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ARTICLE

Climate Change Management Strategies to Handle and Cope with Extreme Weather and Climate Events

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ABSTRACT

Increasing the concentration of greenhouse gases causes rising in global warming and carbon dioxide emissions. With further efforts to reduce carbon dioxide, it is possible to prevent the warming of the earth, but the effects of climate change that we have already created can not be reduced. Recent observed and predicted alterations in the global climate require a double policy to react to the decline in climate alteration and its adjustment (coexistence) to explain the key factors and their effects. Measures to reduce climate alteration through decreasing greenhouse gas releases or removing them from the atmosphere are possible. Execution of more reduction measures at the present time will require less adaptation in the future. Meanwhile, inadequate measures to curb climate change presently increase the risk of catastrophic consequences, so that adjustment costs will rise unreasonably and adaptive capacity will face further constraints. Climate change adaptation measures concentrate in increasing our capability to deal with or prevent damaging effects or the use of new circumstances. Increasing temperature and changes visible today due to climate change mean that adaptation strategies should be applied. In this paper, strategies for reducing climate change and adaptation are reviewed and various strategies are presented. Meanwhile, this paper looks at the economies affected by climate change, our involvement to climate alteration, and the ways in which the economy has influenced climate change and the ways in which it can provide logical options.

1. Introduction

Greenhouse gases can effect on climate parameters (such as precipitation and temperature which are the most important factors). The Greenhouse gases can cause reduce rainfall (because of increasing dry spells) and increasing temperature significantly. Practical measures to reduce greenhouse gases and reduce the climate change impacts are two several however harmonizing methods to tackling climate alteration [1]. Fighting is contributing to climate alteration, whereas adapting to its influences on society and the ecosystem [2].

Reduction is a necessary measure to prevent the

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influences of climate alteration [3]. The idea that less measures to reduce today will lead to further climate alteration and the consequence of further quantities for future adjustment will be the basis for the immediate reduction of greenhouse gas emissions [4]. If no reduction measures are taken, the greenhouse gas emissions in the atmosphere can double by 2035, before the industrial revolution, and in practice increase the average global temperature by more than 2 degrees Celsius [5]. In the long run, an average temperature of up to 5 ° C can be increased by more than 50% [6]. This increase in temperature is equal to changing the mean temperature from the ice age (11,000 to 13,000 years ago) to this day [7]. This great change will lead to major changes in people's lives and lifestyles. It also means that all areas of the world will be affected by these major changes [8,9]. At present, adjustment to observed and predicted climate alteration, although limited, is working [10]. Some examples of disrupted adaptation measures include drought-tolerant crops, more resilient to climate happenings, flood and coastal fortifications, and mangroves to decrease susceptibility to storm and high waves [11,12]. Coming to the sea level. In the following, different methods of reducing climate change and adaptation to it are explored and described [13,14].

2. Materials and Methods

2.1 Greenhouse Gas Emission Reduction Methods:

Reducing greenhouse gases may be reached by a mixture of methods, machineries and other procedures, most notably:

(1) Low-carbon energy sources include renewable energy like solar energy, wind energy, geothermal energy, water energy, waves and ocean energy of biofuels, and biomass of fuel conversion (for example, from coal to natural gas) and more contentious, energy are nuclear.

(2) Increasing energy reserves and energy productivity:

If technologies and energy efficiency methods are integrated into different greenhouse gas emitters, they can provide the same goods and services with the least energy or use the potential of unlimited energy [15-17]. These include insulation and use of low-energy bulbs, designing heating and cooling systems in buildings, developing fuel productivity in transport, or altering the energy basis of automobiles (such as hybrid fuels, hybrid batteries, biofuels), the modal shift of goods and Passengers from road to rail, burning waste and methane revival of burial wastes will improve energy and optimize heat and energy in the industry [18,19].

(3) Carbon capture and storage. Spreading carbon reservoirs:

The capture and storage of carbon is a method that traps greenhouse gas releases in the same source of releases and before it enters the atmosphere. Point bases like central power plants are perfect for this because they are still non-commercial practices. Recently, the use of biomass, such as forests as carbon reservoirs, has proven to be a proven and practically carbon-capture method. Also, preservation of existing reservoirs of forests is a main factor of effectual absorption, although in some areas, due to increased periods of drought due to climate change, forest fires are a threat to this policy [20,21].

