Market Failures

By

Prof. H.M. Gunatilake

Incomplete Property Rights

- Well defined "Property Rights" are a pre-condition for a functioning market economy

- Types of Property: government Property, communal property, private property, open access property

- Well Defined Property Rights:

  Universality

  Exclusivity

  Transferability

  Enforceability

Tragedy of the Commons

- Open access resources such as fisheries, grasslands, forest are subjected to over exploitation of resources –tragedy of the commons
- Incompletely defined property right is the reason for the depletion of resources
- In a privately own resource MC=MB defines the equilibrium whereas in open access MC=AB defines the equilibrium
- Community managed resources reach MC=MB because of institutional arrangements made by the communities
- Assigning private property rights is one solution for the degradation of open access resources

Economic Institutions

Institutions

- An economy is a set of ordered relations among self-interested agents. Institutions provide signalling devices which will guide these self-interested agents to act in the interest of the larger community.

- "According to the system of natural liberty, the sovereign has only three duties to attend to;…. The third duty is erecting and maintaining certain public institutions *which it can never be for the interest of any individual, or a small number of individuals,"* Adam Smith

- Institutions constitute of conventions, rules, and entitlements that define domains of choice for economic agents.

- Institutions" deal the transactions related to "rules of the game" as well as more familiar market transactions which takes place within the choice set defined by the "rules of the game"

Institutions…

- Institutions define working rules of the society

  - what individuals must or must not do（a duty），

  - what they may do without interference from other individuals（privilege），

  - what they can do with the aid of collective power（right），

  - what they cannot expect the collective power to do in their behalf（incapacity or exposure）.

- It is through the establishment of institutions that societies create markets. Markets can only exist within a legal system that has consciously set out to create ordered domains of exchange.

- TFP is a measure of quality of Institutions. It is well established that TFP is the key driver of the income growth

Institutions

- Quality institutional system reduce **transaction costs**
    - Cost of obtaining information,
    - Cost of negotiating contracts, and
    - Cost of enforcing contracts
- **Legal system** :
    - clear lines of authority and the division of responsibility among governmental units;
    - clarity and precision in legal rules;
    - mechanisms and processes for the protection of property rights;
    - procedures that offer stability and predictability;
    - a sense of fairness focused on law as process; and
    - accessibility to the public

Tragedy of Commons

- Common property resources which has unrestricted access to people will eventually deplete the resources and destroy them.

- When property rights are not well defined every person tries to maximize his/her profit, which lead to recourse depletion.

- Open access resources vs community managed resources; actual resource depletions happens in open access resources

- Let's consider open access grassland, a is the cost to introduce a one extra cow, and the average yield depends on number of cows grazing in the grassland.

Private Property Equilibrium

- If c number of cows are grazing in the grass land, total quantity of milk Q,

$$Q = f(c)$$

- Profit maximization problem of the owner of the grassland

$$\text{Max}_C, \; P_m.f(c) - ac$$

- F.O.C,

$$Pm.\frac{df(c)}{dc} = a$$

Open access equilibrium

- Assume C number of cows already grazing, now if one farmer wants to add a cow, total quantity of milk;

  f(c+1)

- Average product;

  f(c+1)/(c+1)

- Because large number of cows already grazing;

$$\left(\frac{f(c)}{c} > \frac{f(c+1)}{c+1} \right)$$

Open Access ….

- Now every time a new cow is added to the grassland, every farmers' average yield goes down –stock externality

- Incremental profits of an extra cow;

$$P m \frac{f(c+1)}{c+1}$$

- Decision to add an extra cow;
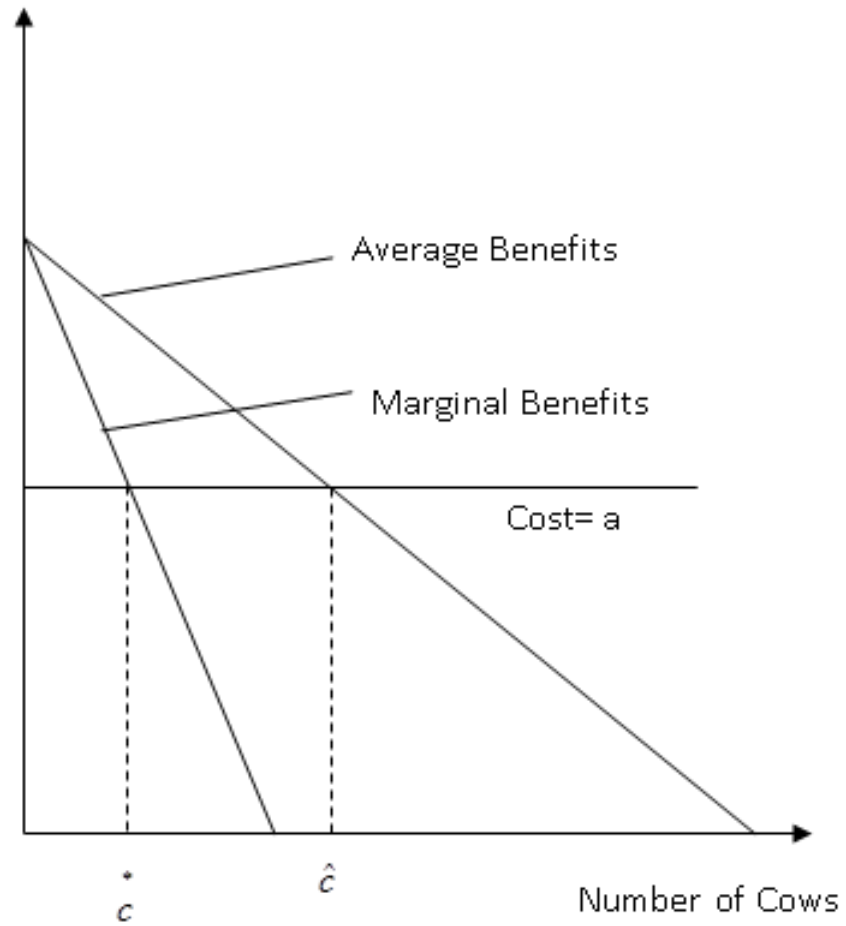
$$pm \frac{f(c+1)}{c+1} > a$$

Open Access…

- At the open access equilibrium average benefits equal to marginal cost; i.e., farmers put cows up to the point where profits is zero.

$$Pm\frac{f(\hat{c})}{\hat{c}} = a$$

$$pmf(\hat{c}) - \hat{c}a = 0$$

Private and Open Access Equilibria

Community managed resources

- Community management works well when;

- There are clear boundaries and size of the resource is not very big

- Cost of excluding techniques are very high (Ocean)

- Users live close to the resource

- Recourse is vital for the livelihood of the users

- Users have a sound knowledge about the sustainable management of resources

- Limited number of users

- Clear institutional arrangements, violators can be readily identified

- When the government ability to manage the resource as private property is low and less government interventions

Externalities

Definitions

- Unintended consequences of production and consumption that are not traded in the economy

- Byproducts of Individual economic decision which are ignored and not compensated for the affected parties.

- Byproducts of economic activities that results in a differences in private cost/benefits and social cost benefits

Externalities..

- Positive externalities/negative externalities
- Production/consumption externalities
- Unidirectional externalities
- Reciprocal Externalities
- Pareto relevant externalities