**Why might somebody say that climate change is not a new topic for human beings? (Make sure to define what climate change means, what it refers to as a topic)**

Climate change is not a new topic since people in areas such as the arctic and Star Carr historically experienced climate change. Climate change in the arctic region was characterized by onset of warm periods that prompted lifestyle change among the dwellers of the Arctic such as the Thule people and the Inuit. Similarly, climate change was experienced in the Star Carr resulting in abrupt and harsh changes that forced to move in order to survive. For instance, 8,200 years ago, a sudden cold shift took place that lasted for duration of over a century. Similar shifts occurred 9,300 and 11,100 years ago that led to 10- and 4-degrees Celsius drop in temperature (Strickland 3). Hence, climate change is not a new topic as took place in the past resulting in harsh and unfavorable conditions.

**What are 6 examples of, historically, how people lived “seasonally”?**

**The Kootenai peoples**

The Kootenai people had a calendar that began in midwinter. The Kootenai people would set up camps near the seasonal food resources locations. With the changing seasons, the people would follow the seasonal food resources up and down mountains (The Kootenai Culture Committee 49). The parklancls in the high country were regarded home in varied seasons.

**Mayan calendar system**

The Mayan people had a calendar system with ability to record long cycles of duration. The calendar constituted of two systems, a solar day calendar of 365 days that was known as Vague Year and the 260days sacred calendar also known as the Tzolkin (Kidwell 93). Both calendars necessitated observation as well as metaphorical based interpretations. The natives had more concerns on repetitive events such as star and planet movement, sowing and harvesting of crops, as well as animal migration and mating among others.

**The Aztecs**

After arriving to the valley of Mexico, the Aztecs adopted the Mayan calendar system marking 52-year cycle with the “Binding of the Years,” ceremony (Kidwell 94). Using this calendar, the Aztecs marked various seasons of the year and was able to keep record of other activities such as sowing and harvesting seasons.

**Arctic people**

In summer, young “rowmen” from Scandinavia travelled in such of adventure, trade, and plunder. Warm winters marked cereal growing season (Inuit and Qadlunaat 88).

**Barı´ community of Karikachaboquira calendar**

There are four seasons for the Barı community in a year that is influenced by rain levels and rainfall (Indeginiouis seasons 4).

**El Horno and Marbacella Wayu´u communities’ calendar**

The Wayu´u communities’ calendar was also marked by four seasons that were used to mark environmental and sociological conditions all year round that determined factors such vector borne diseases (Indeginiouis seasons 4).

**What type of knowledge did people have of the climate system historically?**

Historically, people were quite conversant with the climate system including the oceans, ice and snow, soil as well as animal and plants. This understanding of these elements of climate system is portrayed in the Native Americans recognition of cycles, patterns, as well as relationship between people and the environment more so plants. Indians utilized plants for medicinal purposes based on the perception that plants were living thinks with the ability to influence human being’s health (Kidwell 97). The physical comparison between plants and the human body indicated a unique association.

People historically understood the climate and climate systems as indicated by their monitoring and noting of various seasons that occurred in a given year. The people had a calendar that they used to mark seasons such as winter and summer and used them to mark the onset of activities such as sowing or special ceremonies.

**How are calendars an example of keeping track of climate change?**

Calendars are example of keeping track of climate change because most of them are used to track time through environmental clues. Historically, calendars kept track of these cues that were used to mark the onset of operations such as harvesting, plowing, sowing or cultural events. The change in the patterns of the environmental clues used in the calendars is an indication of climate change. For example, if a cue that was initially used to mark a season is no longer available, this might be an indication of climate change that altered the environment. Additionally, challenges in predicting the weather due to instability is an indication of climate change. Further, if the people in the Arctic used melting of snow to mark the summer season and its duration, prolonged summer would track climate change.

**In what ways, historically, did climate change affect human societies in the Arctic? (including cultural, economic and political changes, among others)**

Climate change significantly affected people in the Arctic forcing them to change their ways of life. Traditionally, the people had adapted to the severe cold and shortage of plants basing their livelihood on fishing as well as hunting (Inuit and Qadlunaat 100). The climate change that resulted in warmer periods also resulted in storms forcing the Arctic people such as the Thule to move eastwards in search of more conducive conditions. Although the Thule people were more adapted to living under harsh conditions, the changing climate resulted in their migration. However, the Thule people carried their culture with them and practiced hunting for animals such as whales to support their livelihood.

