreover, SRMER (2017, p. 208) also approves that the human overuse of the soil, such as, “cutting trees, mining, industrial production, etc.” can cause the “degradation” of it.

This process leads to “undernourishment” (Figure 1.1, e.2) of the people that live in the poor areas of the world (WMO 2018). Africa as a region is mostly exposed to the “acute food insecurity and malnutrition” but it is not only limited to African alone. Concomitantly, Brazil, Argentina, Central American and Caribbean region are also expected to face food insecurity (WMO 2018). Last year Germany lost its 43% of its maize and 21% of its potatoes crops because of the dry weather. Argentina also lost its soybeans and maize, which was equal to US$3.9 billion according to WMO 2018 (p. 6). Its impact to 24 countries and 59 million people, shows the urgency of humanitarian help (WMO 2018) and as Barnett et. al. (2013) and Antonio Guterres (United Nations 2018) states, the “dwindling [of] resources” leads to local conflicts.

Emerging problems, such as the rising sea level, deforestation, pollution of the environment, etc., will create foreign policy problems in the world as Kaplan argues. These problems will fuel the ideological conflicts (Figure 1.1, e1), migration, the problems “left from Cold War” (Kaplan, 1994). In the words of Antonio Guterres, the climate change “… is already leading to many local conflicts over dwindling resources”. The migration that emerges from the famine and conflicts will happen especially in the vulnerable places, particularly, in the Horn of Africa where 13 million people “face serious food shortages” (Fleming 2019). Also, a transition to renewable energy can fuel the internal conflicts in countries such as Algeria, Venezuela, Iraq, etc. (Goldthau et al. 2019). Climate change especially may trigger sub-state conflicts which are already happened in Darfur between “herders” and “farmers” (Gleditsch 2012).

Conflicts and climate events serve as a “threat multiplier” in some parts of the world which results in the migration (Figure 1.1, g) and as an example, we can take Somalia. In 2018, a combination of “sudden- and slow-onset” conflicts created people migration both internally and externally. Starting from July 2018, people in Somalia migrated because of the conflicts and resource scarcities caused by climate change (WMO 2018, p. 5). Starting from September 2018, approximately 2 million people changed their places because of climate change out of 17.7 million people (WMO 2018, p. 4). Moreover, apart from migrating to other regions or places, the existing IDP has also exposed to climate-related events. As an example, Rohingya refugees faced climate change-related events in their second migration, which is Bangladesh that had heavy rain from monsoon shift (WMO 2018, p. 5). It also put the ordinary Bangladeshi people into a vulnerable situation.

We enter another big branch of the problems where more than 4 billion people live nowadays according to the 2016 data (Ritchie and Rose). Cities are becoming the main terrain for the world population and it is growing year by year. According to IPCC (2014, p. 15), climate-related problems will affect urban areas (Figure 1.1, f) threatening the lives of people and destroying urban inhabitant. “Coastal systems and low-lying areas” (IPCC 2014, p. 67) will face the sinking and erosion significantly during the 21st century because of the rise of sea level. The cities like Miami (Lufkin 2017), New Orleans, Amsterdam, Baku (Kiprop 2018), and even countries such as Djibouti (Lynch n.d.), Bangladesh (Lufkin 2017) which lies on the basis of the rivers and oceans are highly in danger. Lufkin argues that we may build a new type of buildings, however, he also mentions that the rising water level may just endanger the whole city of Miami and Bangladesh. Hereby, the migration problems (Figure 1.1, g) will emerge because of the flooding of the cities and the regions (Lufkin 2017). The rise of sea level can cause during climate change can cause “200 million people” to migrate (Wilensky & Freeman 2019).

Another problem is that climate-related impacts are going to affect societies (Figure 1.1, h) and the daily life of the population, such as, destroying the fisheries, farmers’ harvesting lands, ordinary people that go work which the economy of the country depends. It is especially risky for “disadvantaged people and communities everywhere” (IPCC 2014, p. 72). Indigenous communities, in particular, will be exposed to climate change forcing them to migrate where they feel safe but insecure followed by a change in their habits and lifestyle (USGCRP 2018, p. 28). Fast changes in climate make adaptation harder for society and for governments because infrastructure has been built for long-term purposes (Dzaugis *et al.* 2018, p. 1484). Moreover, according to the higher scenario (RCP 8.5), the high temperature together with humidity will be a predicament for human activities to work in the outsides “by 2100” (IPCC 2014, p. 15; USGCRP 2018, p. 31-32). If we limit temperature around 1.5°C not letting to reach 2°C, then climate change will not cause problems for development, poverty and inequality reduction which requires cooperation (IPCC SPM 2018, p. 20).

Another problem is air pollution (Figure 1.1, p) that became an urgent global problem. According to WEF (2018, p. 13), “90 %” of the world population lives in polluted air. According to Lelieveld *et al.* (2019, p. 1-2) as a “risk factor,” air pollution has not been taken into consideration which causes “respiratory and cardiovascular mortality”. They explain that air pollution creates a “much higher disease burden” in Europe. Moreover, climate change affects air quality and fosters the spread of disease by affecting the lifestyle of insects changing their location that becomes crucial for the disease carriage. Also, “heat-related deaths”, as well as, allergy, asthma and other diseases will upsurge because of air pollution (USGCRP 2018, p. 27-28). The effects of the climate change to the human health (Figure 1.1, q) conditions are also indicated in the IPCC report (2014, p. 65) arguing that flooding, the rise of the sea level, and storms cause illness and disrupts livelihoods. Gibbens (2019) formulates this problem as also dangerous for human health which causes the stroke and dehydration on humans. Another thing is heat-related death that is rising globally. According to the World Health Organization, be approximately 92,000 deaths will happen yearly by 2030 and without adaptation, the figures will reach to 255,000 deaths per year by 2050 (SEforALL n.d., p. 25). In 2015, in India alone, heat waves killed roughly 2400 people (Srivastava 2019). SRMER (2017) also proves that environmental disasters increased death 11 times in Russia.

Moreover, climate change is the main accelerator of infectious diseases (*Figure 1.1*, o) which can be spread from one part of the world to another part easily making it a global problem. The impact of climate change can change the “well known” direction of disease making us more vulnerable according to the WHO report (Patz et al. 2003, p. 104). Climate change has an indirect effect on diseases making it harder to tackle the infectious diseases as Patz et al. (2003) argues. The waterborne, malaria, cholera and other diseases can become fast-spreading infections, including “Lyme disease” (Thomson 2017). Moreover, the hot weather creates a cradle for the insects to proliferate exponentially (Shuman 2017).

So, as I argued above the “terrestrial, freshwater and marine species” have changed and shifted (Figure 1.1, k) from their geographical locations. Because of this shift in weather and climate, their “seasonal activities, migration patterns, and … interactions” have changed and these shifts are happening in cold and warm days (IPCC 2014, p. 51-53). As we talked about the abnormal warming and its consequences for the world population, another problem is extreme coldness in other parts of the world. For example, in 2018, Europe experienced its worst cold season during February and March (WMO 2018, p. 9). Countries, such as Estonia, Italy, Ireland, France, United Kingdom experienced the coldest year in a row (WMO 2018, p. 10). This anomaly is also disadvantageous for the traditional harvesting, way of living, community lifestyles, economic lifestyle and so on.

According to the report from NOAA climate change harms our economy (Figure 1.1, i) and it is dangerous not only for the people of America but also for the whole world population (Cleetus 2018). In USGCRP (2018, p. 25) it is stated that climate change will affect severely to American economy hampering its development and causing billions of dollars to lose (Martinich *et al.* 2018, p. 1349). This problem will endanger not only economy in the borders of the US but also will affect its economic partners (USGCRP 2018, p. 25-26) and this, in turn, will threaten the “infrastructure and property, labor productivity, and the vitality of our communities”. USGCRP (2018, p. 30-65) states that the nation’s old infrastructure is threatened by extreme events and “adaptation” and “forward-looking infrastructure design” will help to reduce the GhG emissions to the atmosphere which will also help to secure vulnerable areas that are exposed to climate change (USGCRP 2018, p. 30). The economies that are dependent on natural resources will be threatened by climate change, in particular. Additionally, bad weather affects hiring and economy of the state. When the weather becomes nasty, the economy slows down and in result, the job places are being closed by causing a change in the way we live “across continents” (Sherman 2019).

So, we have talked about the upcoming challenges which are the core of the ecosystems and biodiversity. If there are going to be additional 1°C degree of warming, then the ecosystem will be vulnerable. The places or species that do not have the adaptation limits, such as, “[a]sea ice and coral reefs”, will be highly at risk with 2°C degrees (IPCC 2014, p. 72) However, losing biodiversity widely can happen under 3°C (IPCC 2014, p. 72) and if it exceeds the 4°C, then the world will face extinction of species, danger to human activity and “limited potential for adaptation” (IPCC 2014, p. 77). According to the IPCC (2014, p. 79), lots of findings do not take into account the extent of the problem, its “irreversibility”, and other problems which are hard to quantify and deliver as a data.

Another record problem is heavy rainfalls (Figure 1.1, m) that emerge because of increased vaporization globally. Several countries will collapse with climate change, especially India and Bangladesh that Kaplan (1994) warned which is already happening. Kerala province in India faced its worst rainfall in August in 2018 which was “96% above the long-term average” (WMO 2018, p. 8) killing 400 people (Menon & Varadhan 2018) and affecting 5.4 million. Approximately “1.4 million people” have been housed in “relief camps”, which cost 4.3 billion dollars (WMO 2018, p. 8). The rainfalls also happened in western Japan in Baiu front and Yanase in Shikoku island causing 230 death (WMO 2018, p. 8). Another example of flooding is the African region, particularly, Kenya and Tanzania, including Ethiopia that experienced droughts previously. In April 2019, another heavy raining happened in South Africa, KwaZulu-Natal province and the city of Durban where more than 50 people died and roughly 1000 displaced (AFP 2019, cited in Yahoo News) their place because of the flood and mudslides (BBC 2019). Also, in the figures presented by SRMER (2017, p. 38) we can see the rise of extreme weather accompanied with heavy rains and heavy snowing starting from 2014 till 2017 reaching to the peak. This is also followed by “tropical cyclone” in India killing many people which has not happened in 2 decades according to CNN News (Gupta, Regan & Berlinger). The cyclone Fani also affected other Asian states, in particular, to Bangladesh killing “dozens” of people (Al Jazeera 2019). The change in climate and temperature also causes extreme hurricanes (Figure 1.1, j) regionally. In 2018 August, deadly hurricane Maria killed roughly 3000 people. It was the biggest hurricane in the 90 years that caused so many death and financial problems (BBC 2018).

Another problem that emerges from global warming is global rising inequality (Figure 1.1, n) (Diffenbaugh & Burke 2019). The developing states with a hot climate and some developed ones experienced a decline in the economy which derives from the use of fossil fuels. “∼25% increase in population-weighted between-country inequality” is the result of global warming as they point in their article (Diffenbaugh & Burke 2019, p. 1). Economic growth happens in developed North pushing developing South to its already lower economy.

Lastly, another problem as Lufkin (2017) argues can be finding other worlds (Figure 1.1, l) where people will shell out money for it. He points this problem without connecting it to the problems listed above. Kaku (2018, p. 3) in his book narrates interesting argument: “Either we must leave the Earth or we will perish” which means scientists are already looking at the space with eyes open. Using the second world as a “backup plan” he argues, can be an “insurance plan” (Kaku 2018, p. 6). We can already see ongoing competition among different companies in space exploration and Musk assures that Mars is inhabitable and he is planning to send its “two cargo ships” (Clifford 2018).

Lastly, Sachs (2015) argues that any decision should also consider future generations and “unborn babies” because climate change is “intergenerational”. Their destiny is dependent on people whom they have never met but will remember either as savior or destroyer.

There can be several reports or written papers about upcoming future threats and challenges. We may ask can we rely on these reports? The answer is surely not but as ESPAS (2015, p. 6) defines this step of trying to find out the future trends will help us to look at the problem from different perspective forging a new way of thinking and “project[ing] how our world will change under future conditions” Jay et al. (2018, p. 40-41).

## Source of the Problems

The world faced six epoch and reached to the new one which is called Anthropocene and it is the last stage after the Holocene period. The main explanation of Anthropocene is that human beings became a dominant influence on the world (Pereira 2017). It means that humans release GhG to the atmosphere and in return, it creates additional problems globally affecting the natural way of livings. This change is visible with climate change and with its consequences.

Human interaction “directly or indirectly” causes a change in global climate that exposes humans themselves to future threats (UNFCC 1992, p. 7; USGCRP 2018). IPCC (2014, p. 48) also, rise in global temperature between 1951 and 2010, is the consequence of “anthropogenic increase in GHG”. “As populations, economies and standards of living grow”, the level of GhG also increases in the atmosphere (United Nations n.d.). There can be some “uncertainties” in an academic sphere about climate change, but it is certain that the main causes are “greenhouse effect” which derives from “human activities” (USGCRP 2018, p. 41).

In the foreword of IPCC (2014, p. v), Michael Jarraud and Achim Steiner say that “human influence on the climate system is clear and growing” in all regions with 95% of confidence and we humans are the main instigators of the problems globally. The Anthropogenic emissions which had happened in 1750 and 2011, is equal to the CO2 emissions of the last four decades (IPCC 2014, p. 45). Climate change is happening “faster than at any point in the history of modern civilization” in enormous level (*see* Figure 1.8) because of the human factor (Jay et al., 2018, p. 34).

Jay et al. (2018, p. 39) argue that there should have been “slight cooling … over the last 50 years” without human influence. However, the temperature keeps going even faster because of the artificial concentration of GhG. Therefore, “long-term warming” globally cannot be labeled as a natural trend and there is no alternative argument that can evade the human factor (Jay et al. 2018, p. 39). The anthropogenic greenhouse gas emissions have been enlarged in the atmosphere reaching 40% “over the industrial era”.

Another point is that human-related impacts are the main supplier of higher temperature to the Arctic surface which sequentially leads us to the sea ice loss (Hayhoe *et al.* 2018, p. 94). According to the IPCC Reports (2014, p. 5-48), human impact is “very likely” affects the Arctic region. Anthropogenic impact also has a huge impact on “the global water cycle” and “global upper ocean heat content (0–700 m)” starting from 1960 that caused the thaw of glaciers and melting in Greenland (IPCC 2014, p. 5-7). Except for Antarctica, human impact covered and affected all the regions of the world “since the mid-20th century” (IPCC 2014, p. 45).

Figure 1. 8, Anthropogenic Influence.

*A screenshot of a cell phone

Description generated with very high confidence*According to IPCC SPM (2018), it is stated that “human activities” caused the rise of global warming to 1 Celsius which is “likely to reach 1.5°C between 2030 and 2052” with current pace (IPCC SPM 2018, p. 6). Moreover, it is stated that the “anthropogenic emission” will continue for centuries and will result in other

Source: IPCC (2014, p. 48).

climate-related changes in future “with associated impacts” (IPCC SPM 2018, p. 7).

Moreover, according to the SRMER (2017, p. 32), the climate change is driven by human emittance of GhG where it reached an “unprecedented level with 95% confidence”. Also, at the start of the Climate Doctrine of Russia (President of Russia 2009), it is indicated that climate change happens because of humans. This statement also indicated in USGCRP (2018, p. 29) arguing that “[w]ithout substantial and sustained reductions” in GhG, the consequences will be more dramatic.

Lastly, humans who wanted to develop and get more power increased the global temperature which is “unprecedented in the history of modern civilization” (Jay et al*.* 2018, p. 39).

## Actors in security and cooperation

With the help of NAZCA data platform, we can see the role of actors globally that cooperate and collaborate to fight back the climate change showing their responsibilities. The “non-Party stakeholders”, such as cities, companies, etc. are being registered in this portal in order to show their commitment against climate change. This is a review tool that helps us to track these actors globally and see their commitments. According to the portal in 2019 of March, we can see that there are 9378 cities, 128 regions, 2431 companies, 363 investors, and 98 “Civil Society Organizations” are present. Their work can be reviewed up above with the interactive map. The actions are divided into individual and cooperative actions, where they indicated their mitigation actions towards a secure future. According to the interactive map, Italy, Spain, the USA, Japan, and the UK are the main five countries that represent more stakeholders that work on this sphere. Interestingly, from these countries, only two of them are the members of the Security Council. Moreover, China is present with 202 stakeholders which too low for the country that is the number one emitter of the CO2 with 9839 million-ton CO2 according to the Global Carbon Atlas 2017 data.

