



PUBLIC PERCEPTION ABOUT THE IMPACT CLIMATE CHANGE

Ismail Bulent Gurbuz¹

ABSTRACT

The purpose of the research – This research, it was aimed to determine the global effects of climate change.

The methodology of the research - Climate change is widely acknowledged to be one of the most serious global threats to future human population, environment and economic development globally.

The practical importance of the research – Policy makers and stakeholders continue to develop and enhance certain programs on mitigation and adaptation of climate change. Although, effective implementation of these policies varies upon the design of the programs and to the level of knowledge and awareness among the public.

The results of the research - From early 1980s up to late early 2000s, international polls and survey showed relative increase on the level of perception among public about climate change. During late 2000s, a slowly decreasing situation has been recognized, hence, entering early of this period up to the current year, constant increase on the public perception regarding the issue on climate change has been observed.

The scientific novelty of research - Policy makers should take the public perception of the current issue as a huge part of enhancing effective policies facing the issue of a climate change.

Keywords - Global warming, information, knowledge, awareness, environmental behavior

Introduction.

Climate change is believed to be the main reason of the worldwide increase in incidence of extreme weather phenomenon such as floods, droughts, increasing heat waves (Addoah 2016; Myers et al., 2013; Acıköse and Gürbüz, 2018; Damatta, 2018), variable rainfall and increasing frequency of intense storm (Hijioka et al 2014). However, developing countries are considered to be the most vulnerable of these effects because of their extreme dependence on natural resources (Addoah 2016). Because of that, several countries have therefore developed policies and programs on mitigation and adaptation of the impact of climate change.

Climate change could possibly bring a lot of challenges in sustainability of agriculture (Paprocki, 2022). By that being said, food security could possibly one of the biggest problems that the world could face in the future because of the negative impact of climate change (Cinner, 2018; Bhuiyan et al., 2018; Thoai et al., 2018). Majority of the country are being alarmed of this outcome negativities coming from climate change (Gürbüz ve Kadağan, 2019). Especially developing countries whose extremely relying on natural resources as an access of their main economic activities (Fulton et al., 2017; Gurbuz 2019; Gurbuz ve Yilidiz, 2019; Jahanger, et al., 2022). In addition, countries who constantly suffer from weather phenomenon such as flooding, typhoon and increasing sea levels were also considered as one of the major recipients of the negative impacts of climate change. For example, the country Philippines which are considered as highly vulnerable to weather calamities such as typhoon, floods, earthquake, droughts and landslides (Florano, 2018). Aside from that, according to Global Climate Risk Index, four countries out of the top ten most affected countries are from Southeast Asia: Myanmar, Philippines (Gurbuz and Macabangin, 2019), Thailand and Vietnam (Kreft et al., 2016; Overland, 2017)

Nowadays, several numbers of projects are being established around the world, concentrating on problems interrelated to environmental alteration (Gurbuz and Ozkan, 2019) or climate change including systems aiming on mitigation and adaption of climate change (Leal

¹ Ismail Bulent Gurbuz: Bursa Uludag University, Agricultural Faculty, Dept of Agricultural Economics, Bursa Turkey, bulent@uludag.edu.tr , OrcID: 0000-0001-5340-3725



Filho, 2016). Public awareness plays a main role in in developing policies about impacts of climate change (Florano, 2018; Lasco, 2016).

In addition, it will be difficult to implement climate change mitigation and adaptation policies without taking public views and perception into consideration (Addoah 2016). Especially that most of the research regarding the cause of climate change are predominantly pointed out to humans. Although, awareness of the climate change impact and risk differ globally (Lee et al., 2015; Milfont et al., 2017), public surveys indicate that majority of the respondents globally believe to the human causativeness of climate change (Saad, 2014; Capstick 2015; Milfont et al., 2017).

The purpose of this paper is to review some major literatures about public perception on climate change. This paper will mainly discuss the overviews of the level of awareness of the public about threat and causation of climate change. "Perception" here is widely defined in terms of people's awareness, behavior and level of concern about the impact of climate change not only in terms of environment and biodiversity but also in people's activities and way of life (Gurbuz and Ozkan 2020). The research will explore the nature of public awareness of climate change and assess the interchangeable factor in the behavior of the people towards climate change. It also considers certain things that influence the perception of people about the effects of climate change and how public awareness influence the implementation of policies with regards to the impacts of climate change.