Climate change also increased contact between Arctic conditions such as the Inuit and the Norse. The finds indicate a direct contact between these two groups that is attributed to the warm centuries that facilitated interaction or direct trade between the two. The Inuit who occupied the Arctic Canadian islands and coasts were known walrus hunters whose ivory was highly valued by the colonists. Greenland remained very cold even during the warm period and as a result the people continued hunting, hay growing, and fishing for livelihood. Just like the northern Europe inhabitants, the Thule and Inuit warming of the climate made their lives easier (Inuit and Qadlunaat 104). With warmer climate, food supplier increased, and new technologies emerged making the lives of the hunters and the farmers easier. These new technologies were shared across long distances ranging from Arctic to North Africa. However, warming of the climate wasn’t favorable in other parts of the planet as it resulted in prolonged droughts among other negative impacts that daunted these communities (Inuit and Qadlunaat 105).

1. **What is IPCC’s definition of climate change? What is the IPCC?**

**Intergovernmental Panel on Climate Change (IPCC) defines climate change as the transition from one climatic composition to another. For example, changes from Dorset to Thule cultures (IPCC, 2018b). IPCC also links climatic changes to economic development and states that changes in the climate results to changes in the economy, nutritional health, diet, and exposure to air. IPCC also believes that climate change causes food-borne diseases which may affect the general lives of people in the areas that are most affected−such as people in the Arctic regions who are most affected by climate changes (IPCC, 2018b). Therefore, climate change can be defined as changes in the earth’s composition that affect the livelihood of various people.**

**IPCC is a body which is concerned with scientific assessments on climate change and provides policymakers with the findings from this assessment (IPCC, 2018b). The body also states the implication of their assessments and the future risks that might be caused by climate changes (IPCC, 2018b). It is based on the findings of IPCC that policymakers can come up with strategies for mitigating the risks that might be caused by climate change.**

1. **What is Sheila Watt-Cloutier’s concern about climate change for her people?**

**Sheila Watt-Cloutier is an Inuit activist from Canada and has represented the Inuit people at national and international levels. The main concern of Sheila about climate change for her people has the right to be cold. In an interview, Sheila stated that she is concerned with protecting the people of the North from global warming and that people of the North also have a right to be cold (Robb, 2015). Another concern that Sheila has for her people is on the Inuit culture and sustenance of global warming. She stated that the culture of Inuit is based on the snow, ice, and the cold: implying that the environment must be cold for the people (Robb, 2015). Therefore, climate change that comes with global warming is a significant challenge for the people of the North in that they may not be able to sustain that.**

1. **What type of information does Indigenous knowledge of climate change provide, by contrast to climate science?**

**The knowledge of indigenous people on climate change is quite different from a scientific one. For example, indigenous people have a history of having resilience towards surviving climate changes and changes in resource availability (IPCC, 2018b). According to indigenous people, climate change is a challenge since it interferes with the economic development and affects the availability of essential commodities that they need for survival. It is also believed that changes in the climate of New Zealand in the next up to 100 years is likely to change the economy of the Mori people (IPCC, 2018a). Therefore, climate change is likely to interfere with the economic activities that these people have. In essence, climate change, according to indigenous people, is concerned by the social, cultural, and economic life of the people.**

**On the other hand, scientific knowledge on climate change relates to the changes in the environment and weather changes. Scientifically, climate change is a phenomenon witnessed when new weather patterns emerge and last for at least decades thereby affecting the air, water, ice, earth’s crust, and, collaterally, living things (Callison, 2014). Thus, scientific knowledge of climate change is a wholesome change in the environment and its effect on living things.**

1. **What are 10 ways in which Indigenous peoples may be harmed the most from climate change? (find examples from the readings, but also, you may look beyond, if cited).**

Indigenous peoples may be harmed most from climate change in various ways. These ways include political marginalization, economic marginalization, loss of land, and other resources, violation of human rights, unemployment, and discrimination (Ki-moon, 2008). Climate change also causes glacial melts, which affect those who depend on a constant flow of water, such as people in the Himalayas. Forest fragmentation and deforestation have also been witnessed in the Amazon as a result of climate change (Ki-moon, 2008). Climate change also caused the 2005 drought, which resulted in uncontrollable fires in the Amazon region.

Additionally, climate change affects economic activities of indigenous people such as hunting, which they much depend upon. Climate change also causes interference to fishing, food gathering, and general local economy (Ki-moon, 2008). Norway and Sweden also lose their culture through losses of reindeer, which is a major component of their culture (Ki-moon, 2008). Climate change is also accompanied by rising temperatures, which cases high wind speeds, which later results in loss of vegetation. In conclusion, climate change affects social, cultural, and economic aspects of indigenous people’s lives.