Figure 1. 9, Main CO2 Releasing States

A close up of a map

Description generated with high confidenceThe role of the states is crucial in the security sphere (Ullman, 1983, 130), therefore, I think states should be checked and ranked. According to GapMinder (2014), it is more than 10 million tons of CO2. So, we can see the Source: Gap Minder – CO2 Emission.

the unwillingness of China in this interactive map to fight back the CO2 emissions. Moreover, the USA is the second main emitter of the GhG to the atmosphere which is 5.27 and 5.25 million tons of CO2 according to GCP and GapMinder respectively (*see* Figure 1.9).

According to the Axios (2018), Guardian (2018), the main emitters are China, the US, EU, India, Russia, and Japan (*see* Figure 1.10)

Figure 1. 10A screenshot of a cell phone

Description generated with very high confidence, Main CO2 Emitting Regions and States

Moreover, Levin (2018) from the World Resource Institute and Geman (2019) provided data about CO2 emission that is going to increase in the US, China,

Source: (Axios 2018).

and India, also, worldwide, however, only having a decline in Europe. Although Geman (2019) provides figures for Europe higher (-1.3%), Levin (2018) indicates half of it (-0.7%). Levin (2018) also points out that CO2 emissions are likely to increase in 2019.

Figure 1. 11![A screenshot of a cell phone

Description generated with high confidence](), Main CO2 Emitting Region and States

Source: GCP

IEA (2018, para. 1) also indicates the main contributors as China, India and the U.S. that encompass 85% of the CO2 emission. In Figure 1.11, we can trace the major roles of the states that emit the gases. We can see that China comes first and the Europe second which is then followed by the US. The fourth and fifth categories have been occupied by India and Japan respectively. In Figure 1.11, Russia is included in the European category which made it the second-high emitter.

Figure 1. 12, Main CO2 Releasing States

A close up of a map

Description generated with high confidenceFigure 1.12 illustrates the CO2 emission by 5 countries, namely, China, the US, India, Russia, and Japan. However, Figure 1.13, is about the regional emission of CO2 annually from 1959 till 2016. In this data, we can clearly see the huge emission of CO2 by Asian countries.

Source: Our World in Data

A map with text

Description generated with very high confidenceFigure 1. 13, Main CO2 Releasing Regions

It is followed by North American region which is almost parallel going with Europe but with 1 billion tons difference.

From these charts, we can derive the conclusion that the main emitters are five countries located in Asia, Europe, and North America.

Source: Our World in Data

According to the CAT (2019), Russia, The USA, Turkey, Saudi Arabia, and Ukraine are the worst countries in CO2 combating. This is followed by China, Japan, Latin American countries, and the EU. However, India, the country that is one of the main emitters in the world curbs its CO2 emission which ranked in the 11th place. These figures also backed by CCPI (2019) results but with slight differences. Although they indicated China in 33rd place, they argue that it happened because China has not increased its GhG 2 years ago, but they increased it again. Also, unlikely from CCPI (2019), the CAT (2019) indicated the European countries as “insufficient”. Although India is ranked as a compatible state in curing GhG emission, the timely analysis of the country shows the reverse picture. According to CAT (2018), the state will reach the high emitting numbers by 2030 which means India, too, most probably will drop out from its rank. Countries, especially, China and the US, together with accounts almost half of the world GhG emission, which means these states are the main destructive forces but also cooperation avoiders (Terhalle & Depledge 2013).

## Globalization

According to Jon Western (cited in Van den Berg & Hutten n.d., p. 7), having “worldwide effect” makes security and safety problems global. Effects of climate change on the infrastructure leads to other problems as I explained with “Tree of Challenges” (*see* Figure 1.1). Sachs (2015) argues that climate change is “interconnected” and comprise an intricate structure. The interconnectedness of the problems and challenges map has been proposed by the WEF (2018) that can cause massive problems worldwide. Also, problems that I stated above (*see* section 1.1) are intertwined problems (Mitchell 2013, p. 810), and affects everyone who lives on the earth. Moreover, interconnectedness is “vulnerable” because it is hard to anticipate challenges “within and beyond the nation’s borders” (USGCRP 2018, p. 26). The security and safety problem of even one small location can have a drastic effect globally and small changes in one region will have a direct impact to other regions as well because the world we live has become small in terms of mutual connections and relations (Van den Berg & Hutten n.d.). For example, the destruction of the infrastructure in the US will directly impact the economy of European countries, which will also have impacts in other markets. Therefore, globalization means that new issues enter the global security agenda (Müller, 2013, p. 609).

Apart from facing global and interconnected challenges, globalization itself has negative implications in IR. Müller (2013, p. 608) argues that globalization made cooperation and collaboration even more challenging with the rise of new actors, namely, China, Brazil, etc. Moreover, “failed” states became a burden in the global world that can easily become a menace in international society. He (Müller, 2013, p. 609) then explains that the globalization is not a “deus ex machina” that works for or against the collaboration of states. ESPAS (2015, p. 11) also indicates that the world will be messier because of globalization where the role of Western countries will lower.

However, it is argued that globalization has two-sided effects. For some, it is destructive and against the environment but for the others, it can be helpful for preserving the environment. Latter ones argue that globalization can be helpful because people will tend to live better and therefore, will start to care about ecology (Baylis, Smith & Owens 2014). Thanks to globalization, we can work together to face upcoming challenges and mitigate climate change effects. The cities as I aforementioned above may face submergence in the future because of the sea level rise and when some other cities have mutual connections with those particular cities, then they will be interested in mutual helping. Moreover, environmental problems have become a high political concern because of the globalization and the global effect of land degradation, climate change, etc. (Baylis, Smith & Owens 2014). Concomitantly, non-state actors also contributed their solutions for the upcoming challenges thanks to the globalization.

In order to think about the solutions for the environmental problems, the theories of IR should involve “security, climate change, and globalization” (Baylis, Smith & Owens 2014, p. 354). Also, the security problems that emerge from climate change should be looked not in the state level but in the global societal level because the globalization itself also brought several new challenges for all (Baylis, Smith & Owens 2014).

Lastly, Hill (2003, p. 130) argues that environmental degradation also connected to the globalization process and in order to solve this problem we need “common values” which I will explain in the next section (*i.e.* 1.5).

## The necessity of the cooperation

The problems that we are facing are neither local and not just global: they are “Glocal” (Roudometof 2005). Although Arctic ice sheets cover one region that we call the north pole can have an immense effect on other areas globally. Also, as global problems such as ozone layer depletion, warming temperature, and overall climate change are considered global problems. Therefore, we are facing new and unique problems that we may call “glocal challenges”. “Glocality” of the challenges is, therefore, a huge predicament for one actor to face them. Sachs (2015) also points global effects of upcoming challenges and mentions the role of whole human beings in this matter. We are simply shifting our world from the Holocene period which was stable and natural to the new period which is called Anthropocene and this period requires multi-level cooperation in order to tackle the upcoming challenges (Allen *et al.* 2018, p. 53-54).

Several reports and resolutions point the role of global human action against climate change and future challenges. To start with, 53rd UN Resolution (para. 11; Resolution 2008, para. 20) recognizes this danger as “a common concern of mankind” and indicates that it can only be tackled with “global framework” which takes into account “all mankind”. The resolution “urges and encourages” all the security agencies to take this issue seriously giving their utmost attention to cooperate in all aspects, particularly, research and scientific field which will help to keep “international community” aware of the challenges and will help to reach “ultimate objective”. Moreover, according to another resolution numbered “222” (2000; (2006, para. 2) it is stated that the resolution “[c]alls upon all States parties” to implement common but differentiated responsibilities principle against climate change which is part of their obligation under UNFCC. And joining cooperative initiative should not be just showing itself but taking the responsibilities (Resolution 2008, para. 2).

When it comes to the reports, they all indicate the global scope of climate change and the urgency of cooperative action. The US DoD (2019) report also points the problem as “global issue” and mentions the cooperation with other “partner nations” and their Defense Ministries in order to “plan” and “understand” the “global issue” (Department of Defense 2019, p. 15). According to IPCC (2014, p. 102), it is not in the limitation of two or several actors that their acts will just hurt another side: everyone is included. The first steps towards solving future challenges are global cooperation which requires collective understanding and “collective action” (IPCC 2014, p. 26). This cooperation is possible in “international, regional, national and sub-national” levels IPCC (2014, p. 102). However, achievement to the mitigation of chemical substances from the atmosphere cannot be achieved if actors will pursue the interest individually and cooperation is more real when the result is tangible and “equitable” (IPCC 2014, p. 76). Cooperation is especially crucial for the mitigation actions, whereas, adaptation is mainly useful for the local and national levels, however, they are both advantageous interchangeably (IPCC 2014, p. 26). This idea is also stated in the Cancun agreement recognizing their interconnectedness (Coninck 2018, p. 353). Also, there are many options that can help to mitigate and adapt to the changing environment that requires institutional improvements in connectivity (IPCC 2014). The common support of the technological improvements and their common use and share, also, financial support to tackle climate change can be an effective contribution (IPCC 2014).

Scholars also mention the vitality of cooperation. Williams (2008, p. 11) argues that “security is simply too important and too complex” that limits us to leave it to one group or to the specialists. Therefore, it will be hard for one state to address the anticipated problems and require collective action (ESPAS 2015, p. 8). Dewulf (2007) argues that we can see the cooperation of public and private sectors in the interdependent relations where they have certain interests or face the same problems. All “stakeholders” have their particular interest and obligation to tackle the problem and the “collaboration” is critical to solving the issues which can be hard for all of them to work alone and achieve something (Dewulf, 2007, p. 2). The cooperation is vital because when there is a hierarchy with the center and periphery then there is going to be a gap as Ullman (1983) defined. Periphery will use resources for the small groups of people which will fuel antagonism among the lower population and will push for either immigration or for the revolution. This problem will shrink the gap creating artificial problems and will hamper the cooperation making international society vulnerable to solve the emerging threats. Environmental security, exploitation of natural resources, emerging migrations and so on. can be addressed with cooperation. Just one actor or states are not capable of solving global challenges (Van den Berg & Hutten n.d., p. 10-11). We do understand the role of the states that have institutions to plan, coordinate and determine policy priorities. However, future challenges are “transboundary” that requires “bilateral and multilateral cooperation” (de Coninck 2018, p. 353). Especially, indicating the effectiveness of the broad approach against the upcoming problems and also adding the necessity of regional cooperation (de Coninck 2018). Moreover, Bretherton and Ponton (1996, cited in Baylis, Smith & Owens 2014) argue that because of the interconnectedness of the problems, the global environment makes cooperation more necessary than ever.

When it comes to international agreements, the Kyoto Protocol had issues according to de Coninck (2018, p. 353) inputting quotas and distinguishing development from the climate. Because of these problems, new approach so-called “Copenhagen Accord, the Cancun Agreements, and … the Paris Agreement” has been introduced with “pledge and review” system (de Coninck 2018, p. 353). And this process is continuing with annual meetings which gives hope for the future. Also, UNFCC (n.d.) states that the Paris Agreement tries to “brings all nations” under one umbrella and help for the developing states.

Lastly, we can also understand the necessity of cooperation from Antonio Guterres’s speech in 2018. He says that if we will stay without action by 2020, then we will face the “disastrous” challenges “missing the point where we can avoid runaway”.

## Summary of Chapter I

In this chapter, I have used different state and organizational reports, such as IPCC (2014; 2018), WMO (2018), USGCRP (2018) for assessing information about future challenges and created a “Tree of Challenges” (*see* Figure 1.1) indicating the root problems, and how it affects the branches creating a multitude of challenges. As a main source of the problem, I found that human activities, i.e. GhG emission, causes these problems. In the next section, I made research using GapMinder, CEP, OurWorldinData tools and found five biggest emitters, China, the US, Russia, India, Japan. Moreover, in Globalization section (*see* 1.4), I indicated the interconnectedness of the future challenges and the dual role of globalization in tackling them. Lastly, I indicated the necessity of cooperation by referring to the resolutions, reports, and scholarly literature.

# **Chapter II**

# **The explanation of Cooperation and Future from IR Theories Perspective**

## Realism

Realists see international relations as based on material interests that are regulated by capable and powerful states (Mitchell 2013). Realism takes the role of states central in international politics (Waltz 1979, p. 95). Anarchy is the main force that influences the attitudes and actions of states (Grieco 1988).

Classic realists argue that relations and behaviors in IR, derive from human character or its distinctive nature (Müller, 2013) and they explain conflicts with human imperfections (Williams 2013). “Selfish” human character for the lust of power and security, causes problems in international relations in the form of wars and conflicts (Williams 2013, p. 16 - 17). Not having a global government and being in the state of anarchy fuels this relation among nations. The small group in one state pursue its ambitions against other nations, therefore, IP is corrupt and dismal by nature (Williams 2013, p. 17). As Morgenthau (1955) explains, in order to understand the politics of one state we need to explore its actors or “micro” parts, i.e. individuals, assuming that they always act in a rational way.

Neorealism contradicts the assumptions arguing that system makes the state to seek security and power (Waltz 1979, p. 91). Neo-realists eliminate the human-induced character in politics and take into account the structure as a priority by providing a view from up above and calling it an anarchic environment. Waltz (1979) explains that IP is an anarchic structure without hegemon and self-help means that actors act in “repetitive” way. He saw IP as a “system” with its “units” dividing them into three distinctions, namely, their “ordering principles, character of units, and capabilities” (Williams 2013, p. 18). Waltz’s (1979) explanation counters Morgenthau’s (1955) “micro” definition arguing that behavior of states can be explained by their competitive environment because they try to be at their best and if some does not act in this way they do not stay in IP. When states decide to cooperate or follow norms, they do it because of their interests (Williams 2013). Another point of the neo-realist theory is that states will always seek survival for keeping their power and that defines their interactions with others and all of these interactions happen in an anarchic environment (Baylis, Smith & Owens 2014). We can see the future predictions in Mearsheimer’s (1990, cited in Baylis, Smith & Owens 2014, p. 233) argument where he argued that IR is most likely to become more tumultuous after the Cold War because of the “balance of power”, “nationalism”, “ethnic rivalries” etc. Interestingly, Waltz (1979, cited in Williams 2013, p. 19) was not willing to give some predictions but argued that the system creates a repetitive environment. The structure is the place where states interact with each other in a competitive manner and the structure puts limits on state relations (Fierke 2013).

Moreover, Waltz (1979. p. 62) explains that balance of power and global peace comes from commonly accepted “moral principles” which eliminate other threats. He explains European cooperation as a region left in the middle of two superpowers and obliged to take the “impediments” from the cooperative way (Waltz 1979, p. 70). Any cooperative actions worked in the reciprocated direction; economic help should be reciprocated with political help. He argues that in an anarchic self-help system, states are interested “not in forwarding their own good” but in protecting themselves (Waltz 1979, p. 105). Any state who interested in mutual cooperation should find an answer for “who will gain” and “who will gain more” as he explains. Therefore, the anarchic order has an influence on cooperation, agreements, organizations, etc. Grieco (1988) also argued that anarchy is an obstacle for the construction of cooperation.

Another point is about the “development of technologies” arguing that it is beneficial for the defense itself (Williams 2013, p. 21). The main contributor to defensive realism is “the balance of threat” theory by Stephen Waltz. States create alliances against the threats and they take into account other states power and the threat that derives in the anarchic system (Williams 2013, p. 21). Waltz (2000, cited in Williams 2013, p. 21) points that “the relative power, proximity, intentions, and the offense-defense balance” are the main variables that make others balance against the threats. Walt (1987, cited in Williams 2013, p. 21) criticizes the “revisionist and aggressive” policies by the states adding that policies that have “restraint and benevolence are best”. The adherents of this theory argue that the states are a threat to each other (Williams 2013, p. 20). Interestingly, defensive realism accepts the “possibility” of cooperation and tries to explain why some powers able to achieve security cooperation (Müller, 2013, p. 610-611).

The main contributor of the theory Mearsheimer (2001, cited in Williams 2013) explains the offensiveness by states in an anarchic environment where opportunities, relative power also helps them to attack others. His main points are about states that act in an anarchic system and seek survival. Moreover, he explains that great powers are rational, and possess military power that let them attack each other easily. States maximize their power for their security and therefore, there is no limitation in obtaining the power. Moreover, when the state tries to maximize its power, it may mean that it aims to become a regional power. Mearsheimer (2001, cited in Williams 2013, p. 22) considers the actors of international relations as rational actors, therefore, they know when to increase their power and when not. Moreover, states are engaging in conflicts and wars because of their interests to take resources. Without having power, states cannot be secure, therefore, security requires power. However, “water” is the main limitation that at best states can be regional power (Williams 2013, p. 23). Mearsheimer argues that there will be “continental, regional, and island powers” and continentals will try to become regional powers and island powers will try to cooperate because they are not powerful (2001, p. 42, cited in Williams 2013, p. 23).