Climate change have become one of the most forthcoming global issues (Bank, 2013), because of its numerous effect who have become more serious nowadays (Brechin and Bhandari, 2011). The common effects of change in climate include increasing heat stress or global warming, drought, floods and increase in occurrence of strong storms. But aside from these environmental effects, climate change also has direct effect to public individuals in terms of health and economic concept (Watts et al., 2015; Yavuz and Gürbüz, 2000; Gurbuz et al., 2021).

Policy makers need to take serious outtake in understanding public perception of climate change. In order to develop effective implementation of different policies regarding the impact of climate change. In the perspective of climate change, the major reduction programs in application of adaptation processes require some amount of civilian participation, from permitting of policy commands to dynamic social change (McCright et al., 2016). Majority of the academic research about public perception of climate change shows that large amount of the global respondents believe that human activity contributes to climate change (Akter et al., 2012). However, a huge number of the respondents oppose mitigation programs. For example, 83% of the respondents in Australia agreed to the occurrence of climate change, 78% believed that humans are the main contributor but 67% of the respondents refused to be involve in paying mitigation programs (Akter et al., 2012). Unlike in United States, almost 80 percent of the Americans agreed with the idea that, the US government should make an action to reduce the effect of climate change (Leiserowitz et al., 2013).

However, 13% of Americans or one out of eight people think that there is no occurrence of change in climate and 55% of the people in US believed that climate change is mainly caused by humans (Brechin and Bhandari, 2011). Nowadays, one of the timeliest problems for humanities is the Climate change; however, the public seems to be isolating it from the topic of their discussions (Painter et al., 2018; Moser, 2016). Majority of the people acquire information about climate change are coming from mass media reports, such as TV, press and radios; where stakeholders and policy makers give information about climate change and express their necessities to the public (Bakaki and Bernauer, 2017). However, media sceneries are radically changing with the existence of social media and the internet. These digital mass media



technologies such as internet and social media serve as a huge medium upon disseminating knowledge or awareness to the public. Large number people from of the world's total population are using social media in their daily activities and even scientists are not stranger with this trend. Social media has enable policymakers and scientists to communicate their research efficiently throughout the corners of the world (Van Eperen and Marincola, 2011) Nowadays, various public perception surveys about climate change are now frequently undertaken throughout the world. Academic research from the past years about the number of people who has knowledge about climate change is drastically changing and increasing (Brechin and Bhandari, 2011). From early 80s up to now, increase in knowledge and awareness of the public about climate change has been heavily increasing. For example, according to Nisbet and Myers (2007), in the year 1986 only 45 percent or less than half of the American respondents recognize or read anything about climate change (Nisbet and Myers, 2007). But it increased up to $\frac{3}{4}$ of the respondents by year 1990. Year 1989, research carried out in New Zealand indicates that, at this time, high level in terms of public awareness about climate change were already been concluded; where it says that 96 percent from the national survey respondents have heard of it. Although, knowledge about the basic information about the topic were relatively low, where almost half of the respondents have no idea of the causes of climate change (Bell, 1994; Capstick et al., 2015). Although, in the late 2000s, an increase in public skepticism about climate change has been concluded. More surprisingly, despite of the high evident of human causation to climate change, public have become less accepting regarding these matter (Pidgeon, 2015). Nevertheless, in the early 2010s, a new phase of public perception has been established; where the numbers in level of public perception has been stabilizing and at some part it is growing. Among the 28 members states that member of the EU, around 2009-2013 public importance and concern regarding climate change has been consistently high. A different data survey from 2010-2014 further indicates a stable increase in the part of Americans in terms of view about climate change and that human activities contribute major cause on it (Saad, 2014)

Results and Conclusion.

Globally, there is substantial variation in perceptions, compared to other parts of the world, Latin America and the developing countries in Asia indicates high level of concern. In terms of influences on the public approach of climate change, some studies in UK concluded that awareness of the public about the impact of climate change was greater among respondents who had personally experienced the effect of it Relative to personal experience, human cannot experience climate change directly, thus, it is understood that an individual's perception of climate change may therefore be partly shaped by their immediacy to "danger", for instance, over particular involvement or personal experience of a climate-related incident or living nearby or in a risk inclined area. In other words, more people will believe about the occurrence of climate change, the more they show willingness to act upon it.