1. **How does climate change affect people’s cultures, political situations, and economies?**

**Climate change affects the livelihood of indigenous populations, especially the groups that reside in the north and south poles. For example, the Iñupiat people of Arctic Alaska may suffer due to climate change since they rely on the sea to hunt the bowhead whale (Sakakibara, 2017). The whales play an essential role in sustaining their livelihood and helping them to advance economically.** Some indigenous groups believe that contact with the European led to violence against each other and that people never understood the effects of climate change (Tsosie, 2010). Indeed, indigenous people believe that integrating spiritual laws with manmade ones can improve everyone’s understanding of the scientific principles that govern the globe, as well as communal laws that guide political views.

1. **What is UNDRIP and how do Indigenous peoples use it for the sake of protecting their cultural integrity?**

UNDRIP (United Nations Declaration on the Rights of Indigenous Peoples) represents an international organization that enshrines the rights, which constitute the minimum standards that indigenous peoples require to survive, their well-being, and dignity. Indigenous groups use UNDRIP to delineate their individual and collective rights, such as cultural, expression, ceremonial, ownership, health, education, among other needs. UNDRIP contains articles that affirm and reaffirm all doctrines, practices, and policies that focus on advocating the superiority of indigenous groups based on religious, racial, national origin, ethnic or cultural differences, and social unjust practices, among other issues (Assembly, 2007). The articles established in the UNDRIP document give indigenous people the right for self-determination and protects them from social, economic, and political injustices.

1. **Why is climate change an issue of human rights (Indigenous rights) for Indigenous peoples?**

Indigenous groups depend on their native land or territory to acquire food and attain social, economic, and political progress. Based on these aspects, climate change affects their livelihood, which makes it an issue of human rights for the groups. In most cases, the people do not have other sources of income, an issue that makes climate change a threat to their livelihood and survival. The issue of climate change also threatens the preservation of traditions and cultural practices that belong to indigenous groups (Sakakibara, 2017). Indeed, appropriate policy formulations can help to mitigate the effects of climate change, which can protect native territories from possible destruction.

1. **What is climate justice?**

The issue of climate justice implies that the effects of global warming act as ethical and political aspects as opposed to pure environmental or physical in nature. For a long period, people have viewed global warming as an issue that emerges from environmental changes. However, today, individuals incorporate ethical and political issues to challenge the effects of global warming. Indeed, environmental justice focuses on health problems that arise due to a decline in issues that make the environment a conducive place for living organisms (Norgaard & Reed, 2017). Recent events, such as hurricanes and tornadoes lead to mental and health challenges, which indicate the extent of climate change witnessed in the last few decades.

1. **Why are Indigenous peoples concerned about climate injustice?**

Indigenous people view climate change as a problem that can lead to the disappearance of their livelihood, culture, and heritage. The groups look forward to having self-determination in order to plan, think, and craft to protect the land of their ancestors (Tsosie, 2010). Furthermore, based on Iñupiat peoples’ experiences, coping through cultural strengths can benefit indigenous communities while confronting climate injustice because the activities improve communal solidarity. The aspect of climate change in the Artic provides an essential interconnection of climate-based issues, society, and environment (Sakakibara, 2017). Therefore, indigenous peoples view climate injustice as an issue that can cause social, economic, and political problems.

**Q1: Colonialism, capitalism, and relation to climate change**

Colonialism denotes to a policy by a nation-state that seeks to extend, expand or retain its authority and power over other territorial areas and people by subjugating them with the aim of attaining economic benefits. The colonialist nation or power seeks to get benefits from the colonists and their landmass. To attain their aim, they colonizing power imposes laws, their social and economic practices to the native people (Whyte, n.d). Eventually, the colonizers exploit the people and their resources for capitalistic gains over these territories. Capitalism is an economic system that encourages private ownership of a country’s trade, industry and generation of profits that benefit few at the top and leave a majority impoverished. As such, colonialism and capitalism are regarded as two fundamental systems that have encouraged industrialization and led to climate change that affects vulnerable indigenous communities.

