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Effect of climate change to rice production: Central Luzon, Philippines

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Climate change is considered as a global problem, which will affect both developed and less developed countries. Climate change will not create new problems, rather it will act as a catalyst to worsen the existing problems in less developed countries like access to clean water, air pollution and food security. As shown by previous studies, occurrences of extreme climatic events like droughts and floods have serious negative implications in agriculture and food security. The Philippines is among the most vulnerable to the impacts of climate change because of its limited resources and low adaptive capacity. The Philippine archipelago is composed of 7,100 islands, clustered in three major island groups-namely, Luzon, Visayas, and Mindanao,with a total land area of 300,000 km2. The region of Central Luzon covers a total land area of 18,230.8 km2 and occupies the central portion of the island of Luzon. It is composed of six provinces and twelve cities. The region is known as the "Rice Bowl of the Philippines" and one of the highest producers of rice, which is considered as the staple food of Filipinos in most part of the country. Based from the Risk to Typhoons and risk to Projected Rainfall Change maps of the Manila Observatory, Central Luzon ranked high to very high on risk areas. It had been reported in the summer of 2010, more than Php 60 million worth of crops have been damaged and 3,144 farmers suffered huge losses in Central Luzon due to the effects of El Niño phenomena in the region. The region also experienced super typhoons that resulted to floods causing huge losses to the agriculture sector. The general objectives of the paper is to show the extent of the effect of climate change on rice production and the local adaptation strategies of the farmers to climate change. Specifically, it will discuss the following-(a) trend in rice production, average yield and area harvested in the region for the last ten years; (b) change in weather patterns and amount of rainfall in certain provinces in the region for the last ten years; (c) and discuss and evaluate existing adaptation practices of the farmers and the local government initiatives in addressing the effects of climate change to the agriculture sector.