Successful climate change adaptation and mitigation requires the governments to establish a comprehensive design that functions in a long-term scale to support local and regional knowledge, capacity enhancement and innovation. To rectify some of the most drastic effect of climate change today, we humans should have impetus to start being thoughtful of creating sustainable communities that can withstand the horrific impacts of weather calamities such as typhoon, floods, and etc.



References.

1. Acıköse, S., Gürbüz, İ.B. (2018). Bursa kiraz ihracat araştırması. *Türk Tarım ve Doğa Bilimleri Dergisi*, 5(2), 191-202.
2. Addoah, T. (2016). Public perception of climate change risk: Understanding the Influence of extreme weather (flooding) experience on climate change perceptions in Accra- Ghana, *Earth System Governance* 1-18.
3. Akter, S., Bennett, J., Ward, M.B. (2012). Climate change scepticism and public support for mitigation: Evidence from an Australian choice experiment, *Glob. Environ. Chang.*, 22(3), 736-745.
4. Bakaki, Z., Bernauer, T. (2017). Do global climate summits influence public awareness and policy preferences concerning climate change?, *Env. Polit.*, 26(1), 1-26.
5. Bank, T. W. (2013). Turn Down the Heat Confronting the New Climate Normal, Washington DC. 1-320.
6. Bell, A. (1994). Climate of opinion: Public and media discourse on the global environment, *Discourse Soc.*,5(1), 33-64.
7. Bhuiyan, M.A., Jabeen, M., Zaman, K., Khan, A., Ahmad, J., Hishan, S.S. (2018). The impact of climate change and energy resources on biodiversity loss: Evidence from a panel of selected Asian countries, *Renew. Energy*, 117, 324-340.
8. Brechin, S.R., Bhandari, M. (2011). Perceptions of climate change worldwide, *Wiley Interdiscip. Rev. Clim. Chang.*, 2(6), 871-885.
9. Capstick, S., Whitmarsh, L., Poortinga, W., Pidgeon, N., Upham, P. (2015). International trends in public perceptions of climate change over the past quarter century, *Wiley Interdiscip. Rev. Clim. Chang.*, 6(1), 35-61.
10. Cinner, J.E. (2018). Building adaptive capacity to climate change in tropical coastal communities, *Nat. Clim. Chang.*, 8(2), 117-123.
11. Damatta, F.M., Avila, R.T., Cardoso, A.A., Martins, S.C.V., Ramalho, J.C. (2018). Physiological and agronomic performance of the coffee crop in the context of climate change and global warming: A review, *J. Agric. Food Chem.*, 66(21), 5264-5274.
12. Florano, E.R. (2018). Integrated loss and damage-climate change adaptation-disaster risk reduction framework. Elsevier Inc, 317-326.
13. Fulton, L., Mejia, A., Arioli, M., Dematera K., Lah, O. (2017). Climate Change mitigation pathways for Southeast Asia: CO2 emissions reduction policies for the energy and transport sectors. *Sustainability*, 9(7), 1160.
14. Gurbuz, I.B., (2019). Nongreen revolution: a case study of wild-grown edible mushroom. *Environ Sci Pollut Res*, 26, 7954-7959.
15. Gurbuz, I. B., Macabangin, M. (2019). Factors affecting consumer's behaviour on purchasing and consumption of food products. *Scientific Papers: Management, Economic Engineering in Agriculture and Rural Development*. 19(1), 215-222.,
16. Gurbuz, I.B., Nesirov, E., Ozkan, G. (2021). Does agricultural value-added induce environmental degradation? Evidence from Azerbaijan. *Environ Sci Pollut Res* 28(18), 23099-23112.
17. Gurbuz, I. B., Ozkan, G. (2019). What's going on at the universities? How much has the research revealed university students' attitudes towards the environment? A Case Study of Bursa, Turkey. *Applied Ecology And Environmental Research*, 17(2), 5109-5138.
18. Gurbuz, I. B., Ozkan, G. (2020). Integrated environmental impact and risk assessment in rural women entrepreneurs. *Environmental Science and Pollution Research*, 27(19), 23837-23848.
19. Gurbuz, I. B., Yildiz, E. (2019). Green consumerism: the influence of antioxidant parameters and socio-economic values on Tarhana consumption patterns. *Environmental Science and Pollution Research International*, 26(25), 25526-25537
20. Gürbüz, İ. B. ve Kadağan, Ö. (2019). How the metropolitan municipality law affects the rural areas; The case of Bursa. *Bursa Uludağ Üniversitesi Ziraat Fakültesi Dergisi*, 33(2), 209-226.
21. Hijioka, A.S., Lin, E., Pereira, J.J., Corlett, R.T., Cui, X., Inzarov, G.E., Lasco, R.D., Lindgren, E., (2014). Asia, *Clim. Chang.* 2014 Impacts, Adapt. Vulnerability. Part B Reg. Asp. Contrib. Work. Gr. II to Fifth Assess. Rep. Intergov. Panel Clim. Chang., 1327-1370.
22. Jahanger, A., Usman, M., Murshed, M., Mahmood, H., Balsalobre-Lorente, D. (2022). The linkages between natural resources, human capital, globalization, economic growth, financial development, and ecological footprint: The moderating role of technological innovations. *Resources Policy*, 76, 102569.
23. Lasco, R.D., Espaldon, M.L.O., Habito, C.M.D. (2016). Smallholder farmers' perceptions of climate change and the roles of trees and agroforestry in climate risk adaptation: evidence from Bohol, Philippines, *Agrofor. Syst.*, 90(3), 521-540.
24. Leal Filho, W. (2016). *Innovation in Climate Change Adaptation*. Springer. 1-388.