(4) Lifestyle and low carbon consumption options

The main source of emissions of greenhouse gases is human use, so that if no utilization of profits and facilities was available, greenhouse emissions from human activities were not carried out. However, the increase in population along with the development towards Western-style use has added to the long list of ecological pollution issues of land, water and the atmosphere. Lifestyle alterations and low-carbon options such as purchasing local produce, eating less meat and applying public or non-motor vehicles are altogether feasible methods to reduce greenhouse gases. Reduction measures should combine, harmonize and balance all existing concepts for a desirable and cost-effective outcome [22]. In fact, reductions do not necessarily have to be considered as costs, but also possible profits in the previous mentioned measures for economic improvement, market development, health and technology improvement, as well as reducing greenhouse gases [23,24].

2.2 Policy Tools to Promote Greenhouse Gas Emissions

At the moment, there are various strategies that, if applied fast, can decrease greenhouse gas releases and thus assist reduce the most critical impacts of climate alteration. Developers can create institutional, policy, legal and controlling agendas for empowerment and an incentive to reduce emissions of greenhouse gases plays a vital role [25-27]. Proper policy mixing with appropriate tools, including economic and legal guidelines, may affect the economic, technological, informational and behavioral difficulties in the market [28,29]. The most important of these tools are:

(1) Incorporated policies, including climate alteration, as an element in larger policy improvement to assist the application of reduction procedures.

(2) Legal standards make confidence and stability on greenhouse gas emission levels and signal a specific sig-

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nal to prevent the "usual business" approach. By setting standards, the government can use materials and equipment that damage the climate.

Prohibit or attempt to replace them. For instance, standards may be used for buildings (energy productivity), fuel consumption through means of motor vehicles, energy productivity in households, and the substance of fuels.

(3) Decreasing greenhouse gases for deforestation and forest deprivation, policy methods and positive inducements for topics related to

Decreasing greenhouse gas releases from deforestation and forest degradation, in addition to the character of preservation, sustainable forest organization and increase forest carbon stores are concerned.

(4) Voluntary agreements are a tool for interactions between industry and government that have voluntary partnerships in environmental and other matters, and are often procedures for legislation. Theoretically, industries will be forced to take steps to reduce greenhouse gases if they have more costly legal controls.

(5) Voluntary measures: Companies, governments, civil society and nonprofit groups can innovate. Sometimes the best interest rates are best. For example, a 4-member family with an electric heater, on average, is reliable for the emission of approximately 8 tonnes of carbon dioxide per year, which is approximately twice that of a new conventional machine. Despite the fact that solar water heaters are an energy saving solution in warm and sunny regions, their price of purchase is extremely high for numerous parts. Banks usually do not like the costs and profits of tidy energy. Therefore, mortgages are often not extensively accessible. However, the return on investment in solar water systems occurs in less than four years, and from there onwards, hot water is supplied free of charge. Enter prosol is a new initiative among the Italian Ministry of the Environment and the National Bureau of the Seas and Drought for Energy Conservation, which helped the 10,000 Tunisian families borrow $ 60 million of their solar-powered loans, which would leverage significant initial costs 2.56 Million Dollars Prosol. The Tunisian solar water market showed that when low-interest loans are provided to households, a significant increase in their interest is seen through reimbursements collected through electricity bills. This decreased the danger for local banks. At the same time, borrowers saw the effect of using solar heating on their electricity bills.

2.3 Economic Tools

Taxes and costs impose costs on publishers per discharged pollutant unit. For instance, a carbon tax is an environmental tax on carbon derived from fuel. It may be applied through taxing fossil fuels, coal, oil derivatives such as diesel and fuel, as well as natural gas, relative to their carbon content. Therefore, they become more costly to usage. Consequently, a carbon tax will increase the power of competition for non-carbonic technologies (such as wind, sunlight, hydro and nuclear energy), that will help preserve the environment along with increased revenue. The important thing is that taxes and fees should be high enough to make a difference in consumer behavior rather than an excuse to increase government revenue [30,31].