The main goal for realist cooperation is to gain more and do not allow others to take more gains. Moreover, the interests behind the cooperative attitudes are connected to the survival instinct according to Grieco (1988). Realists do not believe in the sincere role of institutions over states. There are ideas that the bandwagoning can be helpful for the cooperation where states will follow powerful ones (Müller 2013, p. 610).

Lastly, hegemon states are capable of creating and keeping peace in the anarchic system. But when a hegemon power starts losing its capabilities, the wars could happen because of maintaining its hegemon role and if the hegemon does not start it, the rival state can commence it in order to get more (Williams 2013).

Moreover, classic and neo-realist have the same object of consideration their arguments which are individuals. For example, classic realists take humans as a main “ontology”, whereas, neo-realists take individualize states in the structure (Fierke 2013, p. 190).

When it comes to neo-classical realists, they argue that along with structure there is also a role of domestic politics that influence international relations. They argue that influence of the international arena to the politics is vague and unknown, however, the state capability, the decision making, etc. gives us a vivid picture of ongoing politics (Rose). Therefore, states also shape world politics that is outside of them (Williams 2013, p. 26). Neo-classical realists argue that relations between China and the US have been followed by small clashes in order to acquire the resource from their own population, therefore, they predict their relations in a hostile way. However, ways that China will choose, namely, “threatening or collaborative” will decide the future of IR (Williams 2013, p. 30; Walt 1998). Another argument from Randall Schweller (cited in Müller 2013, p. 612). is the “motivational realism” where he argues that the problems of security derive from “predatory state” therefore we need to avoid systemic approach and look to the problem from the unit level which will help to forge “problem-free security cooperation among nonpredatory powers” and the “security seekers’ helps to build security cooperation.

Another assumption by realism is the theory of relative gains that the friend of today can be my enemy tomorrow which leaves the actors in dilemma to decide for the cooperation. Whoever gains more from the cooperation, can use its will upon us in the future and finding out other’s gain is hard which makes cooperation “limited” (Müller, 2013, p. 609) and institutions are not capable to counter the state interests because they themselves are dependent from the states. Moreover, Mearsheimer (cited in Williams 2013, p. 44) argues that powerful states are capable of influencing the institutions. Realists argue that the problem of relative gains is the main barrier in constructing cooperation (Grieco 1988). Realists consider environmental problems as a “low politics” because of the “relative gains”, therefore, states have larger concerns such as to take “absolute gains” (Mitchell 2013, p. 809-810).

Realists do not believe in cooperation because of a system and interest of states, and we do not know who will be whom tomorrow, therefore, realism is “pessimistic” about the future (Müller 2013, p. 609). Moreover, another argument by realist proponents is that whatever changes happen in international relations, there will always be a repetition (Williams 2013). Neo-realism argues that the structure of IR demands a rivalrous environment therefore, it is doubtful that states will pursue saving ecosystem. However, they do not support the “environmental exploitation” but mention it as a system that urges us to act like this (Dunne, Kurki & Smith 2013, p. 275).

Although works of neo-realists created the foundation for other theories, their fall started with not giving right predictions. The changes in international politics, such as European integration, the absence of wars between big powers, etc. proved realism as “outdated” (Williams 2013, p. 20). However, Walt (1998) argues that realism is the convincing theory in IR again because states are the central actors and the chase their interests, the balance of power for their own security.

Moreover, security dilemma, hegemonic stability theory, and power transition theories are the bedrock of realist explanation. The security dilemma is a loop process that creates a vacuum of security need creating challenges for cooperation. Also, hegemon state maximizes its power in order to keep its power and influence as hegemonic stability theory argues, whereas, the weak states also interested in taking higher possessions which creates the competitive anarchic world (Wohlforth 2008).

## Liberalism

The rights of every human to study, live, etc. should be allowed, no one can take these rights which are also the foundation of a state, the right to have property should be secured, and the market-based economy is the best option (Baylis, Smith & Owens 2014).

“*True internationalism and world peace will come through individual freedom, the free market, and the peaceful and voluntary associations of civil society*”.

Richard M. Ebeling (2000)

The main ideas of liberalism stand in the opposite direction of an ongoing reality because liberal thinkers demand peace, cooperation in international relations. The ideas of liberalism emerged from the writings of Kant where he argued that liberal states have their own way of peace that is different from other states. Walt (1998) explains that liberalism categorized in three ways first starting with economy, then democracy, and lastly, institutions. They think that institutions, such as regimes, organizations can help to build cooperation among states. They propose four definitions that form the theory itself. Traditional liberalism according to Kantian theory argued that Republican state form is the best that is regulated by rules and laws and in order to test it we need its universal versatility where everyone can obey it (Williams 2013). The state that is built on the law is not as easily prone to violate the international norms. The state behavior forms the idea about their internal systems, either democratic or autocratic (Müller, 2013, p. 616). Liberals argue that the main aspiration for the cooperation comes from the domestic system. According to the “democratic peace” theory peoples in democratic societies prefer not to solve the problems using violence because they value human life and welfare. According to the democratic peace theory the democratic states are not willing to use power against each other. Democracy is the core of peaceful relations; therefore, the domestic institution is vital for the cooperation in the international sphere (Baylis, Smith & Owens 2014).

Moreover, liberals argue that state perceives themselves as rivals in the economic term, therefore, they are willing to compete with each other in economic terms considering states as “rational actors” (Grieco 1988, pp. 489-490). Liberals argue that international trade is the same as individual trades and benefits both sides.

Liberalism also takes the state as the main actor in the international system although they first argued the rising role of corporations (Walt 1998). Moreover, they do not see the state as an actor only but an institution that is apt to changes, “construction and reconstruction” (Moravcsik 2001, cited in Williams 2013, p. 46). They have proposed the idea of “security governance” (Kirchner & Sperling 2007 cited in Müller 2013, p. 619) which indicates the diminishing role of the state monopoly in the security sphere. Liberals argue that the non-governmental organizations, corporations, etc. are capable for changing the state policy for the environmental problems which means without their influence states may not address them because of their certain interests (Mitchell 2013). They argue that elections, checks, and balances make liberal state to be wary in international relations. Although liberal states avoid wars with each other, they are prone to war against non-liberals (Williams 2013). According to Doyle (cited in Williams 2013), liberal states do not fight with each other which makes the Kantian arguments right adding free trade to his ideas. “Liberal culture” makes liberal states to trust each other and cooperate together.

There are two versions of liberalism: monadic and dyadic. Monadic version sees the inevitable need for the alliances, regimes, and institutions to build a united version of cooperation. Dyadic version, on the other hand, argues that peace is limited only to democracies where a war fought against the non-democratic states. According to the monadic version, democracies created supra-national organizations such as the League of Nations, the United Nations and so on. The dyadic version gives NATO and EU cases that only confined to the democracies (Müller, 2013, p. 617). If we ask the question can democracies cooperate with nondemocracies? The monadic liberal view looks from the democratic perspective about the cooperation but cannot find the answer to the question “how motivations to reciprocate should emerge in nondemocracies?” (Müller, 2013, p. 618). Whereas, the dyadic version as he argues, gives the perspective of democracies and non-democratic “others” that should be dealt with even by force.

Neo-liberals argue that the international relations work as realists have argued but institutions are capable to create cooperation cloud (Baylis, Smith & Owens 2014). The idea is that liberals believe that institutions can play a major role in forming cooperation although wars and conflict will keep happening. The idea of international organizations can be helpful for building peace is also proposed by Kant (Müller, 2013, p. 617). Liberals accept an anarchic system which also creates an environment for the wars to happen without accepting the role of war that creates anarchy. Therefore, they argue that institutions, organizations can help us to build a peaceful system. David Mitrany (1943, cited in (Baylis, Smith & Owens 2014) argued that international cooperation is necessary for fighting against global problems. Idea is that when “collaboration” starts in one place, it eventually spreads to other areas too. Liberals argue that the real “impediment” for the cooperation is “cheating” and states are interested in “absolute gains” (Grieco 1988, p. 487). As Grieco (1988) explains, the main goal for the liberals is to achieve absolute gains which counter the realist perception.

Liberals believe that the “shadow of the future” provides possibilities for the states to cooperate and get future incentives (Williams 2013, p. 44) which is also backed by the rational-institutionalists. “Shadow of the future” means that more repeated the game more there is a chance to cooperate. According to Axelrod (1984), the “shadow of the future” will make states to stay on the cooperation because of the ambiguity of the future. So, once institutions of cooperation were established it will become a habit to stay there. In these explanations, we can notice the future approach that makes countries to cooperate.

The wars and conflicts pursued the liberal thinkers to believe that “peace” is not a natural characteristic of the international politics, therefore, it can be built by states itself (Baylis, Smith & Owens 2014, p. 117). Another main contributor to liberal thinking was president Woodrow Wilson who proposed the idea that the international organizations can be a solution for the anarchic environment. He argued that the “League of Nations” can work as a platform for all nations in order to discuss their ideas and suggest solutions.

Lastly, another liberal argument about climate change is its positive side that can be overshadowed by economic development. Emission of GhG rises in the atmosphere because of the industrial sectors of a country and when the economy rises it creates cooperative behavior among states (Gleditsch 2012).

## 2.2.1 Institutionalism

The Neoinstitutionalist theorists, particularly, Keohane and Axelrod (cited in Williams 2013, p. 42) state the role of institutions and their impact on the international system. They argued that although they cannot change it, they can have an influence on the states and can create incentives for the cooperation. Moreover, Grieco (1988 p. 486) argued that realists “overemphasize conflicts” and proposes the liberal argument about the institutions that are vital for the cooperation building. He (Grieco 1988) argues that liberal institutionalism is not built upon the realist perception.

Institutionalists argue that several factors can affect to build cooperation. They state that the “situation structure” is the first factor where the actor that is suitable for the cooperation is the ones who gain independently from the moves of other actors (Müller 2013 p. 613). The second factor is the “value” that makes the cooperation easy. Lastly, the third factor is a conflict that emerges from the need to get valuable goods (Müller 2013 p. 614). Moreover, Snyder (cited in Müller 2013, p. 610) argues that the alliance building is not a straightforward way for cooperation, whereas, norms are a binding force that can help to build cooperation.

Neo-institutionalists argue that cooperation is possible because of the communication tools which goes against the “prisoners dilemma”. Communicating with each other may help them to achieve common ground of interests (Müller 2013 p. 614). If we look back then we will see that in the history the states formed several organizations and regimes to fight against security threats. However, as Chester *et al.* define it, after the Cold War, the coalition and organization building suspended, adapting itself to the newly emerged issues (Chester *et al.* 2011, p. 44). Security institutions are the platform that helps to connect the sides to communicate and lower the transaction costs (Mitchell 1998, cited in Müller 2013). Therefore, institutions help to reduce the costs by creating communications that are the best way to build cooperation (Downs *et al.* 1996, cited in Müller 2013). Another institutionalist approach to security cooperation is the “signaling” which can work as a motivational agreement to cooperate as Sadat did with his speech in Knesset (Müller 2013).

Robert Axelrod (1984, cited in Williams 2013, p. 42) tries to answer the question of how to achieve cooperation with “egoist” actors? He argued that when states do good for good which is *tit-for-tat* strategy then gradually they may become allies. When this interaction circles for some period then there emerges “reiterated prisoner’s dilemma”. If there is going to be relative gains problems, states will not “defect” but will devise mechanism (reinsurance) to monitor the cooperation and absolute gains where the institutions emerge. However, they also point conditional cooperation that is the most attractive among states (Grieco 1988). When the rules are loose in cooperation project it becomes appealing to the states and states reject sanctioning, monitoring, etc.

Another point by the institutionalists is that the states are the main actors that actually build the institutions for their own interactions (Williams 2013, p. 42). However, there are some problems that undermine the role of states, such as, “degradation of the environment, mass migration, starvation and disease” (Williams 2013, p. 44). We can find the global challenge problem and facing it in conservative liberals where they argue that the world interests should have human survival, preservation of world species and ecology, reduction in conflicts and so on. However, Navari (Williams 2013, p. 44) asks that who will build this cooperation indicating the “vagueness” of the problem.

Rationalists are also able to explain how institutions are able to survive the historical challenges. They say that it is better to keep old institutions rather build a new one which may require more investment. And those “broken” institutions continue to work because of the powerful actors and non-democratic states. For example, in the case of NATO expansion, realists face difficulty to explain it, whereas, liberals move on to explain it with “transaction costs” that push states to keep already established institutions and execute their policies. Therefore, the idea is that a new establishment can be either newly developed institution or the continuation of the existing ones. In either case, when states can cope with upcoming challenges, then institutions can stay for all making it more habitual.

Keohane (1984, cited in Williams 2013, p. 45) explains the difference between alliance and institutions arguing that the object for alliances is narrower than the institutions’. Therefore, an alliance helps to cope with “common threats”, whereas, the institutions are crucial for managing “risks, including regional uncertainty”

When it comes facing threats, Dittgen and Peters (2001, cited in Williams 2013, p. 46) argue that two security systems, namely, “the alliance-type system and the community of law-type system” have a different reaction to the threat. Liberal law system requires integration and reinsurance; however, the realist alliance type is based on “circumvention” of the threat (Williams 2013, p. 46).

The institutionalists accept the realist argument about the anarchy that feeds the insecurity for the states. However, they argue that the creation of the institutions and the regimes “above”, and the emergence of the transnational actors “below” helps to ease the insecurity (Mitchell 2013, p. 803). Moreover, the role of institutions as a binding force can be harder to reach an agreement with the developing ones, whereas, with the developed states can be achieved (Mitchell 2013, p. 811).

Mitchell (2013, p. 813) argues that institutions are strong enough to stand against its opposers changing their “values, incentives, or abilities” which are dependent on time context. Moreover, Grieco (1988) argues that the role of institutions is high, and they have enough power to influence the state decisions with unions, organizations without undermining the state sovereignty.

We can see the hierarchy of governance with their limits and gaps. The main gap is the connection and communication which sometimes tried to be filled with international treaties, such as, UNFCC, Kyoto and Paris Agreements that serve to build bridges and policy recommendations (Obergassel *et al.*, 2016, cited in de Coninck 2018, p. 352).

## 2.2.2 Regime Theory

Regimes are the pack of “principles, norms, rules, and decision-making procedure” that helps to concentrate the state attention to the particular area (Krasner 1982, p. 186). The main aim of regime creation is to achieve “desired outcomes” in the anarchic environment (Krasner 1982, p. 191). They can be helpful when common ground cannot be established and achievement to the Pareto-optimality is not possible. Regimes emerge when states are not capable to rule the situation or see the end of it as negative. The regime creation rests on power and interest relations as Krasner (1982, p. 205) points. Young (2012, para 4) explains that regimes are the form of institutions with specific issue area.

Regimes are intended to build a bridge between realism and liberalism because both of them indicates the state interest and bringing these entities can be possible (Wohlforth 2008). Although this theory posses this character, it has always considered a liberal theory.

Rationalists and constructivists proponents define regimes in different terms: The formers perceive it as a controlling mechanism for the world problems whereas the latter ones explain it as an instrument to “reshape the preferences” (Müller 2013, p. 621).

Structural thinkers argue about less usefulness of regimes and Grotian school explains that regimes are the “persistent pattern of human behaviors” (Krasner 1982, p. 190). Young (2012, para 5) argues that regimes can be a “driving” force in concentrating the attention and actions of humans to problems.

However, Young (2012 para. 10) explains that the regimes can be affected by two major events: The first one can be rising complexity of IR with new actors and the second ones are the start of “Anthropocene” period that humans take control of the world ecosystem. However, Krasner (1982) argues that interconnectedness of the world makes regimes vital where it can be applied to different issue areas. Moreover, Krasner (1982 p. 195) argues that cooperation becomes possible when the results for both sides become “Pareto-Suboptimal” and when the decision of one state is limited because of other states. Jervis (cited in Krasner 1982, p. 201) also argues that cooperation happens when states are assured that the other side also shares the same “value that they place on mutual security and cooperation”.

## Constructivism

Constructivism takes a middle road and only metaphysical theory that explains social world differently from other traditional views (Adler 2013). They explain international relations with ideas and identity perception that is entrenched in the historical ground (Williams 2013, p. 64). Moreover, they think that the world system is not fixed and can change over time where actors choose not to use force against each other but compete with other means. (Müller, 2013, p. 620) argues that constructivism shows us how the world is changing and adapting itself to the cooperative environment. And, Adler (1997, p. 334) argues that compared to critical theories, constructivism explains IR with better argument rather taking their way of “emancipation”.