25. Lee, T.M., Markowitz, E.M., Howe, P.D., Ko, C.Y., Leiserowitz, A. (2015). Predictors of public climate change awareness and risk perception around the world, *Nat. Clim. Chang.*, 5(11), 1014–1020.
26. Leiserowitz, A., Maibach, E.W., Roser-Renouf, C. (2013). Climate change in the American mind, *Yale Proj. Clim. Chang. Commun. Geogr. Mason Univ. Cent. Clim. Chang. Commun*
27. Milfont, T.L., Wilson, M.S., Sibley, C.G. (2017). The public's belief in climate change and its human cause are increasing over time, *PLoS One*, 12(3), 1–9.
28. McCright, A.M., Charters, M., Dentzman, K., Dietz, T. (2016). Examining the effectiveness of climate change frames in the face of a climate change denial counter-frame, *Top. Cogn. Sci* 8(1), 76–97.
29. Moser, S.C. (2016). Reflections on climate change communication research and practice in the second decade of the 21st century: What more is there to say?, *Wiley Interdiscip. Rev. Clim. Chang.*, 7(3), 345–369.
30. Myers, T.A., Maibach, E.W., Roser-Renouf, C., Akerlof, K., Leiserowitz, A. (2013). The relationship between personal experience and belief in the reality of global warming, *Nat. Clim. Chang.*, 3(4), 343–347.
31. Nisbet, M.C., Myers, T. (2007). The polls-trends twenty years of public opinion about global warming, *Public Opin. Q.*, 71(3), 444–470.
32. Overland, I., Azlan, L., Charadine, P., Chongkittavorn, K., Estrada, E. (2017). Impact of climate change on ASEAN international affairs. Risk and opportunity multiplier, *Nor. Institue Int. Aff. Myanmar Inst. Int. Strateg. Stud.*, 1-34.
33. Painter, J., Kristiansen, S., Schäfer, M.S. (2018). How 'digital-born' media cover climate change in comparison to legacy media: A case study of the COP 21 summit in Paris, *Glob. Environ. Chang.*, 48, 1–10.
34. Paprocki, K. (2022). On viability: Climate change and the science of possible futures. *Global Environmental Change*, 73, 102487.
35. Pidgeon, N. (2015). Public perceptions of climate change : Key Trends and Emerging Issues, no. October, 1-44.
36. Saad L., (2014). A Steady 57% in U.S. blame humans for global warming, *GALLUP News*, [Online]. Available: [A Steady 57% in U.S. Blame Humans for Global Warming \(gallup.com\)](https://www.gallup.com) [Accessed: 03-Sep-2022].
37. Thoai, T.Q., Rañola, R.F., Camacho, L.D., Simelton, E. (2018). Determinants of farmers' adaptation to climate change in agricultural production in the central region of Vietnam, *Land use policy*, 70, 224–231.
38. Van Eperen, L., Marincola, F.M. (2011). How scientists use social media to communicate their research, *J. Transl. Med.*, 9(1), 199.
39. Watts, N., Adger, W.N., Agnolucci, P. (2015). Changement climatique : Agir au nom de la santé publique, *Environnement, Risques et Sante*, 14(6), 466–468.
40. Yavuz, O., Gürbüz, İ.B. (2000). Türkiye zeytin ve zeytinyağı sektörünün üretim ve pazar yapısı, sorunlar ve çözüm önerileri. *Türkiye Zeytincilik Sempozyumu*, 6-9 Haziran, Uludağ Üniversitesi Ziraat Fak. Bahçe Bitkileri ve Gıda Mühendisliği Bölümleri, Bursa, 412-418.

