

ECOBUSINESS MANAGEMENT AND GLOBALIZATION OF ECOBUSINESS

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Contents

1. Ecobusiness and the Behavior of Consumers and Producers
2. Regulations and Taxation
3. The Effect of Consumers' Demands on Enterprises
4. Ecobusiness and Administration
5. Administration and Environmental Accounting Systems
6. The Valuation of Economically External Environmental Elements
7. Ecobusiness, Life Cycle Assessment, and International Standards

Glossary

Bibliography

Biographical Sketch

Summary

Ecobusiness is a new industry that has appeared since attention began to be paid to the relations between human economic activities and the natural environment. Recently, consumers have come to prefer goods unconnected to environmental pollution. Consequently, producers are converting to the production of that sort of goods. This, then, is the motive for the market formation of ecobusiness.

National administrations can see and identify the more detailed relations between human economic behaviors and changes in the natural environment, and so they regulate and impose taxes and fines on consumers and producers. That leads to valuation and pricing of environmental elements, while valuation is often made in imputation. Incidentally, environmental accounting systems contribute to the generalization, rationalization, and development of valuation of environmental elements. There is now available the System of Integrated Environmental and Economic Accounting (SEEA), which is a satellite accounting of the System of National Accounts

(SNA).

What economics and policies aim at is social welfare or, more precisely, the maximization of social welfare in a social welfare function. Imposition and assessment of taxes or administrative charges must be made from this viewpoint. Taxation implies internalization of external economies or diseconomies as to environmental elements. The internalization leads to the formation of the market for ecobusiness, consequently to the development of ecobusiness itself, and the maximization of social welfare is to be attained through the market for ecobusiness and the development of ecobusiness.

Recently, the idea that not only the product and its residuals but also its production and consumption processes should be environmentally sound has been growing in popularity. The Life Cycle Assessment (LCA) is typical of that idea. Moreover, the International Organization for Standardization (ISO) has introduced the ISO 14000 series; these are new guidelines for business corporations for environmental-management systems. In these circumstances, ecobusiness is expected to develop further.

1. Ecobusiness and the Behavior of Consumers and Producers

Ecobusiness is a new industry that has appeared since attention began to be paid to the relations between human economic activities and the natural environment. The background to this is that rapid global economic growth after World War II has brought about environmental disruption and degradation, most of which the developed countries are responsible for. Ecobusiness is thought to cover these industrial fields: equipment and installations for reducing the burden and impact on the natural environment, environmentally sound products, services to contribute to natural environmental protection or preservation, and maintenance of environment-oriented social infrastructure.

Ecobusiness is no different from other industries in its pursuit of profits and dependence on demand in the market, basically demand by consumers. Consumers have come to be conscious, to an extent, of the causality and relations between human behaviors and changes in the natural environment and of the repercussions of environmental pollution and degradation for human beings. The development of environmental sciences and technology has stimulated this awareness. Some examples are the consciousness of environmental pollution by polychlorinated biphenyl (PCB; also polychlorobiphenyl), dioxin, etc. and recently of carbon dioxide (CO₂), which causes global warming. Especially have consumers been aware of the harmful repercussions of PCB and dioxin for themselves. Consequently consumers have come to prefer the goods unconnected to those substances. So, some producers have converted to the production of that kind of

product because of consumers' behaviors and reactions. This, then, is the motive for the market formation of ecobusiness.

Both consumers and producers are fundamentally *Homines oeconomici* (economically rational beings), so consumers behave in such a way as to maximize their total utility and producers behave in such a way as to maximize their profits in pursuit of them. It is difficult for individual consumers to identify the relations between individual consumers' behaviors and changes in the natural environment, and to identify the feedback system or causality between individual consumers' behaviors and environmental repercussions for consumers. The relevant information is not sufficiently available to consumers.

On the other hand, there is also a limit to consumers' and producers' ethical behavior insofar as they are fundamentally *Homines oeconomici*. Eventually, the development of ecobusiness has a limit and can not be expected to rest on the above-mentioned motive alone. A collective consumption system or movement, which seems to be assumed in the System of Integrated Environmental and Economic Accounting (SEEA), could supply the relevant information and assist individual consumers' in their environmental behaviors, and a collective consumption movement itself will contribute to the formation of ecobusiness and its market. Even so, there is still insufficient motivation for the development of ecobusiness.

2. Regulations and Taxation

Removal of environmental pollution and protection of the natural environment are two of the most important social problems for central and local administration as well as for ordinary people. Administration can see and identify a greater number of and more detailed relations between human environmental behaviors and changes in the natural environment, and can see and identify more accurately the causality between human environmental behaviors and environmental repercussions on human beings than can individual consumers and producers. Therefore they could regulate and impose taxes and fines on consumers and producers. In this section, the case of consumers is mainly considered. The case of producers will be referred to later on.

