9 Economic Analysis of Sustainability
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9.1 INTRODUCTION

In the period since the Brundtland Commission's report (*Our Common Future*), the concept of sustainable development has been interpreted in many different ways. I will here limit myself to discussing what the concept entails with respect to our generation's obligations towards future generations. This does not rule out that it might be fruitful to ascribe to the concept a broader meaning; for example, that sustainable development entails obligations for rich countries to assist people living today under less fortunate conditions in other parts of the world. My limitation is due to the fact that sustainability interpreted as *intergenerational justice* – justice *between* the present and future generations – is a wide-ranging topic. It in no way reflects a view that *intragenerational justice* – justice *within* the present generation – is of less importance.

Sustainability as intergenerational justice is an important subject because our generation – with present technology – is capable of depleting important natural resources and inflicting serious and long-term damage on important environmental resources. In this connection, three questions arise:

1. What are our generation's obligations towards future generations?
2. How can we judge whether these obligations are fulfilled?
3. How can we ensure that these obligations will be fulfilled?

I shall argue that it is possible to provide a definition of the concept of sustainable development that answers the first question in a concise manner. However, I shall use economic theory to show that it is a far more difficult task to formulate rules that can be used to determine whether our generation's resource management is in accordance with the requirement for sustainable development. I shall also point out problems of implementing sustainable development through collective action, given that the institutions that are capable of generating such action are representatives of our generation only. This pessimism does not undermine the importance of our generation acting in accordance with the requirements for sustainable development; the problem is that it is difficult to determine what these requirements are, and to ensure that they are met.

The analysis will be based on economic theory. Normative economic theory is concerned with how resources should be managed to serve human interests.
Positive economic theory analyses how economic systems manage resources. 'Resources' are here taken to mean both natural and environmental resources, human resources (for example, knowledge) and man-made resources (for example, machines). Economic theory is based on an anthropocentric view: resources should be managed to serve human interests. 'Humans' are here taken to mean both existing and future generations. Because future generations' interests are also included, economic theory does not rule out that biological diversity should be conserved in the interest of posterity. Even though such diversity will not be useful for the existing generation, it may serve the interests of future generations.

Economic theory is not limited to an analysis of the goods and resources that are traded in markets; economic theory is not only concerned with what one may call 'narrow economic interests'. The existence of a market system is nevertheless important: market prices can provide information on which good collective decisions can be made, and a market economy is an economic system that, under given conditions, will manage resources in a good way.

The major advantage of the market system is due to the fact that it makes each participant responsible. If an individual wishes to consume a good, or a firm wishes to use a good as factor input, it is necessary for the individual (or as the case may be, the firm) to buy units of the good in the marketplace. The payment transfers to the seller resources that correspond in value to the units sold. Hence, the buyer becomes responsible for compensating the seller for the value that the traded units represent. Under ideal conditions, this system results in goods being utilised where they have the greatest value.

Even under ideal conditions, a market system has one great weakness: it does not ensure a just distribution of income. Individuals with a higher disposable income also have control over a larger part of the goods. In particular if these differences in income are not due to differences in effort, such inequality may appear unjust and provides a justification for the authorities to redistribute income. In real life, a market system has the additional weakness that many goods are not traded in the market place. Among these are many environmental resources. This means that individuals and firms can reduce the availability of environmental resources through pollution, without being made responsible for this by having to compensate the victims of such pollution. Economists call this the negative external effect. Through environmental policies the authorities try to make individuals and firms responsible for their pollution.

With respect to sustainability, this means that a market economy will not necessarily ensure intergenerational justice, even under ideal conditions. Moreover, one important complicating factor is that the authorities today will necessarily be representatives for our own generation. Therefore, redistribution from our own generation to future generations will be a form of charity. The existence of external effects that reduce the availability of environmental resources is also a significant issue in relation to sustainability. Such