Financial inducements like discounts and tax cuts may be applied to motivate novel markets for creative technologies. For instance, a sales tax reimbursement for purchasing and installing solar panels can be a stimulus to install these technologies. Consumer licenses also provide a market and a market cost for pollution, which means carbon is ours here [32]. A general limitation for the permitted greenhouse gas emissions is laid down, and this amount is distributed in greenhouse gas permitting sources (industry) in the form of a license [33]. Then the licensees can either use these licenses or buy them and sell them as traditional stock markets. The government or companies that need to increase greenhouse gas emissions must purchase licenses from those who are less in need. In this way, the buyer will have to pay more for pollution, while the vendor will benefit from greenhouse gas emissions. So, people who can release gases

Reducing greenhouse gas emissions at lower levels than purchased licenses will result in less polluting costs for the country.

2.4 Adapting to Climate Change: Facing a New Event

Climate change and climate alteration are reflected in the implications of the need for adaptation and reform in both natural and human systems. Such adaptations say adaptability that balances damages or exploits useful opportunities. Although individuals and communities always adapt to these climatic changes, it is often not enough to respond to the present and future climate alteration. Adaptation is classified into both theoretical and practical categories.

2.5 Theoretical Compatibility-Compatibility classifications

In the theoretical compatibility, compatibility responses can be divided into several sub-classes that represent factors, scheduling, and systems. Table 1 displays instances of compatibility measures for several classes of adaptation.

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Table 1. Examples of adaptation strategies

		Forecasted	Reacted
Natural system	Public	N.A	-Changes in growth rates during growth seasons -Changes in the elements of ecosystems -Destroying the wetlands
	Private		
Human system	Public	-Buy insurance -Build the urban infrastructure and buildings with standards - Redesign oil infrastructure	-Changes in the performances of cultivation -Changes in insurance -Buying air conditioner
	Private	-Pre- awareness system -New codes for building contracture -New standard for moving potential buildings	-Financial aids for hazards events -Financial aids for rebuilding the buildings

Independent adaptation, through ecological changes in natural systems, through changes in the market or wellbeing services in human organizations, instead of a sensible reaction to climate alteration. Alternatively, the adapted design is the consequence of a considered acronyms established on the knowledge that the circumstances have altered or are changing. The predicted adaptation takes place before its effects appear, while responsive adjustment happens after the preliminary effects of climate alteration have been revealed.

Also, there can be a life-based differentiation in which the natural organization or human organization adapts. In human systems, public or private compatibility explains how private and public interests are the driver of decision-making for compatibility.

The initially phase in adjustment organization is to identify current and future susceptibilities and assess the climate dangers. Susceptibility could be defined as a stage in which an organization is sensitive or incapacitated to counteract the negative influences of climate alteration. The vulnerability of an organization depends on its experience, sensitivity and capability of compatibility. Vulnerability valuations, alterations in socioeconomic and environmental circumstances, biophysical and socioeconomic influences from climate tensions, as well as adaptive capacity of a system. So as to realize the possible for future vulnerability, the main factors require to be recognized. In case of assessing future climate dangers, it can often be probable to apply scenarios and simulations to predict them. Once the perception of the vulnerability and climate risks in the face of a society or a region, the subsequent phase is to recognize probable options for adaptation. Adaptation possibilities may be considered to make profits under all possible future scenarios, containing climate alteration, or may include measures taken to predict climate change. Table 2 provides some examples of possible measures of adaptation in response to different climate tensions.

Table 2. Adaptation strategies for climate change

Extreme events of climate change	Adaptation strategies
Drought	Rain water harvesting, conservation of water and control water losses, restore ecosystem, plant the vegetables which are adapted to drought, improve economic variations
Flood	Improve land cover near rivers, build buildings higher than surface land, road which are resistance to flood, changes in crops, changes land users, pre-awareness programs
Sea level rise	Preservation of wetlands and coastal regions, build dike, pay attention to the influences of climate alteration on making foundation
Increase temperature	Conservation of livestock, plant the adapted trees, improve health care, control disease
Extreme winds	Build the resistance buildings, restore forests, new technologies which are resistance to wind, pre-awareness

2.6 Economic Section of the Problem and Solution

When the production, market and consumption of goods and services are considered as the main causes of climate change stemming from human activities, choices are made by governments, companies and individuals. A good example of these options is dependence, especially in our country, which transport and heating is based on burning fossil fuels. Economic assessments that lead to such scenarios have been controlled not just via markets and costs however similarly through environmental, social, cultural and political elements. At the national stage, society can share in three ways climate change:

2.7 Preventing Economic Growth Associated with Environmental Degradation

Economic development assists to make engagement and save people from scarcity. Also, green development may direct to more ecologically pleasant creation and use activities by utilizing more efficient resource management and reducing greenhouse gases. National use stages define how many national supplies are required to estimate the whole requirement for community properties and facilities, and how much waste is produced directly. This is especially true of developing countries such as Iran, where the manufacture and establishment of properties and facilities have produced the destruction of the environment. Therefore, reforming policies, technologies, resource management, and wise business will allow the economy

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to prevent economic growth caused by environmental damage.

