EE375 Applied Economics for Natural Resources and Environment
Semester 1/2021 (August 9 - November 27, 2021)
Instructor: Dr. Supawan Saelim

Quiz 1

(5 points)

Time: 10 September 2021 at 15:00-15:30 (30 minutes)

There are 2 questions. You need to answer all questions. Please **submit** your answers in a PDF file with a file name "**Quiz1_StudentID_Name**" via BE Moodle class before **15:40**.

Question 1 (3 points)

Case A: The production of a plastic factory 'K Chemical' is located nearby a house village 'Dreamland'. If the production of the plastic factory reaches a certain level at Qm, it will release air pollutions to the level that destroy clean air around the Dreamland village. However, if the production of the plastic factory does not exceed Qm, it will create no significant impact for people living in the Dreamland village.

Case B: In Thailand, the CO_2 emissions from oil consumption in transport sector increased from 51 million tons of CO_2 in 2008 to about 63 million tons of CO_2 in 2018.

Please answer the following questions for both Case A and Case B above

i. Does an externality exist? If so, classify the externality type (e.g., positive vs. negative, costs vs. benefits) and explain how inefficiency problems could arise in this case.
ii. If an externality exists, could the Coase Theorem be applied to solve market inefficiencies in this case? Please explain your answer (Hint: is it possible to use property right rules and solve the problem?)
iii. If the Coase Theorem does not apply, what the government could do to solve the problem?

Question 2 (2 points)

Suppose an investor is considering a wind farm project to produce electricity. The wind farm will create noises that affect people living in a house village Dreamland.

i. How could you estimate the compensation amount for people living in the Dreamland to approve the wind-farm construction? (Hint: Choose WTP vs. WTA question, methods to estimate WTP and WTA).
ii. What should be considered in the cost-benefit analysis to decide if the wind farm project should be built or not?

Q1

i) for case A

The externality will exist if the production of plastic reach Q_m level

- negative externality
- K chemical cause effect to the people who live in dream land by release bad air to the atmosphere causing air pollution.

Case B

- negative externality
- The car owner drive car for his own benefit and release the CO_2 in the atmosphere which affect human being (third party).
  ↑ causing air pollution.

ii) The coase theorem would be approve as the theorem state that under ideal economic conditions, where there is a conflict of property right, the involved parties can bargain and fight for their right. In both cases. The people who were affected by the bad air that produce from K chemical and vehicle can bargain and fight for their right.

iii) Government should apply some measure or policy to control the emission of CO_2 from the company as well as the limitation for the use of vehicle

Q2

ii) The term that should be considered in order to decide that the project should be build or not is that how much the program can be useful and help the society and also to help making the good environment.