Wendt (1992) argues with his famous phrase that “Anarchy is what states make of it” which means state perception create the system (cited in Walt 1998). The structure that is claimed by neo-realists has been constructed and therefore, can be influenced by the individuals, ideas, norms, etc. and states are the main security actor in international politics. Constructivist proponents argue that “norms and shared understanding” are the main explanation against structure idea (Fierke 2013, p. 190). Therefore, IR is not about doing whatever is needed or in interest, because it is bonded to the norms that emerge from social interaction (Fierke 2013).

Constructivism takes identity, ideology, and from norms, perspectives to insert their explanation that is the core of “world politics” (Williams 2013, p. 65). By combining their role in IR, constructivism tries to “better” explain the political processes (Fierke 2013, p. 189). This explanation leads us to the famous quote from Onuf (1989, cited in Fierke 2013, p. 189): “a world of our making”. They especially explain the role of norms that tries to keep the international community secure. The primitive example can be the birth of new nuclear powers that have been shown as “threats”, whereas, states that already have it are not eligible in this category. Constructivists argue that it is because of the norms that keep the proliferation in limitation. When there is a common understanding emerges such as norms then it becomes so powerful and hegemon that states which misbehave end up being left alone (Williams 2013). Also, a structure does not only consist of material aspects but also certain meanings and practices of the actors. Their acts can change and reproduce the outcomes and the meaning of the system.

Moreover, apart from realists, constructivists relate interests to the state identity (Fierke 2013). She explains that a liberal state with the democratic institution has an interest in human rights and this identity cannot be altered. Identity is bound to the social interaction among states and it can be formed in the process itself. Constructivism is capable of explaining the structure of IR from actors point that easily explained the end of the Cold War. Power is also bound to the actor and identity factor, such as, the need to get power by building nuclear plants or weapons. If France gives its legit opinion about its nuclear arsenal together with Iran, the former will be accepted because of its identity in IR but not the latter one (Fierke 2013).

Moreover, the constructivism takes into account the role and the necessity of the individuals and society as an actor with impact to the elite policy and exemplifies the “environmental change and human rights” (Williams 2013, p. 68). Individual power has been seen in the “hippie” revolution, also, when people opposed the nuclear weapon in the mid of 1980s (Fierke 2013, p. 187). Also, constructivism argues that “understanding” of action can be learned from knowing an individual from its inner thinking. This idea helps realist and constructivist to approach each other on individual explanation as Fierke (2013) explains, but constructivism uses this argument in social terms which again broadens the gap. Wendt (1992) explains socialization with “Alter and Ego” which he defines as “aliens”. Their relations starts from “tabula rasa” and can form two directions; either cooperation or defection which means states are the creators of their system. Therefore, the world that we live and analyze is “intersubjective understanding” (Adler 2013, p. 121).

According to another assumption by constructivism, states create a certain “security culture” not to use inhuman means or commit atrocities for the sake of interests (Müller 2013, p. 621). Because security issue itself is socially constructed “in a particular social and historical context through social interaction” and security means “preservation of values” according to constructivism view (Williams 2013, p. 65). With this explanation they avoid explaining security from “universal and abstract” points and focus to explain the “particular practices and perspectives” (Williams 2013, p. 65). Constructivists argue that we need to clarify security from its particular context that comprises in itself “negotiation” between a state and a society and “contestation” between state and others (Williams 2013, p. 67).

They argue that power politics can explain international relations, but it does not portray the real picture of the inter-relations of the states and their ideas that are embedded in the policy.

Because of the social construction of the anarchic environment and the role of actors in the system means that change can happen in an international system according to the constructivist views (Williams 2013). Constructivism criticizes traditional theories for their explanation of the world as not changeable and argues that the world policy is changing and we have seen it during and after the Cold War (Fierke 2013). Adler (2013, p. 123) exerts idea that constructivism is about “change”.

The *social interaction, mutual understanding, and knowledge share* help the state to cooperate and solve problems peacefully which means that the “security dilemma” can be obliterated by three entities that I mentioned (Baylis 2014, p. 235). Social interaction helps states to have a relation with each other based on their historical and cultural backgrounds (Fierke 2013). Therefore, they act not only from rational but also from “meaningful” perspective (Fierke 2013, p. 189). Differently from other traditional theories, constructivism explains political processes from “social ontology” view that comprise in itself, norm and social interaction (Fierke 2013, p. 190). As Wendt (1992) explains the socialization emerges from historical relations of states. For example, the European states that were enemies for centuries, now have cooperative relations because of their historical background. Another point about the socialization is about institutions that creates common ground for sharing knowledge and understanding which leads to common thinking by transmitting ideas (Adler 2013).

Adler (2013) also mentions the role of communication as a social reality builder. Habermas (1984, 1987, cited in Adler 2013, p. 124) argue that “bargain[ing]” i.e. building cooperation, does not mean to get “utilities, but engage[ing] in common understanding of ideas. It means that communication using discourse with certain embedded identities create a cooperative or rival environment. Therefore, the role of language is undisputable in socializing and in creating discourse (Adler 2013).

When it comes to explaining future processes, they argue that the main process in the future will be how the states will define their identity where the “clear boundaries” will evaporate (Walt 1998). Constructivist argue that every constructed action also leads to getting some results and therefore, actions requires questioning which creates the future (Fierke 2013). Moreover, constructivist explanation about the world “is broader, more contingent, more unexpected, more surprising, and endowed with more possibilities” (Adler 2013, p. 121).

Moreover, if a war or cooperation is at stake, constructivists question its reason and causality. For example, invading Iraq, dispersing Yugoslavia questioned by them. This search for a reason open a dialogue about how the state tries to persuade others by using “language” (Fierke 2013). This leads to the securitization with an “act of speech” and when certain actors declare some issue by speech it creates certain security challenge that asks to be addressed (Williams 2013, p. 73). Therefore, discourse is the main entity that defines the role, perception, attitude, and behavior of state in international relations (Walt 1998). Labeling someone as an enemy happens by using language and creating “we and others”. This process creates conflictual relations that end up not having cooperation. When neighbors name each-other with national names that bear their historical background, this process leads to more regional problems (Fierke 2013).

Lastly, Adler (2013) argues that all adherents of constructivist theory accept that the reality is socially constructed, be it, critical theorists or social constructivists. All explanations are earthly based ideas and not free in interpretation which happens by using language.

## Green Theory

The emergence of new challenges starting from the 1970s that are related to climate change and ozone layer depletion pushed a new wave of thinkers. These nascent idea conveyors argued that the emergence of environmental challenges means the emergence of a new theoretical approach (Eckerlsey 2013). They raised their voice against the “mainstream approaches” arguing that newly emerged challenges are going beyond the traditional thinking about security (Eckerlsey 2013, p. 267). The proponents of the Green theory (Eckerlsey 2013, p. 273) argue that the mainstream theories made the green theory hard to follow because they take the anarchic environment side making the cooperative initiatives harder.

Starting from the 1980s, Green theory emerged from the movements such as securing the environment, anti-nuclear protests and so on. It is based on four cornerstones, namely, “ecological responsibility, social justice, non-violence, and grass-roots democracy” which is the only theory that counters the “neoliberal globalization” (Eckerlsey 2013, p. 269). The green theory seeks “environmental justice and sustainability” globally from the main actors who are capable of constructing the social structures (Eckerlsey 2013, p. 275).

The green theory proposes a moral code for the world stating the “injustice and human degradation” that is harmful not only to the world itself but for human communication too. Injustice happens when developed North puts costs of the environmental degradation to the Global South, and “human chauvinism” is related to the human activities, proliferation of population and the rise of the technology, etc., therefore, they bring an “ecocentric” view criticizing the human actions (Eckerlsey 2013, p. 269). “Ecocentric” view puts more emphasis on the ecosystem and its maintenance and rejects human influence on it (Peterson 2005, p. 237). Green theory paid attention to the normative and ethical aspect of the security problem, in particular, environmental problems that differentiate the dominant theories from it. Green theorists criticize the assumption of the neo-realists about the interests that also lingers in the regime formation arguing that regimes are bonded to the “moral” principles when it comes to the environmental problems (Eckerlsey 2013, p. 275).

Moreover, they argue that conservation of the ecosystem is not only about interests but also about “national cultures and values”, “scientists” and so on. (Eckerlsey 2013, p. 275). Just taking into account the role of states undermines the role of social engagement and responsibility. Another point is that emerging organizations surpass the old hierarchical governing system becoming “transboundary” which is a new way of actor impact against future challenges (Eckerlsey 2013, p. 276). Green theory agrees with other traditional thinkers that the world order will experience a transition period (Peterson 2005). Green theory proponents consider the role of a state as “undesirable” because of its “centralized, pseudo-representative, quasi-democratic” character which uses hard technology for the end of the world (Carter 1993, cited in Peterson 2005, p. 244). They argue that tackling global environmental problems can be possible by structuring the state system because locals are more responsive, and the “commons” idea comprises the nucleus of their thinking. Greeners argue from the sociological perspective that the ecological problems are being called by the institutions that create it, such as, governments, companies and so on. The green theory also argues that international companies and traders also oppose environmental morality and regimes. Their perspective for the creation of cooperation is “post-sovereign” small communities because states are indifferent to global problems (Paterson 2005, p. 247).

Green theory proponents argue that technological improvements should be reconsidered because they are also destructive against eco-system. Therefore, they are more “reflexive” to the modernization. They argue that more we advance our technology through economic development, more we destroy our ecology. Technology can help for a short period of time, therefore, it is not useful against these challenges (Paterson 2005). Green theory proponents propose an “ecological modernization” which requires technological development by reducing the waste with strict controlling mechanisms (Eckerlsey 2013, p. 272). The advocates of the technological modernization take into account the workable situation capitalism and environment, whereas, the proponents of the “limits-to-growth” underrate them.

According to the Brundtland report, economic development and environmental protection are not the opposing variables. The economic development should also be environmentally friendly. However, the green theory argues that the UN perspective on environment is instrument driven and do not consider saving the ecology for “its own sake” (Eckerlsey 2013, p. 272). They argue that abrupt development is not possible in a limited world (Peterson 2005). They argue that the problems are enmeshed together, therefore, solving one does not mean achievement in one area because it may have some odd effects. Therefore, they support “sustainable” development because it requires stable monitoring and can be a global silver bullet (Paterson 2005, p. 240).

## Summary of Chapter II

In this chapter, I have chosen three traditional theories, Realism, Liberalism, and Constructivism and a new Green Theory. I have made research on the main points of these theories. In every section, with the name of the theory itself, I have mentioned their points about cooperation, climate change, and the future. I have found that Realism is a more rigid theory that takes cooperation dependent on interests and sees the progression in IR in a repetitive way. On the other hand, Liberalism, state relations in economic cooperative context and argue that states take absolute interests in gains. They also argue that economic development is helpful for building cooperation against climate-related problems. Also, Institutionalism and Regime theories explain cooperation with the help of institutions that can play a bridge role among states. When it comes to Constructivism, they point the ideology and identity as the main entity in historical context. Lastly, Green Theory brings moral values to IR arguing that state and technology is the main predicament against human growth which makes them vulnerable against upcoming challenges.

# **Chapter III**

# **Loopholes in IR Theories and New Insight to Explain Future Cooperation and Challenges**

## Dilemmas and Dichotomies

Paradoxes became loud in IR that requires its indication and analysis. Last year, the US government released USGCRP (2018) report and it has been “rejected” by Trump administration calling it “hoax” (Chow 2019) and mentioning other states to be “clean” first (Associated Press 2018). Another denial by Trump is the UN Intergovernmental Panel on Climate Change report where he asks, “who drew it?” (Chow 2018, and Liptak 2018). USA Today (2018) reports that this behavior created additional problems for other parties “to embrace a dramatic response to global warming”. The rejection of climate change has been more visible in the release of the National Report of the US (Rosane 2018; Meyer 2018). The report has been published in the “Thanksgiving” holiday obscuring its vitality lessening attention for the population. However, the report which is a “huge achievement for American science” (Meyer 2018) indicates the urgency of the action against the GhG emissions. According to Global Change Research Act of 1990 the USA president and the Congress should receive the “U.S. Global Change Research Program (USGCRP) report “no less than every four years” (National Climate Assessment 2018; USGCRP 2018, p. 1). Therefore, formally report is being released by the government, whereas, the administration does not consider it and do not include it to the agenda. So, we can see the distinction in the law and government where the former proves it, but the latter denies it. But we can remember the Obama administration that supported climate change action and criticized the US government officials who denied climate change (Pantsios 2015). In his interview in Norway, he mentioned climate change as a "single highest priority” (Dagbladet 2018) which creates dilemmas in the US policy formation.

Another dichotomy can be found in the government papers. For example, in Chinese “Arctic Policy” (2018) paper we can see the willingness of the Chinese government to cooperate, whereas, stating their interests in opening the trade routes. Chine want to build a cooperation “under the Belt and Road Initiative” that will lead to “peace, stability, and sustainable development in the Arctic”. The dilemma is that if a road can work only when the ice starts melting and this, in turn, means accepting the future upcoming challenges. Also, in the webpage of the Chinese government, it is indicated that China supports international cooperation and willing to contribute “administrative and technical measures” to curb the climate change by regulating the emission and pollution (China Factfile n.d.). The warming of the world globally is rising according to the “Blue Paper of Climate Change of China” that released in 2019. In the website of China Meteorological Administration (Xia, Wei, & Deyi 2019) it is approved that the temperature is rising in China both in land and in the sea surface. However, the comparison between real behavior and white and blue papers clearly shows the difference.

This dilemma can be found also in the Russian policy and the government reports about climate change. Putin in his speech in Arkhangelsk city argued that melting has happened “for decades”, and the main problem is to adapt to it (France24 2017). He said that global warming will “continue anyway and anyhow” (Meredith & Cutmore 2017). Nonetheless, in the Climate Doctrine of the Russian President (President of Russia 2009, para., 1) it is said that the climate change is “one of the most urgent problems for the XXI century” and it is the cause of human GhG release. Moreover, the newly built LNG plant Sabetta is the main dilemma that goes against climate saving attitudes. This plant became possible to build because of global warming and will be beneficial as warming increases (Kireeva & Digges 2017).

When it comes to Japan, the country also indicates some dilemmas in its behaviors and white papers. According to the MFA of Japan (2016), the country supports cooperation in order to face the upcoming challenges. They indicate the “borderless” effect of climate change and call for help to the island and developing states. Moreover, in another article, it states that Japan is cooperating with other “parties” for the reduction of GhG (MFA Japan n.d.) However, according to the figures above (see section 1.3), Japan is one of the top five states that release GhG globally and according to CAT (2018), Japan has not shown any strategy how it will cut its energy usage by 2030.

The dilemma is also noticeable in the policy of India as other states that I explained above. India proposes “eight” *National Climate Action Plans* where they point the technological development, the vitality of climate knowledge, promotion of energy usage and so on. Whereas, Atteridge *et al.* (2012, p. 75) argue that India is “reluctant” to cut its GhG emission because it might hamper their development. Also, according to the data that I aforementioned, it is visible that India is also one of the top 5 countries for its GhG emission. Paradoxically, it is in the 6th place for combating environmental problems because of its vulnerability against climate change-related problems, according to Germanwatch (2018).

Another dilemma is the *benefits and the adverse effects* of climate change according to IPCC SPM (2018, p. 26). So, there are also going to be some benefits for the countries (Baylis, Smith & Owens 2014), such as Russia, Mongolia, China, Kazakhstan, etc. (The Moscow Times 2017) where some of the places will warm up making it inhabitable. Not only these countries but other Northern states also will benefit from climate change, whereas, this process will be devastating for southern countries (Diffenbaugh & Burke 2019). First of all, the ice melting will help the logistic companies that use Arctic strip for the logistic purposes in the summertime. Shipping companies and oil & gas tankers started to float on the Arctic ocean without any difficulties (Jacobsen 2018; Kireeva & Digges 2019). The ice melt will also have some benefits for the Russian transport ships to convey the goods from the Arctic region. China is also interested in building Arctic trade roads (Saran 2018) that will let use it for the trading by opening ways to reach Atlantic easily. Moreover, climate change can also have benefits in a crop yielding in Russia, Kazakhstan and etc. wherein harsh conditions harvesting them were hard (The Moscow Times 2017).

Another dilemma emerges when most reliable reports make a mistake that undermines its reputation and lowers people’s trust in them (Baylis, Smith & Owens 2014). The environmental agency from the Netherlands accepted the mistake that created the ballon of skepticism but according to CBC News (2010), the *Netherlands Environmental Assessment Agency* approved that this mistake does not alter the conclusion of the challenge itself. There were several mistakes, namely, the melt of Himalayan glaciers, submerge of lands of the Netherlands, etc. (Clark 2012). Moreover, IPCC reports are about reviewing the latest articles and findings by different scholars and if scholars do not have a specific finding, then these reports cannot explain them (Gleditsch 2012) which is another dilemma.