Firstly, colonialism affects climate change in relation to indigenous communities as demonstrated in the case of Native communities in Alaskan islands like the Shishmaref and Kivalina. In Louisiana, islands like Isle de Jean Charles and its natives have been forced to relocate due to the effects of climate changes. Secondly, due to colonial controls, many native communities abandoned their traditional way of dealing with climate change like relocating at certain times of the year, colonialism confined them to these areas thus preventing their mobility (Crepelle, 2018). Thirdly, capitalistic gains from oil industry have led to more exploitation and emission of greenhouse gases as illustrated in the case of Louisiana where the Isle de Jean Charles communities have been forced to relocate.

**Q2: Climate Relocation (resettlement)**

Climate resettlement is the relocation of people from their territorial regions which have been impacted by the adversities of climate change; like in the Alaskan villages of Shishmaref and Kivalina as well along with the coastal areas in the other parts of the United States and the world. These people; mainly indigenous, are displaced due to disasters and processes like erosion and increased sea levels that threaten their safety. Displacement linked to climate change is considered one of the biggest humanitarian problems that face nation-states as many people may be rendered not only homeless but deterritorialized or without a nation with requisite sovereign status (Burkett, 2011).

**Q3: Relocation challenges among Indigenous Peoples**

Indigenous people face a host of challenges as a result of relocation or resettlement necessitated by climate change. Firstly, these people surrender their territories and even nationhood as well as political sovereignty and power to make decisions as free agents (Crepelle, 2018). For instance, relocation implies that they remain immobile in the new territories and cannot work independently because they need to follow the laws in such jurisdictions. Secondly, these communities are labeled as “victims or refugees of climate change.” The implication is that they lose their livelihood, cultural attachment to their lands and territories and become subject to international conventions’ laws on humanitarian situations (Burkett, 2011). Thirdly, these people face a new life and ways as demonstrated in the case of the Shishmaref and Kivalina in Alaska where people have been forced to relocate or resettle in other areas.

**Q4: Colonialism, Capitalism, and expansion of nation-states**

Colonialism confined the indigenous people and limited their mobility as well as the utilization of traditional ways of adapting to climate change. As such, indigenous become vulnerable to climate change due to colonialist policies that took over their territories thus limiting their movement. Capitalistic tendencies of amassing resources by multinational organizations like in the oil industry by nation-states made indigenous people to be forcefully moved to give room for colonialists to exploit natural resources without environmental controls (Marino, 2011). Lastly, the expansion of nation-states makes these people vulnerable to climate change since these states take over their areas that they could relocate to through their traditional adaptation model. As such, the policies like those used by the U.S federal and state governments limited the movement of indigenous peoples in Alaska and Louisiana thus making them vulnerable to the climate change adversities.

**1. What types of issues does the Indigenous climate justice movement seek to make people aware of?**

One issue that the Indigenous justice movement seeks to highlight is the destruction of their sacred sites, land, water, and other natural resources. In this case, the destruction of the mentioned aspects of life for the indigenous community will mean it will have a negative impact on their way of life. As well, as evidenced in the case of Mexico, the indigenous community have received the raw end of the deal from the different corporations that are looking to benefit from indigenous tribe lands (Avila-Calero, 2014). For instance, there has been the privatization of benefits meant for the tribes and the lack of democratic ways of administering the resources.

**2. Why do some people argue that the ways in which Indigenous peoples are harmed by climate change is unjust?**

Some people argue that the manner that the indigenous people harmed by climate change is unjust. That is because many of the indigenous communities are not responsible for climate change, but they still have to deal with the effects. In that case, such a situation seems unjust. Notably, the injustice is also occurring when one group, for example, large corporations seek to attain their economic aspirations in a manner that affects other groups in a negative way (Miller & Crane, 2019). In that case, it seems that the corporations are imposing their will upon the indigenous communities. In that way, they create negative consequences. For instance, communities have to bear with the effects of the change in climate.

**3. How have some Indigenous peoples been harmed in the past by the fossil fuel industries?**

For the case of the government, it has the moral obligation to protect the indigenous tribe from the exploitation by the fossil fuel companies. Even so, that has not been the case. For instance, the North Dakota access pipeline will pass through tribal lands and create a negative environmental and cultural impact (Deer & Nagle, 2017). In this case, the aim of the pipeline will be to bolster the production of oil in the region but at the expense of the welfare of the indigenous community in the area.

**4. What is geoengineering? What is REDD?**

For the case of geoengineering, it includes the projects which are implemented with the aim of reducing the levels of carbon dioxide in the atmosphere by removing it (Buck, 2014). In this case, it will also involve reducing the amount of sunlight that makes it to the earth’s surface. For the case of REDD, it a project that aims at compensating governments and other actors for demonstrating action in the efforts to reduce the level of carbon pollution, deforestation, and the destruction of the environment (Beymer-Farris & Bassett, 2012). It has been touted as the new frontier in the process of tackling climate change.