İQLİM DƏYİŞMƏSİNİN TƏSİRLƏRİNİN İCTİMAİ DÜŞÜNÜŞÜ

İsmayıl Bülent Gürbüz¹

XÜLASƏ

Tədqiqatın məqsədi - Bu tədqiqat iqlim dəyişikliyinə qlobal təsirlərini müəyyən etmək məqsədi daşıyırdı.

Tədqiqat metodologiyası - İqlim dəyişikliyinə bütün dünyada insan əhalisinin gələcəyi, ətraf mühit və iqtisadi inkişaf üçün ən ciddi qlobal təhdidlərdən biri olduğu geniş şəkildə qəbul edilir.

Tədqiqatın praktiki əhəmiyyəti - Siyasət qurucular və maraqlı tərəflər müəyyən iqlim dəyişikliyinə azaldılması və uyğunlaşma proqramlarını inkişaf etdirməyə və təkmilləşdirməyə davam edirlər. Baxmayaraq ki, bu siyasətlərin səmərəli həyata keçirilməsi proqramların tərtibindən, eləcə də ictimaiyyətin bilik və məlumatlılığından asılıdır.

Tədqiqat nəticələri -1980-ci illərin əvvəlindən 2000-ci illərin əvvəllərinə qədər beynəlxalq sorğular və sorğular ictimaiyyətin iqlim dəyişikliyi haqqında təsəvvürlərinin nisbətən artdığını göstərdi. 2000-ci illərin sonlarında vəziyyətin yavaş-yavaş pisləşdiyi qəbul edildi, buna görə də bu dövrün əvvəlindən bu ilə qədər ictimai rəydə iqlim dəyişikliyi problemi ilə bağlı davamlı artım müşahidə edildi.

Tədqiqatın elmi yeniliyi - ondan ibarətdir ki, siyasətçilər mövcud problemin ictimai qavrayışını iqlim dəyişikliyinə həllinə yönəlmiş siyasətin effektivliyinin artırılmasının böyük hissəsi kimi qəbul etməlidirlər.

Açar sözlər - Qlobal istiləşmə, məlumat, bilik, məlumatlılıq, ekoloji davranış.



ОБЩЕСТВЕННОЕ ВОСПРИЯТИЕ ПОСЛЕДСТВИЙ ИЗМЕНЕНИЯ КЛИМАТА

РЕЗЮМЕ

Цель исследования - определение глобальных последствий изменения климата.

Методология исследования - изменение климата, как принято считать, является одной из наиболее серьезных глобальных угроз для будущего человечества, окружающей среды и экономического развития во всем мире.

Практическая значимость исследования – уполномоченные лица и заинтересованные стороны продолжают разрабатывать и совершенствовать определенные программы по снижению и адаптации к изменению климата. Несмотря на это, результативность реализации этих программ зависит от их дизайна, а также от уровня знаний и осведомленности населения.

Результаты исследования - начиная с начала 1980-х годов и до конца начала 2000-х годов, по результатам международных опросов и исследований был отмечен относительный рост уровня восприятия общественностью проблемы изменения климата. К концу 2000-х годов наблюдался медленный спад, поэтому, начиная с начала этого периода и до текущего года, наблюдается постоянный рост общественного мнения по вопросу изменения климата.

Научная новизна исследования - лица, ответственные за разработку политики, должны учитывать общественное восприятие текущей проблемы как огромную часть укрепления эффективной политики, направленной на решение проблемы изменения климата.

Ключевые слова- глобальное потепление, информация, знания, осведомленность, экологическое поведение