WEEK 4: PLANETARY BOUNDARY & BASIC ECONOMIC APPROACH

Nuttavikhom Phanthuwongpakdee
“Earth provides enough to satisfy every man’s need but not every man’s greed.”

– Mahatama Gandhi
SUSTAINABLE DEVELOPMENT (REVISITED)

- Economic Growth
- Board-based Social Inclusion
- Environmental Sustainability
SUSTAINABLE DEVELOPMENT (REVISITED)

When the world economy has become very large relative to the finite planetary resources. Human is pushing against the limit of the environment.

Remember Thomas Robert Malthus?

His idea was not 100% right, but it makes us think about the Earth’s finite resources.
GLOBAL UNSUSTAINABILITY FACTORS

Growth Dynamics
GLOBAL UNSUSTAINABILITY FACTORS

Energy Consumption
GLOBAL UNSUSTAINABILITY FACTORS

Food Consumption and Production
GLOBAL UNSUSTAINABILITY FACTORS

Population dynamics
Of nine worldwide processes that underpin life on Earth, four have exceeded “safe” levels.
GENERAL PERSPECTIVES ON SOLUTION TO SUSTAINABILITY

Do you think these solutions, namely education and awareness raising are effective for solving the unsustainability and achieving sustainability?
GENERAL PERSPECTIVES ON SOLUTIONS TO SUSTAINABILITY

Major problem of only using education and awareness raising

- People with awareness tend to be taken advantages of by those ignorant people.
- The ignorant gets all the benefit.
ECONOMIC PERSPECTIVES ON SOLUTIONS TO SUSTAINABILITY

Sustainable Action
- Increasing Benefit
- Reducing Cost

Unsustainable Action
- Reducing Benefit
- Increasing Cost

Action choices
POLLUTER PAY PRINCIPLE: PPP

Polluters pollute and cause negative externalities for society and the environment. The polluters must pay for the compensation for those affected and recovery of the damages.

Cost increases → Produce less → Pollute less
POLLUTER PAY PRINCIPLE: PPP

Oil spill – Samet Island, Rayong Province

Lower Klity Creek – Kanchanaburi Province

The Map Ta Phut Industrial Estate
PAYMENT FOR ECOSYSTEM SERVICE: PES

**Major Principles**

- Participatory approach
- People in the area that benefit from ecosystem service should pay those who take care of the ecosystem.
- The ecosystem caretakers have more incentives to take care of the ecosystem.

**Ecosystem Service**

Is direct and indirect benefits from ecosystem contributing to human well-being.
CASE STUDIES: MAE SA RIVER BASIN, CHIANG MAI

Source: Andreas Neef and Chapika Sangkapitux (2013), Payments for Environmental Services in Thailand: A Review of Discourses and Practices
Without PES, upstream people would be using water for their monocrop farming, polluting it with pesticides and fertilizers.

Downstream people became a victim of the behavior of upstream people, experiencing water shortage and water pollution.

Conflicts between upstream and downstream people.
Upstream people become service providers, taking care of the water source forest ecosystem. However, they would have *opportunity cost* from not doing the mono-cropping practices.

Clean water can flow down to downstream and beneficiare.

Money is paid back to the upstream people to off-set the upstream people's opportunity cost.
Roles of Consumers, Communities, Private Sector and the Government

Consumers  Communities  Private Sector  The Government
CONSUMER CHOICE

Consumers can influence producers by their choices. Every choice the consumers make will send signal to producers about the product and production methods that the consumers prefer.
CONSUMER CHOICE: LABELS

- Labels help consumers know the quality and production methods. It reduces information cost of the consumers.
- Labels are usually issue-specific.
  - Organic products
  - Eco-friendly
  - Social issues
  - Energy efficiency
  - Etc.
CONSUMER CHOICE: SHOP LOCAL PRODUCTS

- Local food systems and shorter food supply chains are to be encouraged
- Less transportation cost and less burning of fossil fuels
- Traceability of product is key to ensuring they are upholding their own supplier guidelines, and not engaging with producers who violate the basic human rights of their workers
- Allowing farmers to capture a higher percentage of the farm-value share
CONSUMER CHOICE
ROLES OF COMMUNITIES: NATURAL RESOURCE MANAGEMENT
A good is **excludable** if people (ordinarily, people who have not paid for it) can be prevented from using it.

