

CLIMATE CHANGE

AND RICE PRODUCTION

Climate change will cause tremendous damage to rice production sector if not addressed properly. Low rice supply along with increasing demand not only affects food security but also the economy of the country.

Human activities such as fossil fuel burning, land-use change, animal husbandry, and fertilized and irrigated agriculture lead to increases in greenhouse gases (GHG), including carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O), that causes the surface temperature of the Earth to increase.

The Earth naturally releases heat into the atmosphere and into space in the form of infrared radiation. Water vapors and other GHGs trap, absorb and re-emit these radiation all around the atmosphere.

Changes in intensity, timing and spatial distribution of rainfall. Rising sea-level.

Continually flooded rice paddies create and release more methane.

Solar radiation from the sun is absorbed by the Earth's atmosphere, heating the planet. Half of the solar radiation is reflected back by the planet and the atmosphere.

Natural phenomena like volcanic eruptions and evaporation of water (water vapors) contribute to the greenhouse effect.

Noteable increase in temperature. Frequency, intensity, and duration of extreme climate events also increases.

YIELD REDUCED
UP TO **7%**
FOR EVERY
1°C RISE IN
AVERAGE DAILY
TEMPERATURE

GRAIN YIELD DECLINE 10% FOR EACH 1°C INCREASE IN MINIMUM OR NIGHT TIME TEMPERATURE DURING THE DRY SEASON

75% DECLINE IN RICE YIELD POTENTIAL IN THE PHILIPPINES AT THE END OF THE CENTURY FOR A 4°C INCREASE IN TEMPERATURE

Php 26 BILLION PROJECTED COST OF CLIMATE CHANGE ON PHILIPPINE AGRICULTURE PER YEAR