Examples of regulations on the disposal of residuals follow. First is the prohibition of direct discharging and dumping of household residuals or waste. Dumping of residuals, of course, causes degradation of the natural environment and environmentally harmful repercussions. The degradation and repercussions are prevented by prohibition. Next is the prohibition of individual treatment or disposal of residuals, which often emits pollutant harmful substances like PCB, dioxin, CO₂, etc. Emission is prohibited by the relevant administration. As the result of those prohibitions, disposal of residuals is

carried out by specialized business, which is part of ecobusiness. This is a further motivation for the formation of ecobusiness.

Thirdly is regulations on cars, which emit nitrogen oxides, sulfur oxides, and CO₂. Although nitrogen oxides and sulfur oxides cause local environmental change, CO₂ brings about global environmental change. So, it is more difficult to identify the relations between human behaviors and changes in the natural environment with CO₂ than with nitrogen oxides and sulfur oxides. Hence it is the turn of the administration to deal with this since it has authority and a wide enough field of vision to identify environmental elements and their relations. With emission of CO₂, a carbon tax or CO₂ tax has been considered in many countries, and has already been adopted in some European countries. This tax will function well in future by establishment of an international standard and cooperation of administrative organs of countries throughout the world.

If a carbon tax is to be established and imposed on consumers as well as producers, they will strive to reduce the emission of CO₂ and choose those products, including cars, that emit little and less CO₂. Consequently, some producers will strive to develop and produce goods that emit little and less CO₂, and other producers will develop and supply devices that reduce or prevent the emission of CO₂. This is a motivation for ecobusiness and its market.

Furthermore, a system called “CO₂ emission trade” has been proposed. In that system, the right to emit CO₂ can be negotiated among countries and enterprises in international markets. That suggests a possibility of globalization of ecobusiness. The problems with the system, however, are not so simple. An enterprise will continue to buy the right until the marginal revenue earned by the right, which continues to decrease according to production increase, becomes equal to the price of the right, judged from the viewpoint of economics.

Consequently, the enterprise will endeavor to reduce the emission of CO₂ by developing new production systems, and devices and equipment for the reduction of CO₂, and sometimes by synthetic innovation, the existence of the right being an incentive. At the next stage, the enterprise will either increase the production or sell a part of the right. The endeavor increases the marginal revenue. In that process, the standard and stable price or cost of CO₂ will be determined. This is developing an international and global ecobusiness-related market and global motivation for the development of ecobusiness.

3. The Effect of Consumers' Demands on Enterprises

This section considers the relations between production and changes in the natural

environment, and the causality between production and environmental repercussions. Repercussions through consumers, especially through consumers' complaints, are also dealt with. Pollutant substances are brought about in the process of production. Environmental degradation and depletion are often caused directly in the process of production. These are discussed mainly with reference to manufacturing industry, especially the degradation aspect, but could also be discussed with reference to agriculture, forestry, fisheries, and mining.

The process of production creates pollutant substances such as PCB, cadmium, hexivalent chromium, organic mercury compounds, nitrogen oxides, sulfur oxides, chlorofluorocarbon (CFC, which has been injurious to health), CO₂ (which causes global warming), sludge (which disrupts the marine ecosystem), nitrogen (or more precisely nitrate salts), phosphorus (or more precisely phosphates) (which causes marine eutrophication), and radioactive substances.

Pollutant substances have been scattered over the natural environment, and have often harmed human health. Sometimes they have done harm when contained in food. Individuals and groups have demanded compensation for injury, often through legal action against the companies or enterprises. This has cost enterprises a great deal in lawsuits and compensation. Gradually, enterprises have come to realize that it is more advantageous to prevent the emission of pollutant substances in the production process, from the managerial point of view, and develop environmental protection systems to prevent the emission of pollutant substances, including recycling systems.

Individuals, including consumers, have also demanded that enterprises act in this way. This is motivation for the development of ecobusiness, although it is still internal, that is, it is an ancillary part of the proper and main industrial part of the enterprise. The two sections, the environment-related and non-environment-related, are unified under one management.

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Biographical Sketch

Professor Ichiro Kaneda, born February 22, 1934, in Tokyo, Japan, gained his bachelor's degree in Tokyo University in 1962 and his doctorate in Tokyo University in 1982. He is a professor at Niigata Sangyo University and ex-president of the same university, having served as president from 1988 to 1996. His fields of specialization are environmental and food economics, mathematical economics, and regional economics. His main recent scientific publications are Economic, technical and political aspects of LNG carriers in comparison with NG pipelines (based on the paper he was invited to present at the U.N. Symposium on Natural Gas Transport and Utilization in Northeast Asia, Beijing, December 2000), *Bulletin of Niigata Sangyo University* (Faculty of Economics), **23**, June 2001; *NHK-Books: The Japan Sea Economic Rim* (The Economic Region Surrounding the Sea of Japan) [in Japanese] (Tokyo: NHK Publishing, 1997); *Economics and Philosophy of Organic Production by Global Nature* (ecological and agricultural economics) [in Japanese] (Tokyo: Chuo-keizai-sha Publishing, 1996); and The change of the viewpoint on the Japan sea rim, *DBI Economic Review* [in Korean] (Daegu Korea: Daegu Banking Institute, 1995).