

Headline: Climate change, pandemic and Ukraine-Russia crisis

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Climate change, COVID-19 pandemic and the ongoing Ukraine-Russia crisis call for a lifestyle change.

You may call this so radical as it involves lifestyle. Accept it or not, this is the solution but it is also the great problem.

The Ukraine crisis is both good and bad. It propels the meteoric increase in the price of oil and natural gas, which is good for Russia which has an immense deposit of natural gas and oil but bad for oil importing countries. High oil prices, however, will propel the shift to renewable energy like solar, wind.

High oil prices will also drive a shift in mode of transportation—use of bicycles, electric vehicles, railways rather than petrol cars.

Upon analysis, the main user of oil and natural gas is our food systems which, altogether, use more than half of all energy in production, processing, distribution, cooking and serving of food in restaurants that generate lots of waste.

This also explains why food systems emit more than half of the greenhouse gases (carbon dioxide, methane, nitrous oxides). Directly contributing to high greenhouse gas emission is the way food is produced in large areas. Our food production and post production systems is so oil dependent, not to mention the use of chemical inputs- fertilizer and pesticides, oil in land preparation, hauling and transport, processing.

Grain production accounts for large areas and chemical inputs which involve land clearing and deforestation. These, in turn, promote soil erosion and carbon dioxide emission.

But why we need to produce lots of grain? This is due to the animals we raise—hogs, poultry, pets. At least 56 % of all grains are fed to our animals. Add this to the large areas devoted to forage pastures and grazing lands to raise cattle.

Producing grains and sustaining pastures for our cattle mean that we change land use from forests to agricultural areas, contributing much to greenhouse gas emission plus emission from chemical agricultural inputs used.

Going back to the main thesis that climate change, COVID-19 pandemic and the Ukraine-Russia crisis jointly require lifestyle change. We have to start it from the food we eat. Lifestyle change is equal to food type change which requires change from meat-based diet to plant-based diet.

Upon analysis, we should only eat meat once a week instead of at every meal. A plant-based diet is healthy and necessary in this COVID era though shifting to treating COVID as endemic but keeping

ourselves healthy, which many of us are already doing.

Meat-based diet, resource-wise, is so inefficient .Producing animal protein is so resource intensive and inefficient. Example, 6 kg plant protein is needed to produce 1 kg animal protein, which is much higher in producing beef.

The change in diet from meat-based to plant-based will reduce the need for energy-based inputs to produce grains, including water supply.

On the average, 3,000 liters of water is used to produce 1 kg of grain. Producing 1 kg of beef consumes 19,000 liters of water, which is equivalent to the volume of water we use to take a bath for 1 year.

A plant-based diet reduces the use of energy and fresh water, which also requires energy if water is pumped. The shift to plant-based diet will free much lands for tree planting or reforestation as 70% of all lands, or a total of 1.5 billion hectares, are devoted to production of grains, forage and pasture areas for our animals.

The call for lifestyle change is really about food change.

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[Editor's note: Teodoro C. Mendoza is a retired professor of Institute of Crop Science at the College of Agriculture and Food Sciences, UP Los Baños. He is an advocate and practitioner of household-based food garden and small-scale biodiverse organic farming.]