2.8 Population Size

Many of the environmental issues, containing those caused by climate alteration, are affected through population growth. Different demographic groups contribute in a variety of techniques. Age structure, household dimension, spatial dispersal and, above all, developmental stage, whole influence per capita releases of greenhouse gases. In most cases, countries with high population growth rates have a relatively small share in preventing greenhouse gases. Except for countries that are pursuing new and low carbon development routes. Also, high values of living can direct to an increase in per capita greenhouse gas releases.

3. Results and Discussion

One of the most important factor for adaptation of climate change is analyzing capacity of economic value and policies in a specific region. The accurate calculation of the influences of climate alteration on critical policies for climate change reduction and adaptation is crucial as it enables the government to estimate the amount of preventable risks, besides the allocation of costs to each of the measures taken to control the climate. This assessment may account for the definitive losses of climate change in monetary terms, as these losses are related to market prices or "market effects" (such as the destruction of the physical properties of a business in the climate). Otherwise, it is difficult to calculate monetary value since they are not relevant in market deals; these are called "non-market effects" (such as the environmental effects of damaged forest reserves, the damage of human life or the reduction of retrieve to safe drinking water). In another view, climate alteration cannot just lead to straight economic losses, however also incidentally constraint economic improvement because of the harm inflicted on people and natural organizations. Also, an ecosystem service assessment may assist to make decisions about reducing and adapting as well.

The results for policies and actions related to climate change mitigation depend largely on the economic method approved for assessing climate harms. Therefore, it is significant to discriminate among two kinds of "conventional / traditional" and "novel substitute methods" approach in looking at the issue.

Traditional economic simulations are consistent with either of the following two methods:

(1) A pure concentrate on market effects

(2) Allocate financial principles to their effects as much as probable and combine them under a particular assessment.

If just market effects are taken into account, general climate harms will be severely undervalued. If non-market influences selected, these effects are valued arbitrarily and controversially due to the high use of cost-benefit examination in public policy creation. The cost-benefit analysis contrasts the values of managing greenhouse gas releases in the interests of preventing climate damage. The question of the cost-benefit analysis approaches both the foundations of theoretical economics and ethical and social principles. Since it alters the concept of principles related to social welfare. There is also evidence that the usage of a traditional economic attitude has led to the ineffectiveness of a climate-based policy that makes people less likely to take action today as they take intense action. This despite urgent scientific indication of human-induced climate alteration that can have disastrous values over longer periods, requires urgent achievement.

4. Conclusion

Greenhouse gases can effect on climate parameters (such as precipitation and temperature which are the most important factors). The Greenhouse gases can cause reduce rainfall (because of increasing dry spells) and increasing temperature significantly. So different policies need to reduce the effect of the greenhouse gases. Correct climate policies may participate to the valuable reduction of climate change and adjustment and can develop the outlook for service, sustain economic development, decrease deficiency and attain other economic and social profits. Measures taken for a leading climate can provide better and more opportunities for pushing the country towards a green economy. They can also contribute to promoting human well-being and reducing inequalities in the long run, so that future generations are less vulnerable to environmental hazards and ecological hazards. Elements that maintain our economy as service, ecological value, equality and social fairness (including the general feature of life) will make superior benchmarks in contrast to policy implementation and must be prioritized over economic development goals.

In this regard, hydrological cycles are also closely linked to climatic changes, especially the temperature of the planet. Modifying rainfall patterns, intensity, duration and frequency, increasing evaporation and transpiration, and reducing soil moisture are among the factors that are caused by climate change and reduce water availability for plants, animals and humans. This issue is more acute in Iran due to its geographical, social and cultural con-

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texts, and affects different sectors of agriculture, surface water and underground resources, health, biodiversity, as well as coastal areas such as the country's wetlands. Also, changing patterns of rainfall will lead to an intensification of the water crisis and the occurrence of severe floods that will have severe consequences. Therefore, correcting, developing and managing water correctly in order to adapt to climate change is essential.

