Case 1: Reduction in oil production

The Organization of Petroleum Exporting Countries (OPEC), which pumps a third of the world's oil supply reached the deal to cut 1.2 million barrels a day from 33.7 million barrels per day. In addition, Russia, which produces 12% of the world's oil supply, reduces its production by 600,000 barrels per day from 10.8 million barrels per day following OPEC's production cut. Assuming that the Philippines will suffer a proportionate decline in oil supply, how will this affect the various sectors of the economy in terms of inoperability and economic losses? What policies can the government adapt?

Case 2: Reduced food supply

The El Nino season of 2015-2016 was the strongest ever recorded. This has affected the crop yield through floods and droughts throughout the country. The Philippines imported 1.5 million metric tons of rice from a normal state of 18.1 million metric ton production to satisfy the shortage due to climate change impacts. Determine the inoperability and economic losses of all sectors resulting from this adverse event, and suggest possible remediation measures that can be implemented.

Case 3: Typhoon - damage to bridges and crops

The Philippines, which is located at the edge of the Pacific Ocean, regularly suffers from frequent typhoons that sweep in from the south west every year during the tropical storm season. For example, Typhoon Haiyan strucked the eastern Visayas region of the country in November 2013, resulting in thousands of mass casualties and irreversible destruction to economic livelihoods and critical infrastructure systems of the affected area. The Philippine government estimated that about 71,000 hectares of farmland were affected such that the major rice and sugar producing areas of the country were destroyed. In addition, the infrastructure sectors such as airports, provincial roads and bridges suffered damages. As a result of this disaster, assuming that the output of crops such as palay and sugarcane is 5% lower than expected and the output from the transportation sector is reduced by 10%. Determine the inoperability and economic losses of all sectors resulting from this adverse event, and suggest possible remediation measures that can be implemented.

Case 4: Pest infestation

In 2009, the coconut scale insect Aspidiotus rigidus was reported to have infected coconut growing areas in the Southern parts of Luzon. By 2013, the insect has damaged 50 – 70% of the coconut farms in Batangas and 10 – 20% of the farms in Laguna, Cavite and Quezon. This has thus affected the productivity of the coconut farms. Furthermore, this insect has been found to infect other agricultural crops. Because of this, the government and farmers were concerned with the possibility of A.rigidus further infecting not just the coconut-growing areas in Visayas and Mindanao but also other agricultural crops. Consider the case that the coconut scale infestation resulted in a PhP 5 billion reduction in the total output of the coconut sector from an original production of PhP 30 billion while the banana sector loses PhP 2 billion from the original production of PhP 20billion. Using the 2000 IO table (60 sectors), find the following:
    a. Total economic loss of all sectors
    b. Rank the sectors based on the economic losses experienced
    c. Rank the sectors based on their experienced inoperability
    d. Suggest possible remediation measures that can be implemented.

Case 5: Workforce absenteeism

The Business Process Outsourcing (BPO) industry which pertains to the transfer of some activities, responsibilities and operations of a company to a third service provider, is one of the fastest growing industries in the country, growing at a rate of 46% annually since 2006 and contributing up to 5.4% of the country's total GDP. In 2006, BPO industries are estimated to have employed a total workforce of 141,630 workers. The workforce is the heart of its operations and thus absenteeism which may be caused by reduction can have a huge impact in its productivity. Consider the case that a crisis resulted in a reduction in total workforce such that sector productivity declines by PhP 10 billion from a PhP 600 billion industry. (Using 11 sector 2006 IO Table)

     a. Economic loss of experienced by each sector
     b. Rank the sectors based on the economic losses experienced
     c. Rank the sectors based on their experienced inoperability
     d. Suggest possible remediation measures that can be implemented.

Case 6: Pandemic outbreak

Human resources play an important role in ensuring the continuity of operations in organizations. In addition, they are vital in implementing recovery efforts especially when a crisis occurs. The demand for health care services for example, increases during a crisis. However, workforce availability is also susceptible to the impacts of disasters such as the outbreak of pandemics and epidemics. Consider the case that a pandemic arises in Japan such that workforce absenteeism in health care institutions increases. As a result of this the output of the services sector is PhP 100 billion lower than expected. The normal output level is PhP 400 billion.

     a. Economic loss of experienced by each sector
     b. Rank the sectors based on the economic losses experienced
     c. Rank the sectors based on their experienced inoperability
     d. Suggest possible remediation measures that can be implemented

Case 7: Power shortage due to drought

Hydropower is one of the major sources of electricity in the Philippines, accounting for 12% of total power generation. The El Nino season of 2015-2016 was the strongest ever recorded. The total power generation capacity of the Philippines is 20,000MW, while rotational brownouts due to drought is attributable to 15% reduced capacity. Determine the inoperability and economic losses of all sectors resulting from this adverse event, and suggest possible remediation measures that can be implemented.

Case 8: Earthquake – damage to critical infrastructures

The Philippines is situated along the Pacific Ring of Fire, where it is common for seismic and volcanic events to occur. Imagine a scenario wherein a 7.5 magnitude earthquake struck Manila and many sectors of the economy will be affected initially by this disastrous event. Assuming that the economic loss estimation focuses on those critical infrastructure sectors (e.g., electricity, gas, and water, transportation and communication) that suffered the largest reduction, i.e., about 20 % reduction, determine the inoperability and economic losses of other sectors resulting from this adverse event, and suggest possible remediation measures that can be implemented.