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Capstone Project 1 Proposal

Introduction

Climate change is a pressing issue that has been baffling the policy and lawmakers all over the globe. My research will focus on climate change in Vietnam because due to Vietnam's geography which includes 1,800 mile-long coastline, it is prone to numerous tropical storms and typhoons. The World Bank published data on factors contributing to the release of greenhouse gases and the data is yet to be analysed. The analysis of this data will determine the trend in greenhouse gases emission over the year in Vietnam in a variety of sectors including energy, agricultural production and aquaculture production.

Questions to be answered:

1. How has Vietnam's energy sector and other production's contribution toward emission been throughout the year? Has there been an increasing trend relative to the population growth?
2. What has the trend been for different electricity sources over the years?

Prospective clients:

Vietnamese government's environmental agencies: the analysis of the data can bring meaningful interpretation of the country's trend over the year

NGO working to combat climate change: results can be used to support their mission statement

General public: people can gain better understanding of the country's trends to make meaningful interpretation on the results.

Dataset

I will use three datasets from the World Bank to combine information for the time series analysis. I decided to combine a few sets together in order to get a more comprehensive picture as each of the sets include distinct variables that can be helpful in the analysis. My tentative plan for the selection of the variables is as follows:

(i) Dataset 1:

<https://data.humdata.org/dataset/world-bank-climate-change-indicators-for-vietnam>

I will choose variables: CO2 emissions, CO2 emissions from gaseous fuel consumption, CO2 emissions from liquid fuel consumption, CO2 emissions from solid fuel consumption, population, population growth, Urban population, Urban population growth

(ii) Dataset 2:

<https://data.humdata.org/dataset/world-bank-energy-and-mining-indicators-for-vietnam>

I will choose variables: Access to electricity, Adjusted savings, Alternative and nuclear energy, Combustible renewables and waste, Electric power consumption, electricity

production from coal sources, Electricity production from hydroelectric sources, Electricity production from natural gas sources, Electricity production from nuclear sources, Electricity production from oil, Electricity production from oil sources, Electricity production from renewable sources, Fossil fuel energy consumption, Fuel exports, Fuel imports, Renewable electricity output, Renewable energy consumption

(iii) Dataset 3:

<https://data.humdata.org/dataset/world-bank-environment-indicators-for-vietnam>

I will choose variables: Agricultural methane emissions, Agricultural nitrous oxide emissions, Aquaculture production, Methane emissions, Methane emissions in energy sector, Nitrous oxide emissions, Nitrous oxide emissions in energy sector, Total fisheries production

Approach and Deliverable:

Some of the dataset contain missing information that will need to be cleaned up for analysis. Technique on data wrangling can be useful here to organise data from different datasets.

The questions set forth in the introduction will be answered. The project will be in Github repository.

Practical use from the outcomes of the project:

As Vietnam is committing itself to improvement in the production of greenhouse gases, government agency would gain information on how different sectors are contributing to the production of greenhouse gases to make relevant action plans for the future. The public can also gain from better understanding of the big picture regarding how the country's trend over the years have been.