References

[1] Ashofteh, P. S., Bozorg-Haddad, O., Loáiciga, H. A. Development of adaptive strategies for irrigation water demand management under climate change. Journal of Irrigation and Drainage Engineering, 2017, 143(2): 04016077.

[2] Dueri, S., Guillotreau, P., Jiménez-Toribio, R., Oliveros-Ramos, R., Bopp, L., Maury, O. Food security or economic profitability? Projecting the effects of climate and socioeconomic changes on global skipjack tuna fisheries under three management strategies. Global environmental change, 2016, 41: 1-12.

[3] Gruda, N., Bisbis, M., Tanny, J. Influence of climate change on protected cultivation: Impacts and sustainable adaptation strategies-A review. Journal of Cleaner Production, 2019.

[4] Iglesias, A., Garrote, L. Adaptation strategies for agricultural water management under climate change in Europe. Agricultural water management, 2015, 155: 113-124.

[5] Javadinejad, S., Hannah, D., Ostad-Ali-Askari, K., Krause, S., Zalewski, M., Boogaard, F. The impact of future climate change and human activities on hydro-climatological drought, analysis and projections: using CMIP5 climate model simulations. Water Conservation Science and Engineering, 2019, 4(2-3): 71-88.

[6] Javadinejad, S., Dara, R., Jafary, F. Health impacts of extreme events. Safety in Extreme Environments, 2020, 1: 1-11.

[7] Javadinejad, S., Ostad-Ali-Askari, K., Singh, V.P., Shayannejad, M. Reliable, Resilient, and Sustainable Water Management in Different Water Use Sectors. Water Conservation Science and Engineering, 2019, 4(2-3): 133-148.

[8] Javadinejad, S., Eslamian, S., Ostad-Ali-Askari, K., Nekooei, M., Azam, N., Talebmorad, H., Hasantabar-Amiri, A., Mousavi, M. Relationship Between Climate Change, Natural Disaster, and Resilience in Rural and Urban Societies, 2019.

[9] Javadinejad, S. Vulnerability of water resources to climate change and human impact: scenario analysis of the Zayandeh Rud river basin in Iran (Doctoral dissertation, University of Birmingham), 2016.

[10] Javadinejad, S., Dara, R., Jafary, F. Climate Change Scenarios and Effects on Snow-Melt Runoff. Civil Engineering Journal, 2020, 6(9): 1715-1725

[11] Javadinejad, S., Jafary, R. D. F. Effect of Precipitation Characteristics on Spatial and Temporal Variations of Landslide in Kermanshah Province in Iran. Journal of Geographical Research, 2019, 2(04).

[12] Javadinejad, S., Dara, R., Jafary, F. Potential impact of climate change on temperature and humidity related human health effects during extreme condition. Safety in Extreme Environments, 2020, 1(1): 1-7.

[13] Javadinejad, S., Dara, R., Jafary, F. Analysis and prioritization the effective factors on increasing farmers resilience under climate change and drought, Agricultural research, 2020.
DOI: 10.1007/s40003-020-00516-w

[14] Javadinejad, S., Mariwan, R. D. M. H. H., Hamah, A., Jafary, S. F. Analysis of Gray Water Recycling by Reuse of Industrial Waste Water for Agricultural and Irrigation Purposes. Journal of Geographical Research, 2020, 3(2).

[15] Javadinejad, S., Dara, R., Jafary, F. Impacts of Extreme Events on Water Availability. Annals of Geographical Studies, 2019, 2(3): 16-24.

[16] Javadinejad, S., Jafary, R.D.F. Gray Water Measurement and Feasibility of Retrieval Using Innova-tive Technology and Application in Water Resources Management in Isfahan-Iran. Journal of Geographical Research, 2020, 3(02).

[17] Javadinejad, S., Eslamian, S., Ostad-Ali-Askari, K. Investigation of monthly and seasonal changes of methane gas with respect to climate change using satellite data. Applied Water Science, 2019, 9(8): 180.

[18] Javadinejad, S., Ostad-Ali-Askari, K., Eslamian, S. Application of Multi-Index Decision Analysis to Management Scenarios Considering Climate Change Prediction in the Zayandeh Rud River Basin. Water Conservation Science and Engineering, 2019, 4(1): 53-70.