According to the “Global Shapers Survey” in the WEF in 2017, the participants or as they are called “millennials” voted for the most dangerous future problems. Almost 25 thousand answers have been recorded and presented as a final survey analysis (GSS 2017, p. 11). The report states that almost 49% of votes went for the “climate change/destruction of nature” which classified it as the most serious global problem which was followed by wars and conflicts (38.9%), and economic inequality (30.8%) (GSS 2017, p. 15). Another survey is about civic engagement in problem solutions. Almost 60 % of young millennials disagree that their “views are considered before important decisions are taken” (GSS 2017, p. 20). Moreover, the respondents answered the question about empowerment with three selections, namely, “start-up ecosystem and entrepreneurship” (40%), “access to the internet” (39.6%) and “free media/social media” (39.2%) where Europe as a region choose “fair and just system” with 42 % of votes (GSS 2017, p. 20).

This survey can be credible, however, there is a slight bias that can pop-up. First of all, as it is indicated in the report, the majority of the participants in the survey were from Germany. So, in this case, we may get biased answers. Another problem is that, when you measure the young millennials, you tend to ignore young people who could not afford to participate there. Moreover, there can be millennials that in its own country prefer a different way of thinking which makes him or her act in that way rather than in preserving eco-system (i.e. nationalist, etc.). Millennials can be the future leaders, but it does not mean that the environmental problems are on the trend. I have conducted a small analysis using Google Trends in order to find it out. The main point is that how people are informed about it and how much they are willing to search for the problem in order to understand and perceive the future global challenges.

I have chosen 5 variables that will let me compare future challenges with them, namely, *Racism, Climate Change, Mars (planet), Environmental Protection, and Terrorism*. The time period was chosen to start from 2004 till 2019 and all the chosen variables are topics which include the name in different languages too. The tool is limited to 2004, therefore, I have started from that year.

Figure 3.1

A picture containing water, boat, sky

Description generated with very high confidenceSource: Google Trends

Here we can see the comparison of variables that I have stated above. Blue stands for Racism, red stands for Climate Change, yellow stands for Mars, green for Environmental Protection, and violet for Terrorism. The most searched topic was Mars and closely followed by Racism and Terrorism variables that had the same results. The last places occupied by Climate Change and Environmental Protection again with equal results.

If we classify them according to countries, then Ukraine and Russia had the most interest in Mars. Moreover, Racism had been searched in three prominent states, namely, the US, Brazil, and Sweden. However, Algeria, Egypt, and Turkey showed interest in Terrorism topic. Climate Change has been an interesting topic in the Philippines, Nigeria, and Mexico, whereas, Environmental Protection mostly searched in Taiwan, Hong Kong, and Poland.[[1]](#footnote-2)

Google Trends Analysis is a clear image of people’s interest according to the topics where Climate Change and Environmental Protection were the least searched terms. Moreover, the rise of nationalist youth groups clearly outcasts the Global Millennials survey about future climate change. These nationalist people are going to be future leaders or the flock of people that may have some direct and indirect influence on society (Hinnant 2019).

Moreover, not only ordinary people are less concerned in environmental problems, but the academic sphere is also less interested in it. According to Pereira (2017), 3% of all the articles were related to the climate change between 2004 and 2014 and this figure doubled only in 2012 and the word “Anthropocene” has not been found in any keywords and search results.

Last but not least, another dilemma is less informed and less worried people of the Third World compared to the developed North. According to Kvaloy, Finseraas & Listhaug (2012) people of the most vulnerable states are less concerned about climate change and upcoming challenges. This finding is another dilemma in the expected environmental problems.

## Loopholes

There are several “puzzles” for the theories to explain the ongoing processes, cooperation, future predictions, etc. (Müller 2013, p. 608). Therefore, we need to question all of them and find their gaps in order to suggest a new approach.

*Realism*

Realists argue that environmental issues are not included in the “high politics” and “peripheral to the main game of international politics” (Dunne, Kurki & Smith 2013, pp. 267). Realist theory especially neglects the environmental factor and it can be seen in Morgenthau’s argument where he called it “contextual factor” (Baylis, Smith & Owens 2014, 353). However, it is already being discussed on high-level spheres, such as, G8 summits, UN Security Councils, etc. which makes it a high political concern (Baylis, Smith & Owens 2014, 349).

Moreover, the structuralist view on international politics is rigid and not flexible and does not give “predictions” about future problems (Williams 2013, p. 30). Also, Wendt (cited in Walt 1998) points out that the main “limitation” for the realist theory is avoiding the changes in IR. The realist thinking is based on rigid structural thinking that focuses on the repetitive environment. Likewise, realism fails to include variations to the theory, such as geography and technology (Wohlforth 2008).

Müller (2013, p. 612) points the division between optimist and pessimist realists arguing that pessimists maintained their coherence unlikely from an optimist, whereas, optimists are able to explain some cooperation. Also, the realist theory approaches to its boundaries because the threat is not only “material” but also “behavioral and perceptual” one (Müller 2013, p. 610). Moreover, neo-realists argue that individuals are “peripheral” in IR and material capabilities help states to overcome others (Dunne, Kurki & Smith 2013, p. 275).

Moreover, gain calculation is hard to achieve because of the “fluidity” of the world that is constantly changing, and today’s gains are not foreseeable in the future. Relative gains can matter if the gains will rise to the risk level which is no one knows how it will develop. Therefore, he argues that even “small asymmetries” can cause a problem for the rationally behaving states.

Moreover, some argue that “bandwagoning” can be helpful for building cooperation, whereas, Müller (2013, p. 610) argues that “bandwagoning” happens because less powerful states are following the powerful because of their interests. However, realist proponents cannot explain the robustness of the nuclear nonproliferation regime (Müller 2013).

Also, Wendt (1992, cited in Walt 1998) argues that a realist explanation of anarchy does not explain conflicts adequately. The famous argument from Wendt “Anarchy is what states make of it” means that states are the main creator, whereas, if states are capable of creating system then it would have been hierarchy rather than anarchy because of their thirst for power, security, and interest.

*Liberalism*

When it comes to liberals, they argue that liberal states do not fight with each other which can be contradicted. First of all, states that adopted a liberal way are already gained much from their tumultuous past. They have done more killings and engaged in more wars and battles which made them wealthy and therefore engagement with countries that are poor than them is not possible unless there is a need for that. Another point is that even there will be only liberal states, what will happen then? Will they keep peace among themselves or there will be another war? Call from democracies for the cooperation may be threatening attempt for the non-democracies which may further escalate tensions in the world (Müller 2013).

The liberal argument about the “democratic peace theory” also has some flaws. When there is a transition from autocratic state to democracy, the situation becomes unbridled. Moreover, achievement to peace has a little connection to the democracy and if we are going to add this perception to the democracies then it should be after WWII (Walt 1998). Another point is the cooperation among democratic states where Müller (2013) states four attributes: transparency, audience cost, constitutional procedures, and continuity. However, he mentions Peceny and Butler (2004) that the audience cost is also applicable to the autocracies and not only related to the democracies. How democracies can cooperate with nondemocracies? Müller asks this question from liberals saying that monadic liberal view looks from the democratic perspective about the cooperation but cannot find the answer for the question “how motivations to reciprocate should emerge in nondemocracies” (Müller 2013, p. 618). Müller and Wolff (2006) argue that the answer will be rational thinking and culture which is not available in the liberalism. They argue that the first one can be found in rationalism but the second one in constructivism which exhibits how liberalism cannot explain the probable emergence of cooperation.

Liberalism suggests “rational choice calculus, and cultural habits” but they are not related to liberalism itself according to Müller (2013, p. 618). Liberalism goes back to the ideas about mercantilism where it is stated by Voltaire that the economy is a zero-sum game and you cannot gain if others do not lose (cited in Williams 2013). Moreover, ownership and privacy values of the democracies contradict with transparency and mutual share demands of cooperation (Müller 2013). And in order to secure economic wellbeing with resources, lands with sources should be secured militarily from foreign rivals. Concomitantly, desire to keep its citizens secure requires development in armaments which consequently undermines the cooperation (Müller 2013).

Moreover, the liberal argument about economic interdependence that creates cooperation cloud is not visible in China and US relations. Although they have deep economic ties, their power and military rivalry is not suspending (Terhalle & Depledge 2013). Therefore, the explanation of “security cooperation” is not possible by the liberals (Müller 2013, p. 618) and they tend to avoid the main role power in IR and especially points the willingness of states to cooperate for the absolute gains (Walt 1998).

Liberals bring “shadow of future” idea to IR, arguing that repetitive games can actually turn into cooperative actions. Whereas, Müller (2013) argues that repeated game may actually create problems for the cooperation. Also, because of the survival instinct, future incentives from cooperation is overlooked. Thirdly, no precise calculations on how many rounds should happen, therefore “shadow of the future” is not the best argument to explain the cooperation.

Lastly, neo-liberalism adds flexible approach for using the earth resources and dissolving them with natural mechanisms, such as earth recycles it naturally (cite). However, they do not provide an idea of what will happen if the world cannot recycle it naturally when resources reach the overuse.

*Rational Institutionalists* argue that the role of a state is vital because they are the constructors of the institutions as I explained above. However, as we are marching to the future, there is also going to be some changes. The institutional approach will tend to work because of human needs but not only for the state interests. When it comes to the security, the main questions are asked about wars and conflicts which are the “direct violence” according to Peterson and Runyan (1998, p. 115, cited in Williams 2013). However, the future is going to be about indirect security issues, such as, climate-related problems that we call “unknown unknowns” that will cause additional problems for us.

Moreover, the “enmeshment” of China and the US in institutions and regimes did not result in fruitful cooperation against climate change and its future challenges (Terhalle & Depledge 2013, p. 573) because they have no power to impose their rules to the states and they are only capable to build cooperation when it is the interest of states (Walt 1998).

Rationalist-institutionalists give the communication argument that can be helpful for building security cooperation but Müller (2013, p. 614) rightly argues that the “security talk is not cheap” and states can deceive by their appearing or may use surprise attack in order to gain power. He also criticizes the “signaling” assumption arguing that it is unclear if the other side will “reciprocate” knowing that he must answer to the cooperative attempt because without it the cooperation will not work. Therefore, building communication is not just related to communication.

Another missing point in is that they cannot explain how to cross the predicament of achieving real cooperation rather than simply motivating it (Müller 2013). There can be many negotiations, agreements or communications about the cooperation, but it does not mean that cooperation is at stake. Although the role of institutions is vital for solving upcoming challenges, their influence in IR is “deadlocked” and cannot achieve needed cooperation among great powers (Terhalle & Depledge 2013, p. 576).

When it comes to negotiating the interests among the states then *regimes* become “epiphenomenal” (Krasner 1982, p. 190). Building “security regimes” are “rarely” happening because of security problems and dilemmas (Jervis 1982: 360, cited in Williams 2013, p. 45). Krasner (1982 p. 195-196) cites from Young about the regime formation explaining that regimes emerge in “spontaneous, negotiated, and imposed” forms and two former ones emerges from egoistic intentions. Also, regimes emerge when states see the end of it that can be negative for all. Moreover, regimes may take “lower politics” side serving for the interest of states (Wohlforth 2008).

*Constructivism*

Constructivism also has limitations as other theories. Walt (1998) argues that they explain historical perspective than foreseeing the future processes in IR. Moreover, constructivism again descends perspectives from above to the state and individual level with an identity perception. This explanation fosters the scholars to go deeper in order to explain the ongoing processes which also takes time for the anticipated problems.

Constructivism ignores power factor but not being able to have a common ground for the cooperation with a bunch of regimes and organizations, rightly exerts the role of power in IR as Terhalle & Depledge (2013) argue. By avoiding power politics, they paid attention to norm creation for the cooperation which can circumvent competition (Mearsheimer 1994, cited in Williams 2013). However, Adler (2013, p. 125) argues that “power value” has been ignored but is becoming the main research factor. They include the constitutive elements of their explanation, such as identity, discourse, and language but it requires explanation.

Moreover, constructivist proponents argue that *social interaction, mutual understanding, and knowledge share*, can help to build cooperation among states and solve the “security dilemma” problem (Baylis 2014, p. 235). Although there are several reports, scientific boards, and knowledge sharing are available, security problem persists which means the constructivist approach is not sufficient to explain upcoming challenges.

Constructivism explains that norms create the commonly accepted understanding in IR, which happened in South African apartheid problem. However, are the “capable” countries interested in following these norms? Of course not. We have seen it in China where Uyghur Muslims faces governmental pressure in the concentration camps. Terhalle & Depledge (2013, p. 577) explains it by exemplifying China’s ascendancy in the world that first accepted some international norms and after becoming powerful started to “select” them. Therefore, these norms are actually part of the phases that other capables are not willing to follow.

Moreover, “act of speech” is not a proper explanation because speech can be and in most cases is different from the action itself. As post-structuralists argue, in order to understand the security problem, we need to pay attention to the behaviors. Practicality is vital in IR because w cannot rely on written documents as I indicated this dilemma above (*see* section 3.1).

*Green Theory*

Green Theory argues that technological advancement will not be helpful to address the problems of the ecology. Technological improvements led to new challenges such as wars and environmental problems (Van den Berg & Hutten, p. 4). However, I think technological advancement is a coin with two sides. How we will use it will reciprocate to us. First of all, we are already in the way of the technological improvements and their suspension, will not benefit us. We may use new technology to find the problems and address them with new means in order to preserve our world. We should find the ways from the path that we are already marching. ESPAS (2018) argues that the first revolution is going to be economic and technological ones. However, it requires the rational use of technology for all in order to secure us from future problems. Secondly, in the anarchic environment, when cooperation is hard to achieve, states tend to create special technologies in order to better survive and implement their interests. In that case, climate change will go on bringing global problem for all which is a paradox. Idea is that we are already in the path of technological improvement and development, therefore, asking for its suspension will not reify interest in politics. Therefore, the use of technology should be circumvented for better living.

The green theory also keeps its rigid critical view against the traditional theories, however, also adding one of the best approaches against climate change. In general, the green theory is not related to the realist terms of IR.

## Explanation of Phases

Realism is interested in learning power relations, liberalism in cooperation, constructivism in social construction (Adler 2013, p. 113) but my approach is interested in providing predictions using time factor. This approach is not based on utopic thinking such as how to make or change the world as post-structuralist argue (Adler 2013), whereas, to envisage it by using the ongoing system but with different explanations.

Interpreting this approach not only in an explanatory way, but I also try to make this approach descriptive as Wendt argued (1999, cited in Adler 2013). I use history as a description of the approach itself which is different from constructivism because they include history to their explanation that became part of the “context” (Adler 2013, p. 123). I also add “practical turn” which means studying practical matters is also vital as Foucault described (cited in Adler 2013, p. 126). This practical study also requires historical examination and assessment of the happenings that can lead us to the future predictive clarifications. Not only documents and reports are vital, but actions also come first compared to them. I have indicated it in the Dilemmas and Dichotomies (*see* section 3.1) which means assessment of reality is necessary.

IR is based on power, interests, and security for centuries which has been described as Prisoners Dilemma (Axelrod 1981). However, environmental catastrophes may make this interaction more problematic with the problems that I indicated in Chapter I (*see* also Figure 1.1). Moreover, although climate change and related problems are the main challenges, cooperation is another predicament for states which leads us to the responsibility problem.

I argue that IR or in Waltz (1979) terms “structure” is based on phases. Starting from the Westphalian system, the international system experienced several phases and they happened sequentially. Constructivists argue that ideas are main constructing tools of the international structure, whereas, how and when this socialization happens? A student may have an idea to get the best grade from teachers and this can happen if he or she can persuade the teacher to believe in him or her which creates common acceptance or common ground between them. Constructivism explains it up until this stage whereas I think the main part is how this acceptance is defined is crucial and it is “time”. The socialization between student and teacher is bonded to time which creates *phase*. Therefore, ideas are formed to achieve certain means by using material factors, and their enmeshment requires time.

Moreover, Walt (1998) explains the constructivist argument that ideas can be reified if it is created and supported by states, whereas, they do not explain it furthermore. Phases are also based on commonly accepted ideas and happen only in two ways: “rational and hard acceptance”. Rational acceptance is the acceptance of certain ideas which makes them inclined to a certain phase. However, hard acceptance happens when the conveyor of an idea imposes it to the “peripheral” states that oppose it using powerful means. Therefore, power value increases for the capable state when it comes to hard acceptance. On the other hand, rational acceptance increases the power value for the “catch-up states” because *survival, security, and interest* are the main components of states (*see* section 2.1). The power explained by constructivist proponents as “compulsory, institutional, structural, and productive” (Adler 2013, p. 125) which can be similar with my interpretation but I try to explain how they impose their ideas on other states rather explain power phenomena itself.