A good is **rival**, or **subtractable** if one person's consumption of a good necessarily diminishes another person's consumption of it.
<table>
<thead>
<tr>
<th>Excludability</th>
<th>Non-Excludability (or difficult to exclude)</th>
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<tr>
<td><strong>Rivalry</strong> (Subtractability)</td>
<td><strong>Private Goods:</strong></td>
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<td>Common-pool resources</td>
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<td><strong>Non-rivalry</strong> (Non-subtractability)</td>
<td><strong>Club goods (Toll goods)</strong></td>
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<td><strong>Public goods</strong></td>
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ROLE OF COMMUNITY IN NATURAL RESOURCE MANAGEMENT

Common-Pool Resources → Subtractability → Difficulty of Exclusion → Overexploitation Problem + Free-rider Problem = Tragedy of the Commons
TRAGEDY OF THE COMMONS

- An economic issue where individuals tend to exploit shared resources so the demand greatly outweighs supply, and the resource becomes depleted.

ROLE OF PRIVATE SECTOR

3R/5R + Remanufacturing

Innovation

Upcycling

CSR → Sustainable Brand
Remanufacturing

- Remanufacturing is the process in which parts of expired product are disintegrated. These parts will be cleaned or fixed or replaced, and then reintegrated and refurbished into a new product.
- Save natural resources and raw materials.
- Reduce waste problem.
REMANUFACTURING

Natural Raw Material

Inputs

Production Process

Product

Usage

Expiration

Reuse

Recycle

Throw away

Remanufacturing
PRODUCTS THAT CAN BE REMANUFACTURED

Product that can be remanufactured are those industrial products produced by manufacturing process such as automobile parts, electronics appliances, tractors, medical devices.
INNOVATION
UPCYCLING

• Upcycling is the process that transforms unwanted material or debris from expired products into new products that are eco-friendly with higher quality and value.

• Worn Again, a private company, is an example of upcycling. It uses unwanted material to produce products in fashion industry.
CORPORATE SOCIAL RESPONSIBILITY (CSR)

“A business approach that contributes to sustainable development by delivering economic, social and environmental benefits for all stakeholders.” (Financial Times).
TYPES OF CSR

Environment
- Activities on environmental conservation or rehabilitation, e.g. mangrove reforestation

Community Development
- Working with community or other organizations to improve the villagers’ livelihood

Social Marketing
- Producing advertisement that addresses social problems or raises public awareness

Human Resource
- Projects that improve wellbeing of its employees

Charity
- Donating money to partner non-profit or non-governmental organization
CSR CRITIQUE: GREEN WASH
CSR CRITIQUE: SOME CSR DESTROY LOCAL ECONOMY
FROM CSR TO SUSTAINABLE BRAND

Normal Brand
- Differentiation from your competitors
- Driven by market
- Focus on consumers
- Focus on ads
- Focus on Brand Loyalty

Sustainable Brand
- Contribute to sustainability of the world, society and consumers.
- Ethics and Public mind
- Brand empowerment
- Action speaks louder
- Brand lover
Although the government has the authority and resources to lead society to sustainability, there are many limitations. The government can’t order things to happen. They need a proper plan and strategy. It can’t do several things by itself because of inefficiency of bureaucratic system and other limitations. Therefore, they need to have strategies to work with different group of people. It cannot force people to do things just because the government says so. They need to use different incentives to convince other actors to behave the way they want.
BEFORE YOU LEAVE...

Give 3 examples of:
Private Goods
Club Goods
Common-Pool Resource
Public Goods

Do not repeat the examples given during class.