[19] Javadinejad, S., Dara, R., Jafary, F. Taking Urgent Actions to Combat Climate Change Impacts. Annals of Geographical Studies, 2019, 2(4): 1-13.

[20] Javadinejad S., Eslamian S., Ostad-Ali-Askari K., Mirramazani S.M., Zadeh L.A., Samimi M. Embankments. In: Bobrowsky P., Marker B. (eds) Encyclopedia of Engineering Geology. Encyclopedia of Earth Sciences Series. Springer, Cham, 2018: 1-15. https://doi.org/10.1007/978-3-319-12127-7_105-1

[21] Javadinejad, S., Ostad-Ali-Askari, K., Jafary, F. Us-

ing simulation model to determine the regulation and to optimize the quantity of chlorine injection in water distribution networks. Modeling Earth Systems and Environment, 2019, 5(3): 1015-1023.

[22] Javadinejad, S., Eslamian, S., Ostad-Ali-Askari. The Analysis of the Most Important Climatic Parameters Affecting Performance of Crop Variability in a Changing Climate. International journal of hydrology science and technology, 2018.
DOI: 10.1504/IJHST.2021.10030536

[23] Javadinejad S., Eslamian S., Ostad-Ali-Askari K., Mirramazani S.M., Zadeh L.A., Samimi M. Embankments. In: Bobrowsky P., Marker B. (eds) Encyclopedia of Engineering Geology. Encyclopedia of Earth Sciences Series. Springer, Cham, 2018.
https://doi.org/10.1007/978-3-319-12127-7_105-1

[24] Javadinejad, S. The 2008 Morpeth Flood: Continuous Simulation Model for the Wansbeck Catchment. Ebook, Grin publication, 2011.

[25] Mirramazani, S. M., Javadinejad, S., Eslamian, S., Ostad-Ali-Askari, K. The Origin of River Sediments, the Associated Dust and Climate Change. Journal of Flood Engineering, Kalahari Publication. 2019, 11(1): 36-57.

[26] Mirramazani, S.M., Javadinejad, S., Eslamian,S., Jafary, F., Vijay P. Singh, Ostad-Ali-Askari, K. A Feasibility Study of Urban Green Space Design in the Form of Smart Arid Landscaping with Rainwater Harvesting, American Journal of Engineering and Applied Sciences, 1-10.
DOI: 0.3844/ajeassp.201

[27] Abdollahi, S., Javadinejad, S., Ostad-Ali-Askari, K., Vijay P Singh. Investigating the Effects of Landfill in Azad-Shahr City on the Physicochemical Properties of Groundwater. American Journal of Engineering and Applied Sciences. 2019, 12(2): 136-146.
DOI: https://doi.org/10.3844/ajeassp.2019.136.146

[28] Paradis, L., Thiffault, E., Achim, A. Comparison of carbon balance and climate change mitigation potential of forest management strategies in the boreal forest of Quebec (Canada). Forestry: An International Journal of Forest Research, 2019.

[29] Pinkse, J., Gasbarro, F. Managing physical impacts of climate change: An attentional perspective on corporate adaptation. Business & Society, 2019, 58(2): 333-368.

[30] Ravera, F., Reyes-García, V., Pascual, U., Drucker, A. G., Tarrasón, D., Bellon, M. R. (2019). Gendered agrobiodiversity management and adaptation to climate change: differentiated strategies in two marginal rural areas of India. Agriculture and Human Values, 2019, 1-20.

[31] Schelhaas, M. J., Nabuurs, G. J., Hengeveld, G., Reyer, C., Hanewinkel, M., Zimmermann, N. E., Cullmann, D. Alternative forest management strategies to account for climate change-induced productivity and species suitability changes in Europe. Regional Environmental Change, 2019, 15(8): 1581-1594.

[32] Talbot, D., Boiral, O. Strategies for climate change and impression management: A case study among Canada's large industrial emitters. Journal of Business Ethics, 2015, 132(2): 329-346.

[33] Tung, C. P., Tsao, J. H., Tien, Y. C., Lin, C. Y., Jhong, B. C. Development of a Novel Climate Adaptation Algorithm for Climate Risk Assessment. Water, 2019, 11(3): 497.

DOI: https://doi.org/10.30564/jgr.v3i4.2324