When it comes to the environmental cooperation the entity that prevails in IR called “power” is often got less attention (Baylis, Smith & Owens 2014, 345). However, it is not possible just to avoid the power relations in IR and in the advent of climate-related challenges, the role of it will increase at an unprecedented level. Also, not being able to cooperate with institutions and regimes within powerful states, means that power relation is at stake. The political actions of China in IR is the best proof that can indicate the role of power (Terhalle & Depledge 2013). Therefore, the realist argument about power is vital in the phase order. The basic entities of international politics, namely, *power and interest* are also crucial variables in the phase formation (*see* section 2.1).

Phases emerge from ideas and ideas are based on them. Phases help us to explain behaviors and phase produce the behaviors which mean they are associated. Commonly accepted ideas, in turn, create phases which are not material but generates material benefits for states that create it. Every idea has its locus where it comes from and this locus is always based in powerful states that possess knowledge. Every change from the phase to phase I call “shift” which brings one actor, state, or entity to another phase. Each shift takes a long time and becomes tumultuous and no phase can change abruptly because new phases counter with old power ideologies. When phases start to shift, the relation among states becomes acute. They tend to grab more or try to do one policy faster in order to achieve to their planned target and when they miss a designated time period they tend to do it much faster which results in conflicts, wars, and additional problems. All cooperation and war attempts happen within the phases. These phases are not limited to time and can take long periods. The phases in IP can be big and small which together they create the system.

Phases are categorized according to their start and end dates. The general start of phases will be taken 1648 as the start of the Westphalian state system which means the first phase is the *modernization phase* where several empires lacked the opportunity to build machines and produce goods. Some European states, such as, Germany, France tried to enter this phase that had been created by the United Kingdom but the ones who stayed outside lacked this opportunity. The Ottoman Empire could not “adapt” to it and “declined” (Parker 2005, p. 221; Khadduri & Liebesny 2008, p. 293).

Another phrase that came along with modernization was *ideology phase*. This phase has its biggest time period which even now continues. This phase is divided into two different but connected phases: *capitalist and democratic*. *Capitalist phase* experienced a powerful resistance by the states that were based on Marxist ideas. The Soviets, Cuba, China, Vietnam, etc. showed their utmost contradiction depicting the states in that phase as “evil” ones (Stringham 2007 p, 505). The ideological rivalry also pointed out by Huntington (1996) in his seminal book as a period of “Cold War” and how it shifted to a new period. The globalization is the result of ideology phase, more precisely, the capitalist phase which started after the collapse of “Berlin Wall”. This result worked best for the Westside, however, as Milanovic (2019) points, its historical development by comparing the first image of the globalization, its fruits are tilted towards Asian side which is an opposite “mirror-image” of the globalization. Although benefits are changing sides, the globalization is the result of the ideological phase where it was won by Western “capables”.

Another part of the ideology phase is *democracy phase* that started after the collapse of the Berlin Wall which accelerated with globalization and then opened ways with “securitization of terrorism”. Terrorism is both a consequence and a tool for both capables and catch-up states in the phases. It is part of violence against the rival that tries to spread ideas that create the phase itself. When it becomes a tool for the catch-up state, the capables or another catch-up state bare its consequences. On the other hand, it can be a tool for the capable to tame the country that avoids being in the same tide which is the part of hard acceptance. In this case, terrorism became a tool for the democratic phase that has been implemented by the US against the countries with dictator rulers which created a new *Genealogy* (Hansen 2014). “*Exploitation of terrorism*” is not a new phenomenon because it has historical roots that states used it for their own purposes (Chaliand & Blin 2007, p. 8). Poststructuralism rightly explains that the US government could name “9/11 terror attack” just psychopath people or murderers but instead, they used it as a tool naming it “Islamic terrorism” as indicated “deconstruction” (Hansen 2014, p. 173).

Now, we are marching towards another phase that I call *eco phase*. This phase can be different from other phases because this one requires global cooperation. The cooperation will be hard and may not even start. We will see resistance and the main resistance will come from the developing states or “catch-up” states because cooperation will limit their ability to implement interests in the world. Another resistance will be from “capables” because entering this phase will lock their ability to grab and become wealthy as other Western “capables” or the *phase creators*. Therefore, we will see conflicts in the advent of environmental cooperation. Whoever enters the cooperation in *eco phase* late, will gain more, therefore, the cooperation will take more time to build and most probably will not happen. Before entering *eco phase* states will try to achieve their targets before everyone agreed for the cooperation. It includes grasping the oil reserves, spreading democracy, seizing world reserves, etc. Therefore, before the cooperation against upcoming challenges, international relations will become more tumultuous and unrestrained which is obvious with rising conflicts (UCDP 2018).

This phase is based on mutual cooperation that means cutting GhG emission globally, cooperating for the mitigation and the adaptation plans, and paving the way for the development of global South which mainly comprised from “catch-up” states. It may seem for the first hand as moral cooperation, whereas, this cooperation should be based on logical and mutual understanding from both sides which may sound “irrational”. However, logical thinking requires an illogical attitude if we want to explain from the realpolitik side. This is the main paradox of the cooperative eco phase.

Not heading towards cooperation is beneficial for the capables that avoids the phase creation by West (Axelrod 1981). However, this also undermines their future, therefore, they will try to find the best possible cooperation among themselves with new initiatives. Therefore, in the advent of the *eco phase*, we will see state rivalry to build cooperation “clubs or blocks” against the climate-related problems. The capable states will try to suggest updated projects in order to take power in the regions. According to the realist pessimism, the rise of China will most likely cause another power war with the US (Williams 2013, p. 28). This is already happening with new projects and ways in the phase that the US has created. China started to suggest its plans that is related to “BRI” which attracted 68 countries globally (Hong & Johnson 2018). China argues that its BRI project will be green and will help developing states to cope with the upcoming challenges. According to the BRP (2017), the main interest of “mainstream ecological civilization” is to “promote” green policy and protect the environment with a road initiative. Moreover, it is mentioned that this project is an “essential effort to participate in global environmental governance” (BRP 2017). China also mentions providing communication, risk preventions tools for those who join the initiative with “Five Goals”. Although there are some “uncertainties” about how BRI will become a project against the climate-related problem (Hong & Johnson 2018, p. 3), China is willing to implement this project which can lead to the “old club” cooperation (Goldthau *et al.* 2019, p. 30). This responsibility competition will make the cooperation harder and any achievement will divide the world in terms of cooperation like North and South as Buzan (1991) argued. Leung (2017) argues that denial of financial support to the developing states by the US left a “leadership vacuum” which requires “imaginative” response to the future challenges from other “signatories” which is a clear image that competition of “capables” is on the rise. According to SCMP (2017), the exit of the US from Paris agreement “amplified” the role of other “signatories” to become a leader in cooperation building.

Moreover, in the advent of the phase, other capable states, such as China, will take a stance to create their own phase. Chinese BRI is the initiative the can become a plan which will deter cooperation and even will help the “catch-upping” South to save itself from the emerging inequality. According to Diffenbaugh and Burke (2019), trade serves as a buffer against the inequalities that derive from global warming. They argue that the use of trade by Asian countries helpful to erase the “historical inequality” (Diffenbaugh and Burke 2019, pp. 4-5) and it will work in this case too, although with fewer effects to China. Therefore, other Southern countries will be interested in these routes. This initiative means that competition will be accelerated more in the advent of *eco phase* and this will make cooperation even harder. Müller (2013, p. 608) emphasize the old and new rising powers and their competitive approach towards each other. He mentions the policy of the new powers that accommodates the old powers and will of the new rising powers that accept being accommodated. However, in the *eco phase*, this relation can change because the ones who are new rising powers, such as, China, knows that this phase will be the limitation stage, therefore, it requires not to be accommodated. Therefore, the advent of the eco phase will make cooperation harder with institutional norms and will escalate additional conflicts (Mitchell 2013).

Lack of cooperation ground will push us to the new phases. *Apo-tech* and *exodus phase* will emerge because of the power relations among “capables”, however, not being able to build cooperation in *eco phase* will extend the devastating effects of climate change as I argued in the “Tree of Challenges” (section 1.1). Before entering to the *exodus phase* there will be the *apo-tech phase* where powerful states that have technological improvements will try to create artificial crops, foods, etc. (Shemkus 2014; Win 2018) in order to sustain life which is already happening in Antarctic (Zuckerman 2019). This argument is also related to the “internal balancing” theory that mentions building own capabilities (Wohlforth 2008). The *apo-tech phase* will increase the vitality of borders and its security which aftermath will push the nationalistic behaviors to its limits (Goldthau *et al.* 2019, p. 30). The *apo-tech* phase will be reified with little cooperative attitudes (Goldthau *et al.* 2019) because of the nationalism, high-level border security, intervention to the *catch-up* states, and the creation of “clubs”. Without cooperation in the *eco-phase*, we might see an increase in nationalistic behaviors, border security, intervention to *catch-up* states for the resources and rise of new states such as “Kurdistan” for the water resources (Kaplan 1994). Goldthau et al. (2019, p. 30) argue that nationalism will steer the competition and any gain will become “premium” for the nation which will cause a zero-sum game. However, this phase in not a near future because it requires time to change the “fundamental” things like agriculture (Win 2018). Moreover, the energy transition will create a problem for the “developing South” in this phase causing conflicts, and additional problems (Goldthau et al. 2019). This phase illustrates the “self-maximization” where cooperation cannot be possible (Axelrod 1981, p. 306).

Although it sounds utopic, *exodus phase* may also happen where the rich and influential people will try to find other worlds after the *apo-tech phase*. Obviously, it will depend on technological improvements that will open the gates for such an opportunity but with the collapse of cooperation, this phase can also be possible. In my aforementioned Google Trends Analysis (*see* section 3.1), we can see the rising interest towards Mars planet. If Mars or other planets will not be suitable for the human species to live, then, cooperation will be the best way to be able to live on earth. So, it dependents on future technologies. The technological improvement may not create a safe haven for us and misuse together with exponential development can make our world more tumultuous which is also supported by Green Theory proponents (Paterson 2005).

Each phase has its own results for the world and for the “capables”. For example, the “modernization phase” resulted in “mercantilism”, the “ideological phase” resulted in globalization and expected to result in a democratic order. However, the “eco phase” should result in global cooperation. If this phase will not be reified, then global cooperation will not happen and eco phase will be skipped.

The international system is based on *capable and catch-up states*. Capable ones create phases with ideas, technologies, and knowledge and the *catch-up states* try to choose which one to follow. The *catch-up* states will try to evaluate their own interests, such as, economic improvements, and trying to get as much as possible power (Mitchell 2013). States that try to catch up among the *capables* create rival atmosphere by changing sides (Goldthau *et al.* 2019, p. 30). Moreover, state relations also explained by realist proponents. Offensive and defensive realists take a different road in cooperation and Waltz (1979) explains that states are interested in protection from others but not in making themselves better. However, the division of states globally to *capables” and “catch-up states* have a different perspective on cooperation. The one who creates the phase interested in legal cooperation, whereas, another capable is interested in making itself better with offensiveness because it cannot rely on someone’s phase. When Russia or China breaks international law, their main interest is not to follow the already created phase. Media depiction of these countries can be explained with “discourse” and “intertextuality” analysis of poststructuralism (Hansen 2014, pp. 172-174). “Catch-up states” on the other hand are interested in protecting their gains as they are followers in the phase. It does not mean that “capables” do not cooperate with each other but as Waltz (1979, p. 202) explains, their cooperation would be “unpleasant”. However, any “future intentions” goes against the cooperative ideas (Waltz 1979, p. 105). Historically states attacked others for gaining more incentives and it always outpaced costs (Walt 1998). Therefore, the new phase will show itself more offensive with the rise of new capables that will challenge the Western states. Conflicts, wars always derive from “militarism, hypernationalism, or some other distorting domestic factor” and these factors are on the rising gradient (Walt 1998, p. 37). Offensive and defensive aspects of the state behavior will always be relevant in the international system and they cannot be torn asunder. Moreover, phases and the relationships within it take time and because of the globalization, this connection will become more strain as economic liberalism explains (Walt 1998). Both capables, creators, and revisionists will try to avoid any imposed regulations on them because they are the creators of the phases and will never allow “enmeshment” to happen (Terhalle & Depledge 2013).

Ullman (1983, p. 133) argues that we should make security as a goal to fight back with all these security problems and that requires a rational attitude. However, rational security thinking also goes against cooperation building in this phase. We need to make the cooperation as a goal which means cutting CO2, helping each other is bound to this goal. Rational thinking clearly understands the upcoming challenge, but it also understands international politics. This is the main paradox in building global cooperation. “Eco phase” is the most unique phase that makes it different from other phases because it requires irrationality by both *capable* and *catch – up* states in order to build global cooperation. *Catch-up states* cannot agree to cooperate because it will be a trap for them in an unequal system. *Capables* cannot accept their demands to obliterate that inequality which means a clash of ideas stays at stake. According to Müller (2013, p. 608), cooperation actually limits the power competition and “ability to maximize the power” which is and will be a problem for the capables that could not create phase, and problem for the “Developing South” because they could not free from a trap and may face more problems related to climate change and extreme warming (Diffenbaugh & Burke 2019). Role of capables in the phase is vital because they can oppose the phase creator with their “veto[s]” which is conspicuous in their behaviors (Terhalle & Depledge 2013). When for example, the US could not keep the dying order, it started to show and insert more power in IR which resulted in conflicts and wars. Therefore, when phase creator cannot achieve its intention, it tries to avoid it by trying harder to achieve what is needed. They explain that not having social relations and seeking power and interest did not let us achieve “post-Westphalian” order and again turned back to the tumultuous system (Terhalle & Depledge 2013). When one capable create phase, another capable tries to find ways to oppose it by bringing its own values. As Terhalle & Depledge (2013, p. 575) explain it, China granted money for those who try to explain the emerging structure and power relations. It means that the capables who dwells in the phases that do not belong to them will take revisionist direction to change it and exert their own phase to the state relations. Ikenberry (2011, cited in Terhalle & Depledge 2013, p. 576) anticipated this trend that China will soar in IR and will demand more “voice” which can be stopped by “enmeshment”. Two capable states, China and the US are the main rivals that stop the gate for *eco phase* cooperation and most probably they will keep it longer not allowing it to happen. Because former accuses the US of the largest concentration, whereas, the latter accuse China of not obeying the rules and probability its rising power (Terhalle & Depledge 2013). These arguments can also be supported with “hegemonic stability” and “power transition” theories wherein the former theory hegemon states will try to keep their hegemony and in the latter one weak states will try to surpass the hegemons (Wohlforth 2008).

Relations among states in phases portrays the loop process; when states choose military advancement, this loop broadens and states relentlessly militarize themselves. On the other hand, when states choose economic development, this competitive behavior also goes along with a loop process. Notwithstanding the loop relations between states, the “capables” can influence this “atomistic” and “competitive” behavior if they perceive this development as a threat. Grieco (1988) supports the latter system, however, I think both of them are at stake in the international system. We have seen it in the development of East Asia with economic way and in the Middle East with a nationalistic way (Solingen 2007) how they got their support from the “capables”. The rise of Arab nationalism in Egypt under the dictate of Nasser is an example how the US took it as a threat and Eisenhower called Nasser as “a puppet [of the Soviets], even though he probably doesn’t [sic] think so” (Yaqub 2004, p. 2). When the US could not achieve its intentions with Baghdad pact to attract Jordan, weakening Nasser’s power was seen as “only way” (Young & Kent 2013, p. 192). Whereas on the Eastern side of the continent, Japan got support from the US for its security because of “Yoshida Doctrine” (Xu 2014). However, turning back to the competitive system has started with the rise of China (Stephens 2012).

Moreover, entrance to the phase by a *catch-up state* can happen when state interests overlap with other states that are already in the phase. The main deterrence to enter the phase can be cultural, institutional, and civilizational differences as Huntington (1996, p. 86) explains the “hostility” towards the West by the Islamic world and “acceptance” of “dictates” by others. Also, identity lost is another fear that deters “weak” to build cooperation with the “stronger” (Waltz 1979, p. 201). Changes in phase happen for the benefit of the state or for its worst end. Changes are always insecure and the state that decided to enter phases may face problems (Müller, 2013, p. 625). When states decide to make changes in phase, then, it enters the “vicious cycle” with “old” partners because they tend to reject that state that made a change in the phase. Waltz (1979, p. 166) explains it how cooperation with “another alliance” by one state can “become uneasy” for others who are in the same alliance with those states (Waltz p. 166). This idea is also relevant for the phase cooperation, but the phase is much more phenomena compared to alliances. However, “virtuoso cycle” happens for the state when enters a new phase. The countries that are in the same phase can easily create common ground for the negotiations. We can see the Western states that can easily raise the cooperative activities together when it came to war (Buzan 1991). It is also the same, whoever enters the phase first also becomes accepted by others.

