**Perception of Farmers on the Effect of Change on Farm Produce in the Philippines Using EDA**

A Project

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**Introduction**

The Philippines is one of the countries in the world that is experiencing climate change. Climate change have a significant impact on agricultural production, according to (Thomas W. Hertel, 2010). There is still a lack of quantitative understanding of how these agricultural impacts would affect impoverished countries' economic livelihoods. Based to the reports of Global Climate Risk Index 2021, the Philippines ranked 17th among the countries that experienced the most extreme weather events and severe weather-related calamities that have wreaked the most havoc during the last two decades (Kreft & Eckstein, 2014). The Philippines is also rated third in terms of climate change vulnerability, particularly exposure to natural climate disasters, according to the United Nations University Institute for Environment and Human Security's World Risk Index Report. As a result of climate change, extreme weather events are expected to become more common.

The increased rapidly changing frequency of weather caused by climate change has a negative impact on food supply, access to food, and food quality. According to The National Economic and Development Authority In 2013, agriculture provided roughly 30% of employment and 10% of the country's overall gross domestic product in the Philippines. Recent natural disasters had a huge on crops and cattle, resulting in major losses in agricultural production as well as human lives. According to (Caesar Cororaton et al., 2015), the impact on agriculture and food production is significant because over 80% of global agriculture is rainfed. And also based on the study of (Rosegrant, November 2016), climate change has an adverse impact on crop yields. It has the potential to disrupt crop productivity, and in turn, affect domestic agricultural production. Because of the climate change, the dry season has been longer than it has ever been in recent years and it starts earlier and ends later in the year. Drought or El Niño becomes more likely as a result of this.

The climate has a direct impact on the amount of water available for agricultural and domestic use, as scarcity will raise prices. Farmers who already have low incomes may find it more difficult to acquire water for their crops as prices climb up. The farmers rely on the consistency of the natural pattern of weather to know when it’s time to plant and harvest their crops. But local weather patterns have changed dramatically because of climate change, making it increasingly difficult for farmers to decide when to plant and harvest their crops. Rice production is one of the most important crops to the farmers and also to the people. According to the findings of (Malte F. Stuecker et al.,2018) impact of climate change on rice production in the Philippines reveals that the temperature fluctuation is now minor in the Philippines, future climate forecasts suggest that, by the end of the century, temperatures may regularly surpass established rice production limits if global warming continues unchecked. In addition, because most of the country's key crops are rain-fed, a lack of rain will limit the variety of crops that farmers may plant. El Niño makes it difficult for farmers to grow particular crops, which reduces the availability of certain crops. As a result, it will either cease to be sold in supermarkets or be imported and sold at a higher price.

The Philippines is one of the most vulnerable countries to climate change due to its geographic location, according to the Institute for Economics and Peace. Because of that, the Philippines is particularly prone to natural catastrophes such as typhoons and flooding, which are exacerbated by climate change. In the northern and central regions of the Philippine, climate change risks are seriously threatening rice farming and the sustainability of farmer’s livelihoods. Farmers in Pangasinan and Tarlac provinces reported that typhoon and continuous intense rain are the most frequent climate-related hazards that they have encountered. These brought farm income losses of 70-90 percent of total value of losses in lowland and upland rice farms in the two provinces.

**Problem Statement**

This study tends to examine the perception of farmers on the effect of climate change on farm produce. Climate change may serve as a factor that can hinder crop yield and bring an end to the activities of farmers. Farmers in the Philippines are suffering because of the climate change. It is a problem that if farmers have no means to face and tackle the global models affecting yield processes farm produce can maximally decline due to acute change of climate. Farmers' revenue can be ruined by a fast change of season, such as the beginning of the dry season or shorter wet season. Changes in crop yield and production over time are driven by a combination of genetics, agronomics, and climate. Because of climate change, they are having difficulties adapting to the changing weather and because of that, it throws off their planting and harvesting schedule. Droughts or El Niño will most likely reduce crop output and typhoons and storms are destroying their farms, as a result, it putting them in danger of losing income if they do not respond. Rice is one of the most important crops that are declining in output, which has a significant impact on their profits. Farmers must react to these changes by switching to more drought-resistant crops or using pesticides, both of which are potentially more expensive and time-consuming for the farmer. The long-term effects of climate change will make future crop planting and harvesting much more difficult.

Farmers may find climate change to be a source of dispute, creating impediments to actual farm produce unless correct modifications and technical adaption models are absorbed and implemented.

**Significance of the Study**

The objective of this study is stated below as follows.

1. To investigate the effects of various climate changes on farm produce in the Philippines.
2. ii. To evaluate various adaption options that farmers could use to respond to climate change.
3. To raise knowledge about climate change and how it can be managed on farm products by farmers, as well as to examine the variables that contribute to climate change and the challenge that farmers confront.