**5. What are Indigenous views on and concerns about REDD and geoengineering?**

For the case of REDD, it has a negative perception among the indigenous communities. In this case, it has been linked with mass eviction under the guise of protecting the environment. That is because the different indigenous communities have not been consulted in the process of creating the program (Beymer-Farris & Bassett, 2012). As well, the geoengineering program has been viewed in a negative light by the different indigenous groups (Buck, 2014). In this case, they have not been involved in the consultation efforts and hence they are bound to be treated unjustly.

**6. How are other current solutions to climate change harming Indigenous peoples, such as solar, wind or hydropower?**

Even other renewable sources of energy such as wind power, hydropower, and solar power are creating negative effects for the indigenous communities. For instance, there is the issue of the privatization of the benefits that come with the establishment of the mentioned sources of energy (Avila-Calero, 2014). Also, there is the issue of lack of well-laid-out procedures that are going to be used in the administration of the power projects. Hence, the tribes get the short end of the deal.

1. **What is the best way to characterize the solutions that Indigenous peoples have suggested for dealing with climate change?**

The best way to characterize the solutions indigenous peoples have suggested for dealing with climate change can be said to be in information sharing and knowledge distribution. Climate change is long-term in nature, with changes in weather patterns occurring after a long time (cakex.org, 2019). For example, extreme weather events such as the 1998 ice storm have a substantial impact to Akwesasne, and this requires knowledge distribution to help people to come to know how to deal with such climate changes (cakex.org, 2019). This information and knowledge distribution can be achieved through indigenous art to distribute environmental knowledge to the people to come (Sayeed, 2016). Indigenous arts also act as a source of livelihood implying that the arts contain a trail of information about the happenings of a given community and hence, people know how to predict and deal with climate changes based on the information being shared. Therefore, the solutions to climate change, according to indigenous peoples, can be best achieved through knowledge distribution and information sharing through indigenous art.

1. **What lessons do Indigenous science fiction, in the films Wakening and The 6th World, convey to us about what our future should be like?**

From the film, Wakening, it can be learned that the future is yet to be destroyed because of advances in military operations. In the Wakening movie, it is shown that the environment has been destroyed and the society left to suffocate from the brutal occupation of military operations (Goulet, 2013). This implies that as military advances, the environment will always be devastated by such operations.

 On the movie “The 6th World,” it is also learned that current social issues significantly influence the future state of the environment. For example, Navajo is shown headed to Mars in a spaceship, but the mission fails on the way because of the state of the climate (Becker, 2012). Such is caused by social issues. Therefore, we learn from the movie, “The 6th World” that current social issues will cause changes in the future formation of the environment.

1. **How does Indigenous art demonstrate possible solutions to climate change?**

Indigenous art has a significant influence on the possible solutions to climate change, the primary role of indigenous art is that it helps in the distribution of knowledge from the past to eh current regarding changes that have been occurring in the environment thereby helping current people to know the strategies that they can be used in managing climate change (Sayeed, 2016). Artists always embed meanings and messages in the objects that they create in the arts. Art-making is also essential since they are used to create the context which helps in bringing together knowledge that is related to the environment (Sayeed, 2016). As people look at the arts, the get information on what has happened in their environment before, and they are also able to monitor the patterns in climate change thereby making it possible for them to device the most appropriate solutions to the current climate changes. Thus, indigenous art is essential in the distribution of knowledge necessary for the management of climate change.

1. **How are Indigenous peoples using political instruments, like treaty rights, as part of their solutions to climate change?**

Political instruments have also been used to deal with the issues of climate change. Through movies, for example, indigenous people can express how they have made losses through various erosions as shown in the movie, “Isle de Jean Charles” (Vaughan-Lee, 2014). Such information forms the basis for the formation of treaties and exercising of personal rights to a sustainable environment. Confederacies, for example, also feel that it is essential for them to remain in unity and strengthen their position as they fight for their rights through treaties that are negotiable (cakex.org, 2019). Developmental policies and Environmental laws also exist from where negotiations can be based. In the United States (US), for example, there is federal recognition of tribal governments which are capable of developing rules guiding their environment (cakex.org, 2019). Thus, indigenous people can utilize political instruments to find solutions to climate change.