There can be different problems that deter states to enter cooperative relations. I will enlist them here that creates an artificial boundary to build it. According to ESPAS (2015, p. 12) “key decisions” will be “short term” which “will be a source of vulnerability”. The advent of “eco phase” will require the need for short-term interests by states which will ignore the cooperation initiative. Whoever enters late to the cooperation, will gain more in relation to others and this process makes the situation even worse. Morality could have been an ignition for building cooperation, however, this process will obliterate the morality argument for building cooperation. Because of the short-term interests in the advent of the *eco phase*, states most likely tend to ignore the “Nash equilibrium” that could have been a flagship for the cooperation building for that phase.

Moreover, worldwide rising inequality will make the entrance to the cooperative phase harder. According to the findings of Diffenbaugh & Burke (2019), global warming made the developed countries already rich compared to the developing South. Therefore, in the near future, we will see a suppression by the Western countries against the developing South. First, because of saving the environment, second, because of keeping existing inequality intact. This, in turn, will be faced by developing states creating more tumultuous problems globally, paving the way for conflicts. Developing states demand the major cut from rich countries which was audible in the words of PM Modi (Jordans & Scislowska 2018; Chauhan 2015). In the advent of *eco-phase*, this result will broaden leaving a huge vacuum globally and entering to the *eco-phase* will make the situation for the developing states even more unbearable under the dictate of the developed ones. The case is that the climate-related problems will most likely affect the underdeveloped countries, as we may call them, third world states. So, it is like putting pressure on those who are already in danger. Therefore, the hegemon states such as China, Russia, India, the US, and others will find a way to confront each other for getting more resources. The climate-related problems will fuel already happening problems. In the near future, we can see more tumultuous processes that can be followed by conflicts, open confrontations and so on. The West is likely to oppress the periphery for the cooperation and it will be faced by the rebuff. We have already seen it in Kyoto Protocol that Russia delayed the ratification, which was also followed by the US (Mitchell 2013) and GhG release has not been lowered by other top emitters (see section 1.3).

Also, as Mitchell (2013, p. 804) mentions, the “uncertainty” about the relations between humans and nature and not knowing how things will evolve, makes cooperation harder among states. Gambetta (2000, p. 216) also mentions uncertainty and its vitality for “trust” building. The uncertainty he mentions is the main predicament for achieving trust and cooperation among people. He also adds that if we had some “computational skills” to predict the upcoming, then there would have been trust for eliminating the uncertainty. Moreover, uncertainty concerning the mistakes that took place in the organizational reports, such as, IPCC (2014) (see section 3.1) that I have mentioned above is another “uncertainty” that makes cooperation hard.

Furthermore, building cooperation in the *eco-phase* is hard because it does not give tangible results immediately. Sachs (2015) interprets it with frog explanation. He explains that if you put frog to the boiling water, it will jump out. But if you put it to temperate water and then boil it, the frog will die in the water. Future problems that emerge from global warming comes slowly-slowly making cooperation hard and human life desperate. Also, IPCC (2014, p. 76-102) indicates that cooperation is more real when the result is tangible and “equitable”.

Moreover, not being able to create cooperation in the eco-phase will raise the vitality of borders. If we check the military expenditure for 2018, we will be sure that it is in the rising axis. According to SIPRI (2019), the military expenditure rose $1822 billion dollars in 2018 which means 2.6% increase compared to the last year. The main military concentrated countries are the “United States, China, Saudi Arabia, India and France” which is equal to 60% globally. If we look at the figure presented by them, then we will notice the steadfast increase starting from the millennium and because of the advent of eco-phase, the military spending will continue to increase. Most probably, in the future the securitization of the borders and their vitality will become stronger for the states that comprise more resources (Mitchell 2013) and the ones who lack them will try to obliterate the border idea. As the vitality of the borders will become open phenomena, the rise of the nationalist ideas will accelerate which is already on the rise among the young generation (Hinnant 2019). The vitality of borders will become a priority for the “catch-up” states whereas, it will become a predicament for the “capables”. As Krasner (1982, p. 193) explains the state ability to control movements in its “borders” is constrained which can lead us to the change of the international order of the states as Kaplan (1994) explained. I have indicated the vitality of borders in the apo-tech phase and these figures clearly provide us with the answer that eco-phase with cooperation most likely will be skipped.

I have indicated the main cooperation problems above, now, we should also see the possible ways that can help to build cooperation. According to “Future Council” of WEF, we need to look at the map from above finding “connections” rather than “disconnection” (Jones 2017). Therefore, seeing cooperation and connections are also crucial. I argue that there can be four possible ways to build cooperative relations that will be part of the *eco phase*. Powerful states or as I call *capable* states who create the phases should surrender their interests and in the phase that we live, it is the US. Williams (2008, p. 9) argues that some actors “can shape the future in desired ways”. Therefore, the “ideology phase” creator and its main followers which is the West, should surrender their interests otherwise the cooperation will not happen.

The second way is human or individual power which can rise from the tangible results. What makes *phase theory* different from structural theory is that it includes an individual power to it where the latter one excluded it according to Krasner (1987, p. 186). Moreover, this theory is different from constructivism too because it explains the end of idea formation and individual behaviors that create a “cloud” if we can visualize it. The emerging problems can make the way to the policy if it happens consistently and with tangible results by becoming “the immediate threat to the humans” (Mitchell 2013, p. 807). In this case, the big powers may start to cooperate by the demand of the people but even in this case according to their own interests. The tangible results will lead us to individual stance against the governments. Phases help us to understand that the politics that we are now perceiving are chained with strong state interests and in order to break this chain, there is a need for other actors to enter. Moreover, individuals need some certain government body to make their voice to be heard. Furthermore, the role of institutions and NGOs has been high because even in the harsh decades they helped to build negotiations with “pressure” and acted as a bridge among states (Mitchell 2013, p. 809; Grieco 1988). As Finnemore (2003, cited in Adler 2013, p. 126) explains that organizations are institutions that impose norms and “diffuse” them. Although state roles will become stronger, the role of NGOs will diminish because of the “power rivalry” among *capables* (Goldthau *et al.* 2019, p. 31). This was seen in the attempts by the US creating its own “club” that evaded UN-related discussions (Terhalle & Depledge 2013). Therefore, a powerful state role can rise and avoid even major NGOs. Also, the upcoming challenges will push new actors to IR violating the state mechanisms (Pereira 2017). I will explain it broader in the Responsibility section (3.4). Concomitantly, the role of companies cannot help to create cooperation since they are dependent on domestic governance (Kelemen & Vogel 2010).

Another idea is keeping all the state interests by implementing a common goal. The idea proposed by the *Science Advances* is that we should protect the 30 % of nature by 2030 and restore 20% of the lands which can help us to bypass the upcoming catastrophes (Dinerstein *et al.* 2019). They propose this idea stating that “[n]ew findings give urgency to this union”. The article argues that if we cannot implement maintaining the ecosystem then even cutting the GhG emission will not be helpful for us. 30% of the designated area will be scattered around the world and will not be in one area (Dinerstein *et al.* 2019). The idea of regulation of global lands with taxes is also proposed by Creutzig (2017) where she indicated the decline of lands in an alarming rate and articulates how states buy lands privately in Africa for their croplands. Ostrom (1990) principles can also be added for such regulations which may have cooperative grounds.

We may also see small help to each-other in the adaptation periods before entering to the *eco-phase*. As an example, we can use “Earthquake Diplomacy” (Mustafa 2005) where India and Pakistan cooperated to save the people who faced the earthquake disaster. Another example is the earthquake in Iran where the Azerbaijani side sent their aid to help the victims (Trend 2012). However, this short-term help does not mean building long term cooperation and can also be an “instrument of soft power” (Nye 2009, p. 162).

Moreover, “scientific consensus” is vital in IR. Without “scientific consensus” reaching international cooperation “is neither necessary nor sufficient” because “the real decisions” were made before states concluded negotiations” (Mitchell 2013, p. 811). Also, “boundaries”, such as, “hierarchy, function, location, structure, role, task, time” and especially, “psychological” should be avoided as Dewulf (2007, p. 6) explains. Moreover, Haas (cited in Krasner 1982) argues that knowledge can help to create cooperation when states understand the “interconnectedness” of the problems so that it can urge them to cooperate. Unfortunately, with the prolonging negotiations for “ecological” cooperation counters this argument. State survival interest is hard to avoid even with the common understanding of global warming and climate change. Therefore, I think scientific advice is crucial when it is formulated as a recommendation for individuals.

Although phases are open for all actors and logical speculations, the role of the state is undeniable. States are a vital part of phases and phases or in another term, the international system is being composed by capables as a hierarchy in an anarchic order. These phases work with specific mechanism and order in anarchical and hierarchical principles together but in a divided way as Lake (2009, pp. 39-40) explains it in his book how hierarchy is possible in IP. Realist proponents argue that IP is anarchic (*see* section 2.1), on the other hand, constructivists argue that “Anarchy is what states make of it” (Wendt 1992) which I consider both of them at stake. States found themselves in anarchy as rational actors but their interaction tends to create hierarchy as their relations are based on competitiveness. States rational actors that covet for power, interest, and security which means IR cannot stay long as anarchy for a long term and apt to changes in the form of hierarchy. Therefore, anarchy can be applied to the *capables* because they are not in the shoes of *catch-up states*. Also, hierarchy is available in the *building tools*: Interests are the main starting point in politics which then requires power (to survive and to attack). Interest and power require ideas which also entails knowledge subsequently. These tools are depicted in behaviors which enter to the time milieu and results in *phases*. Ideas, knowledge, and behaviors are the main requirements for getting “capability”.

Moreover, from the first sight following behavior of catch-up states may be similar to the “bandwagoning” explanation where states follow powerful states. Although “bandwagoning” is tied to the following factor, it does not make it equal to the catch up in phases because the former includes blinde interests as Müller (2013), the latter comprise a broad context which is history, culture, interest, geography, etc. Also, liberalism argues that Western states have the same ideology which helps to create cooperative grounds. However, states have the same perception; gaining power, following interests, and securing the state which means they can cooperate only because they are in the same *phase*. In this case ideas of each state can be different, but as much as they are in the same train to reach their gaining, they will cooperate, and the train is the “phase” itself.

When it comes to the start and end of the phases, I should mention that every phase has its own start and end dates with exact numbers, whereas, it is not possible to predict the start and the end dates exactly because it also depends on the decisions of states. For example, the start date of modernization starts with the establishment of mechanical tools that happened during the “Industrial Revolution” (Neal & Cameron 2016). The ideological phase, on the other hand, started in the 19th century that was the time of capitalist and Marxist clash. This phase then broadened with a democratic and communistic clash in the 20th century at the time of the Cold War. Starting from 1990th after the collapse of Berlin Wall the main result of the “ideology phase” became globalization (Ackermann 2009). The end of it can emerge when *capables* achieve the desired outcome and need to change it by broadening its interests and getting more achievements. Another possible end of *phase* can be the collapse of the *capable*, such as the USSR. Globalization is the main achievement and result of the capitalist phase that is the part of “ideology phase”. However, “democracy phase” has not been established globally, which means we live in this phase but rapidly approaching its end.

Lastly, Walt (1998, p. 44) explains that future diplomats should take into account the realist “power”, liberal “domestic force”, and constructivist “shifts” into account. I think that all of them are relevant in building the phases and whichever country takes the lead in constructing it, have the potential ability to use all of this triangle together. With this approach, I have tried to give a “god-like” (Pereira 2017, p. 5) position or “eagle-view” that IR needed in order to spot and understand the interactions.

## Responsibility

There are few people that can tell how good the solution is or how the attempt is good enough to solve the issue (Rittel & Weber, 1973). They argue that wicked problems are under the control of these people who are interested in this issue. We need to include issues to the broad sphere of people in order to eliminate the interest of a small circle. Therefore, facing the upcoming challenges is hard with the dictate of the states as I also indicated above (*see* section 3.3). Breaking ISR system requires non – state-based actor which can be individuals.

In an anarchic world, there is no simple solution for building cooperation and no state can be responsible to take this burden (Grieco 1988). However, hierarchic order also at stake, and capables are willing to take this responsibility which is already happening with the role of China as I explained in section 3.3.

In section 3.3 – I have argued that individuals can have a role in IR by demanding their own security. This process can lead to “hybrid forms of governance” (Van den Berg & Hutten n.d., p. 15) which can be the future of world governance. Although they relate it especially to the business companies and governments, I relate it to individuals together with governments. Because states are responsible in front of society; however, business organizations do not have this type of responsibility. However, if we add individuals and non-government organizations it will deform the traditional way of the governance.

The main architect and the moderator of the international community are capitalist-western states (Buzan 1991, p. 437). However, the *phases* help us to understand the transition in international politics. When “power and other structural factors” becomes visible in issues, then “both individual and institutional action also matters” (Mitchell 2013, p. 809). As we are marching to the new phase facing new challenges, the most infinitesimal actor of international relations – the individuals – becomes more powerful in addressing these issues. According to ESPAS (2015, p. 12-13) the role of “people power” will increase because of “the political and economic empowerment of ordinary people” and will show its effect in all aspects of life “by 2030”. I have already argued that the individual actors are already on the rise which means values will enter IR (Hill 2003). We can see the paradox that *bigger the challenge, smaller the solution tools become*. When people face tangible results of climate change, the need for change will emerge which then can add interest and capability factors.

Moreover, there should be some connectivity and focus that will unite individuals in IR. Dewulf (2007) argues that “domain focus” is the main need which he related to states, but this idea can also be related to individual actors. “Domain focus” can direct actors to achieve cooperation and solution. He (Dewulf 2007) explains that without special interest, collaboration stops its normal working, whereas, I think that survival instinct will help to keep cooperation intact not letting it fall to “apathy”. I think that “domain focus” for all individuals will be a *survival instinct* which will emerge from the tangible problems and then direct them to cooperate and solve worldly problems. Hill (2003) argues that capability for the development is not sufficient and requires need and interest factors. Asking how responsibility can meet these factors are tied to the survival instinct. Therefore, the main creators can be individuals that are called “knowledge society member” and the main conveyors of these ideas will become *mayors of the cities*. The “people power” can show itself in the governments and in the businesses putting more limits and control over their relations (ESPAS 2015).

Since 2005, cities are at the core of the innovative governance (Melica *et al.*, 2018) which can be the cornerstone of the cooperation against the climate change (de Coninck 2018, p. 355). Moreover, we can notice the popular increase in the roles of mayors globally. The Covenant of Mayors (CoM) is an initiative in which municipalities voluntarily commit to CO2 emission reduction. The participation of small municipalities has been facilitated by the development and testing of new multilevel governance models involving “Covenant Territorial Coordinators” (CTCs), i.e., provinces and regions, which commit to providing strategic guidance and financial and technical support to municipalities in their territories (de Coninck 2018, p. 355).

Therefore, mayors can be the best communication channel between the “bottom and up” which can deliver messages to the governments. The upcoming challenges require “upward shifts” that will include everyone under one umbrella to fight against the problems. We can already see how mayors of big cities now became the main influencer to the presidents on joining agreements (Leung 2017). According to WEF “Future Council” meeting, growing “mistrust” growing pace of development may create social “mistrust” and therefore they point the role of “trust” in the society (Jones 2017). And here we can see that the main connecting channel can be *city mayors* that can deliver messages and avoid mistrust by uniting ideas, demands, etc. where de Coninck (2018, p. 354) also argued about the rising role of “local government”. Also, Hills (2003) explains that the dominant circle frequently updates new ways which make harder for simple individuals to show their power which is the main predicament. However, people under the leadership of mayors (Dewulf 2007, p. 8-9) can avoid circle ruling, “uncertainties and ambiguities” and achieve positive results.

We may ask why individuals and a hybrid form of governments can emerge when NGOs helped to solve many problems (Mitchell 2013)? First of all, “power rivalry” of states and their increasing role will probably lower the role of NGOs (Goldthau *et al.* 2019, p. 31) as I explained in the *Phase Approach* (section 3.3). Also, we should understand why not companies should be responsible for cooperation. Young (2011, p.71) explains their “mechanism” as “killing the goose that lays the golden egg”. He argues that companies can use all lands, trees, and so on. for their own incentives which can cause “side effects”, too. The companies can also easily put market things that have ecological values such as trees which means that these values are “nonmarket” based ones (Young 2011). Although this explanation is related to CPR management, this idea is also relevant for the companies where they are driven to gain more benefits. As Sachs (2015) explains this relation, “energy sectors” have a huge number of shares which means they are not willing to fight back climate change.

