**Project Topic: Climate Change Impact on Agriculture**

**INTRODUCTION:**

This preliminary research document underscores the pressing economic consequences of climate change on agriculture, detailing the current advancements in our capstone project.

Climate change is profoundly reshaping agriculture, one of the most climate-sensitive sectors of the global economy. Rising temperatures, shifting precipitation patterns, and the increasing frequency of extreme weather events such as droughts, floods, and storms are severely disrupting agricultural systems worldwide. These changes pose critical challenges to food security, impacting crop yields, livestock health, and overall farming practices.

This capstone project aims to investigate the comprehensive effects between climate change on agriculture, focusing on its direct and indirect consequences for food production, soil quality, and water resources and Canadian economy, changes will affect the country.

In this context, our research project intends to not only analyze the economic effects of climate change but also to gather important insights by comparing Canada’s policies and initiatives to those of its neighbor, the United States.

**RESEARCH PROBLEM**

With the given introduction, agriculture is being highly sensitive to climate change, is facing profound disruptions due to rising temperatures, altered precipitation patterns, and frequent extreme weather events. These changes threaten food security by affecting crop yields, livestock health, and farming practices. Moreover, to examine the comprehensive effects of climate change on agriculture, particularly its impact on food production, soil quality, water resources, and the Canadian economy. Additionally, the study will compare Canada’s strategies with those of the United States to derive valuable insights

**RESEARCH OBJECTIVES**

* The food /soil /water/people’s health affected by climate change
* Society and farmers are being impacted by climate change
* Strategies applied by Canada’s farmers for their crop production, improvement of soil quality to modify the changes.
* Publics reviews and comments on different social media platforms about the project.

**RESEARCH QUESTIONS**

* How have rising temperatures affected crop yields in Canada?
* What are the observed changes in precipitation patterns, and how have they impacted farming practices?
* How frequently are extreme weather events occurring, and what specific effects do they have on agriculture?
* How can the different regions of Canada properly address the increasing climate change impact in their economy?
* How has climate change affected livestock health and productivity?
* What are the projected impacts of climate change on future food production in Canada?
* How has climate change impacted soil quality and fertility in agricultural regions of Canada?
* What are the effects of altered precipitation patterns on water availability for irrigation?
* How are farmers adapting their water management practices in response to climate change?
* How are changes in agricultural productivity affecting the overall economy?

**Methodologies and Framework**

* Researching the Agriculture Sectors impacted by Climate Change in Canada.

This step includes comprehensive research into how climate change influences the agricultural sector in Canada.

* Collecting Agricultural Data Across Various Regions.

It highlights the collection of historical economic data from various regions to analyze past trends and changes.

* Predicting Future Climate Change Impact Trends Using Available Datasets.

This involves evaluating the possibility of forecasting future climate change impacts based on the available datasets.

* Initial Phase: Data Collection and Dataset Analysis.

The initial stage focuses on data collection from different sources and the analysis of these datasets.

**INITIAL PHASE:**

* Read the different articles related to this topic and more statistical analysis about agricultural sector in Canada.

With the progression of our Capstone project, new information and analyses will be added to the research document, which will be updated as needed