Moreover, Kelemen & Vogel (2010, p. 431) explains that if “domestic policy” is not robust enough, then firms and companies will follow their own interests by countering “international agreements”. The companies are attached to the global dynamics that requires competition and they are interested to follow them. If the domestic policy does not have pressure on them, then they tend to follow their own interests because their interests are “shaped by domestic policy” (Kelemen & Vogel 2010, p. 444). Therefore, companies are not suitable for being responsible for cooperation.

Another point is that individuals with their own influence can have an effect on global thinking. It may happen in the political sphere and in daily life. Williams (2008, p. 10) argues that there are some individuals such as leaders, who can help to improve the security in “certain context”. For example, we can add to the individual powers as Mostafa Tolba (UNEP n.d.) who fought for climate change and achieved bringing scientists and policymakers together. Also, the voice of Greta Thunberg as an activist against climate change indicates the power of millennials. Moreover, we can see hoe Antonio Guterres in his speech (cite) says that he is “pleased” to see the “youth in the audience” and mentions the members of “civil society”. According to the IPCC SPM (2018, p. 25) the role of “national and sub-national authorities, civil society, the private sector, indigenous peoples and local communities” can be helpful for implementing the urgent goal. However, if there is no designated government sector, then individuals simply cannot have an effect. Because their unification is hard to achieve without leadership. As ESPAS (2015) argues, “knowledge society” is incapable to unite and raise their voice. Hills (2003, p. 127) explains it eloquently saying that “shared knowledge reduces the need for state coercion”. However, these individuals should come frequently to power. As Axelrod (1981) explains, “cluster of individuals” can play a major role in the formation of cooperation with their reciprocal behaviors.

Moreover, the role of scientists should also be mentioned together with individual power. “Scientists and other nonstate actors” who are aware of the future challenges, “can motivate negotiators by leading them” (Mitchell 2013, p. 811). And Ostrom (1990) suggests that some people can predict future possibilities and understand the commonality factor which helps them to cooperate but for some, it is a problem. However, she explains that as a scientist and scholars we can help them to solve these problems. Moreover, Creutzig (2017) argues that in the absence of cooperation among states, scholars should provide information to the people. Role of scholars is undeniable and if they can provide up-to-date information to people then the future can be not as dangerous as it seems.

However, the role of scientists is also open for questioning because the scientists especially come from the developed countries where they can mention only the visible ones where the real problems are lurking and destroying the developing ones (Mitchell 2013). Scientists give us direction, governments try to take their own road because of the powerful interests, there stays only one actor that should take the way that has been proposed and they are individuals – either in NGOs, at homes, schools, governments, companies, etc.

However, the individual approach should be formed as an intuition where a multitude of actors are working together because upcoming challenges require “collective action” (ESPAS 2015, p. 8). As Hill (2003, p. 123) argues “individual freedom” can be realized by “collective efforts” where individuals share “similar interest”. We cannot give responsibility or cannot expect from the presidents to tackle the problems for all, because “security is simply too important and too complex” to be left to a single person or group of people (Williams 2008, p. 11). Also, challenges that the world faces does not allow trial and error and requires correct decisions to be solved. Their mistake can be lethal, and no one can blame them for it. We can take as an example the Cape Town case where newly elected president Cyril Ramaphosa asked for the meeting to tackle the “Day Zero” problem and the president asked other ministers attendance for the meeting (Andersen 2018). Idea is that problems that include the majority of people should not be expected from one person to be tackled alone. Of course, the role of officials is vital but in these cases, the common exchange of ideas is vital too but no single actor or solution is acceptable (Dewulf 2007). Therefore, we need a horizontal but not vertical ruling system because if not everyone is equal to face the challenge then it will not work.

Moreover, ESPAS (2015) projects the rise of individual power and “knowledge society” arguing that transformation of the attitudes and behaviors will stimulate a “bottom-up” approach, whereas, without “global citizenship”.

Lastly, does that mean we should demand democracy in the world? Not exactly. I think the population is the main concern of every state as Olson (1993) explains. People demand security from the state and reciprocate by working and providing with taxes. Therefore, people with security and survival concern may oppose government even in autocratic states.

## Next Step

I have argued above (*see* section 3.3.1) that the role of mayors of the cities will emerge that can serve as leaders to deliver the voice of people. Because it is not sufficient for the governments to accept and recognize the issue Mitchell (2013) argues. However, the connection and discussion platform are also needed that can deliver a message to the mayors of the cities. Hill (2003, p. 130) points the power of dominant groups and their manipulative role and argues that by building “channels” individuals can “shape social institutions”. The discussion platforms can also serve as a communication tool that can help to connect “bottom and up”.

Hill (2003, p. 130) points the power of dominant groups and their manipulative role and argues that by building “channels” individuals can “shape social institutions”. *Bayesian Thinking* (for example, Scry.com).

This platform should be based on *Bayesian Thinking* where all the probabilities will lead us to get a result and if it is not working then new probabilities will emerge from it which will go on until we find the best solution. There are some platforms that carry this mission (for example, Scry.com), however, I propose something different. Just broadcasting the voice of people is not sufficient, therefore, viable discussion entails scientific information that can deliver different perspectives resulting in a different way of approach to the problem (Rittel & Weber, 1973, p. 141).

This discussion will not also help to deliver the message to the people but also can take the interpretation out of the hands of media. For example, if we have more crimes in the streets it can be explained by the lack of police forces, lack of gun control and so on. Additionally, environmental problems can be explained by more smoking or using less alternative energy leaving aside the nuclear plans, greenhouse gases and so on. Likewise, the role of media as a main interpreter of problems can also shape the security agenda which means interpretation of the problem really matters. Therefore, tools should work for the open and unbiased interpretation where people can see data and interpret it by themselves which requires a new approach in building communication tools.

Moreover, Green Theory proponents argue that we should avoid technological improvements (*see* section 2.4). However, we are living at the time of technological improvements and hoping to avoid them would be naïve. Therefore, the best way is to circumvent it by using different tools and ways. For example, “Future Council” in Dubai (Jones, 2017) the scientists also mentioned the role of blockchain that will help to control all the “intractable global problems”. Security requires wide monitoring of the problems because the new problems bypass the traditional boundaries (Müller 2013). We can see it already with the NAZCA tool, but live monitoring can be more useful.

Lastly, any plan may generate a burden of problems which may result in increasing the problems rather than solving them (Rittel & Weber, 1973, p. 139). Every solution is “one-shot” therefore it needs systematic probing of the problem and implementation of the solution (Rittel & Weber, 1973, p. 139) and new tools may help us to avoid the problems by discussing it over and over again.

## Summary of Chapter III

This chapter comprises in itself finding the gaps of traditional theories and dilemmas by creating an approach that can be helpful against the challenges indicated above. In Dilemmas and Dichotomous section (*see* 3.1) I found paradoxes between government interpretation of problems in white papers and policy implementation, mistakes in a document, and dilemmas in findings. In the Loopholes section (*see* 3.2) I have indicated the flaws of theories and then tried to create a new approach. The new approach is about *phases* where I tried to explain IR from a time perspective. Moreover, I have tried to find answer who can be responsible for building cooperation. In the last section (see 3.5) I gave my recommendations about achieving the communication between the bottom and up.

# **Concluding Remarks**

The thesis tried to shed light on finding upcoming challenges that are driven by human-related GhG emission to the atmosphere. In the first chapter, I have used the reports from organizations, in order to indicate these challenges that are scientifically assessed and proved. By using “Tree of Challenges” (*see* Figure 1.1), I visualized the root causes of the problems, the ongoing and upcoming challenges in the shape of branches using data from the reports that I mentioned above (see section 1.1). The challenges starting from the ecosystem to the economy, infrastructure, human health, death, and other “unknown unknowns” have been indicated in the section.

Moreover, all white and blue papers indicated the role of humans as a main source of the new challenges that emerge because of GhG emitted to the atmosphere (*see* section 1.2). Then, the chapter is followed by finding the main GhG emitter countries by using NAZCA, Gap Minder, OurWorldinData, GCP tools. According to these data tools, five countries, namely, China, the US, Russia, India, Japan (starting from the most releasing state) emitted the majority of GhG to the atmosphere (*see* section 1.3). Moreover, “glocal” character of new challenges required to research the role of globalization and its effects in the world (*see* section 1.4). Globalization is both helpful and destructive for the world in the advent of challenges. The interconnectedness of the world is beneficial for states to help each other and may have a role in cooperative initiatives. However, interconnectedness creates additional problems in economic terms, therefore, climate-related problems can also affect other state economies. All these found problems that are indicated by official papers also indicate the *necessity* of cooperation. The character of the problem that affects globally to everyone, cannot be tackled individually which requires collaborative actions (*see* section 1.5).

In the first chapter, I proved my *first hypothesize* that humans are the main driver of the new challenges that emerge from GhG emission globally and results in global warming. Especially, five major states are the main perpetrators.

The next chapter is about analysis of the theories of IR where probing of different major theories has been conducted. The main perspectives concerning cooperation, future challenges, and predictions about the future have been the focus of the research in this chapter. The first theory of research target was Realism (*see* section 2.1). Realist proponents indicate the repetitiveness of the world and mention the state interest and security factors which countered building global or long-lasting cooperation. Although ecological problems indicated as an unfortunate problem, the structure of IR has been mentioned as a predicament to solve such global difficulties. The next assessed theory is Liberalism (*see* section 2.2) where rational actors compete in economic term and free trade can help to build cooperation in the “shadow of the future”. Also, divided explanations have been found within the theory itself. Moreover, Institutionalism (*see* section 2.2.1) explains the role of the institutions that build communication among states and states keep these institutions as the main actor because of the “transaction costs”. Likewise, Grieco (1988) explains the powerful role of institutions that can affect the actions of states with trade unions, organizations, etc. Regime theories (see section 2.2.2) argues that regimes help to concentrate state interest in an issue area. Moreover, Young (2012 para. 10) argues that regimes are affected by rising complexity and “Anthropocene” period. Compared to the former two theories, constructivism explains world politics from a different approach as a metaphysical theory. Constructivism also explains individualism in IR that can have an impact on the elite ruling system and the role of states also mentioned within “security culture”. When it comes to the Green theory built upon the bedrock of “ecological responsibility, social justice, non-violence, and grass-roots democracy” that comprise morality. The theory also opposes technological advancement and proposes “ecological modernization” and sees “sustainable development” as a panacea against climate change which requires monitoring.

The last chapter, which I categorize as “doing” section, comprises the assessment of the findings that have been mentioned in both two chapters respectively. The first section, *Dilemmas, and Dichotomies* (*see* section 3.1) I found paradoxes in documents and actual behaviors of five major emitter states, namely, China, the US, Russia, India, Japan (*in decreasing order*) revealed dichotomy. Also, the errors in the respective report, i.e. IPCC and Comparison of the findings from “Global Shapers Survey” and Google Trends Analysis indicated another dichotomy that triggers questions about the survey. Another dilemma is about the benefits and downsides of climate change that can bring benefits to the North and opposite to the South where North is more concerned compared to the South about climate change.

Following the traditional way of thinking and determinism is the main foul of science, therefore, it is “mandatory” to think and find new ways as Pereira (2017) argued. Therefore, already found gaps lead us to explain their interpretation with a new approach. In *Loopholes* section (see 3.2), I categorized theories and indicated their gaps. Each theory has its weak spots and comparison of their arguments helps to shed light on them. Realism argues that IR is based on repetitive interactions which means the theory has its rigid character and cannot explain shifts in IR. Liberalism, on the other hand, takes economic cooperation and “shadow of future” arguments to explain cooperative behaviors. However, the former cannot explain China and US relations, and the latter cannot describe how much time is a need for repetitive action to happen in order to build cooperation. Institutionalism, on the other hand, has problems to explain “enmeshment” in IR because it did not happen in big power relations. Also, institutions are weak because they possess no power to impose on other states. Müller (2013) points the difference between real cooperation and motivational ones that emerges from communication and argues that communication is not cheap and real cooperation requires action. Williams (2013) also argued that institutions are good at solving direct problems, whereas, future problems require indirect attention. The main gap for the regime theory is that regimes are “epiphenomenal” between state interests and in its formation (Krasner 1982). Also, regimes emerge “rarely” because states have security dilemma problems. Constructivism ignores power relations in IR and cannot predict future related problems. On the other hand, the Green theory brings moral factors to IR also avoiding the real happenings, such as the rise of states and development of technologies which I indicated as the main loopholes.

This section revealed the answer for the *second hypothesize* that theories of IR explain the ongoing problems and only realism can see the future but in a repetitive way which does not explain the future changes.

Assessment of flaws and gaps of the theories of IR leads us to propose a new approach and explanation about the future and cooperation which is the main aim of the research. I proposed the idea of *phases* that can be a new approach in IR. *Phase* approach is based on time, and I think the actors with their identities and ideas not only comprise system or structure, but they create time cloud. If a student wants to get the best grade (material aspect), he/she will use idea and identity factor in order to persuade the teacher. In this case, we have two actors in a specific situation with certain interests. They also interested in cooperation because they may help each other. All theories explain this interaction but without mentioning the time factor which are the creation phases in IR. The classification of IR into phases starting from 1648 - the Westphalian system can help us to understand in the way it behaves. M*odernization phase* - started with the Industrial revolution, *ideology phase* divided into two small phases: *capitalist* - that started in 19th century Marxist clash, *democratic phases* – started after the 20th century, *eco phase* – is on the verge to start that can result in cooperation. Not reaching the common ground will lead to the *apo-tech* and *exodus phases*. “Internal balancing” with new technologies will happen that will form the *apo-tech phase* and migration can happen in the latter phase by leaving the earth.

Entrance to the phases is like *virtuous* and *vicious cycles* because entrance or exit from the “historical” circle will have effects on the changing state. On the other hand, the *loop process* will be visible when the state will take the road and how it will be supported which happened in the Middle East and East Asian case. “Short-term interests” ESPAS (2015, p. 12), “inequality”, “uncertainty” and “rationality” are the main predicaments for the cooperation and the lack of cooperation is also visible with the rise of military expenditure. This competitive process will not allow any global cooperation against combating global warming and related problems. Rising inequality between North and South will also be possible to be met with a new project by newly emerging states. This kind of initiatives will also accelerate competition that becomes a predicament for the cooperation which is happening with the new BRI project of China. Either state will find new plans such as maintaining global green places and will continue their ambitions for the future or some plans and initiatives such as BRI which can play a role in the advent of *eco phase*. However, cooperative behaviors should also be mentioned because we also need to find “connections” in the world. There are several cooperative possibilities that can happen. First of all, states need to lower inequality between developed North and developing South because if this gap will not be obliterated, cooperation cannot happen. However, Dinerstein *et al.* (2019) argue that without this gap cooperation is also possible if states can sperate “30%” of lands globally. They argue that these lands can help to save world problems together. Moreover, cooperation can happen among states during disastrous times as Zubeida (2005) argues with “Earthquake Diplomacy”, rival states can help during desperate times.

Moreover, several states will compete in taking responsibility, such as China with its BRI project and state competition can take time which will become a predicament in its formation. NGOs and business organizations can also compete for responsibility, whereas, the role of former is diminishing and the latter is interest driven and bounded to the domestic policy. Therefore, an individual approach will be at stake in the future. *Bigger the challenge, smaller the solution tools become.* “Tangible results” can create survival instinct which can serve as “domain focus” and make people become interested in causing “upward shift” cooperation. Entrance to the politics entails communication channels and mayors of the cities can provide this tool with the demand of people since cities are becoming the future of governance. Individual leaders may also have an influence on world politics but it requires frequency Also, this trend does not mean democratization because the population is the main concern of every state as Olson (1993) explained. I also gave recommendations about communication channels that can deliver messages of people by creating a connection between “bottom and up”, i.e. mayors of the cities and its inhabitants. These tools can also help to avoid media interpretation of the problems and deliver messages to the governments that are based on probability discussions.

This study reached the aim of finding climate change and its related problems using white and blue papers. By doing so, found the explanation of these problems and how to solve them using IR Theories. Moreover, their comparison entailed some flaws which substituted by New Approach that is based on phases and gave new insight about cooperation and its achievement.

In sum, traditional IR Theories have difficulty predicting the future of the world in the advent of climate-related disasters, however, the phase approach can explain the future within time factor and the rise of new actors, i.e. individuals can happen because of “tangible results” under the leadership of mayors of the cities where their message can be delivered to the governments after a thorough discussion of the problem using a platform that can serve as both a communication and discussion tool.

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1. <https://trends.google.com/trends/explore?date=all&q=%2Fm%2F06d4h,%2Fm%2F0cs9q,%2Fm%2F09cws,%2Fm%2F04gg7xx,%2Fm%2F07jq_> [↑](#footnote-ref-2)