

Towards an Eco (Green) Domestic Product

My vision

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Valuing the economic use of the natural environment and correcting the net domestic product towards an eco domestic product reflect our attitude with regard to nature. Different types of valuation could have their specific justification because they represent differing points of view.

Four main types of attitude could be distinguished which show - from my point of view - stages on the way towards sustainable behavior:

- In the present situation we are acting without taking into account environmental deterioration voluntarily. Only because of restrictions imposed by the government do we avoid specific types of economic use of the natural environment. This situation is reflected in traditional national accounts by considering actual defensive expenditures but not calculating the depreciation of natural non-produced capital. The present behavior leads to a deteriorated natural environment which has - even from an egoistic point of view - severe disadvantages for us. It is an economic attitude in a very narrow sense.
- In a first step towards sustainability we should at least be egoistic and take into account the negative impact of environmental deterioration on ourselves. This attitude could be called an economic point of view in a more comprehensive sense. According to this behavior we value in an extended version of national accounts only the impacts of environmental degradation and depletion on the respective country within the reporting period. This type of valuation is recorded on the left hand side of *figure 1*. The valuation procedure could be derived from welfare theory and could comprise market valuation of the environmental deterioration as far as economic production is affected (e.g. by the depletion of natural resources) and contingent valuation (willingness-to-pay approach etc.) as far as households are affected (e.g. damage caused by polluted air and water). Such valuation leads to the calculation of a value of the depreciation of natural capital which reduces the net domestic product from an economic point of view (eco domestic product at market values).

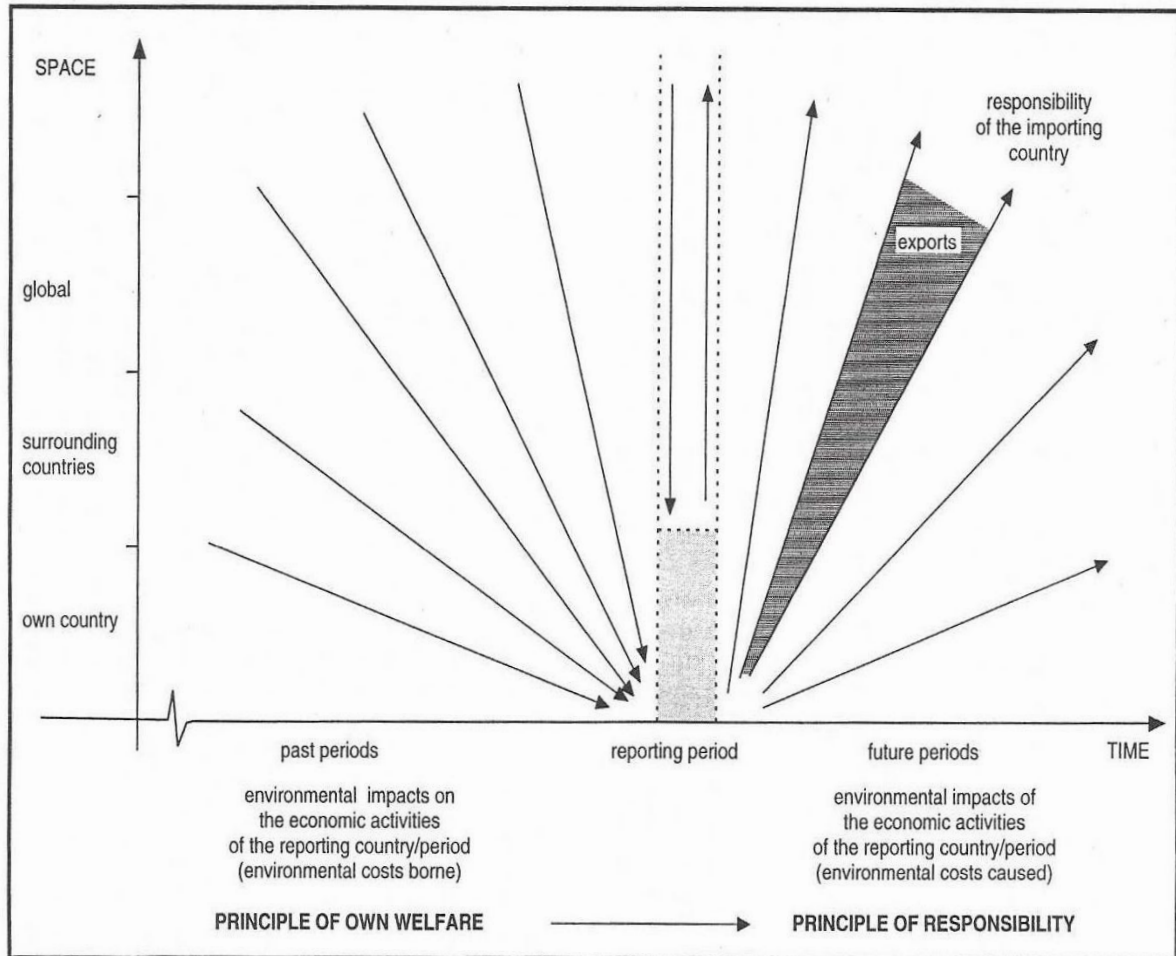


Figure 1: Valuation principles of the economic use of the natural environment

- My vision is that we shall try to reach a further stage of behavior which is dominated by the principle of responsibility with regard to the long-term development of our earth. This attitude accepts the same rights for all living beings irrespective of whether they live in our country or abroad, and is based on the ethical postulate that we should act in a way that does not affect other living beings now and in the future. This principle represents a strong sustainability concept: Our economic activities should be limited to those which are not connected with a decrease of the natural capital. This concept allows substitution between different types of natural capital but no substitution between natural and man-made capital. The suitable valuation concept for such an attitude is the avoidance (prevention) cost approach. We measure the decrease of the level of economic activities necessary for achieving sustainable development and interpret this decrease as the value of the depreciation of natural costs which reduces the net domestic product (eco domestic product from an ecological point of view). In figure 1, the valuation principle following an ethical postulate of responsibility is shown on the right hand side.

- In a further step, we should not only think of sustainable behavior in terms of our domestic economic activities, but should also take into account the environmental impact of the production of goods imported from other countries. A rich country could reach a stage of sustainable behavior by producing only environmentally friendly goods and importing all other products which create environmental problems in the countries of origin. Thus, a comprehensive concept of responsibility should include the responsibility for international trade. In an extended national accounting system, this attitude could be reflected by correcting the value of the depreciation of natural capital (adding indirect environmental costs of imports, subtracting indirect environmental costs of exports). This correction item is also shown in figure 1. The corrected value of the depreciation of natural capital would lead to a third type of eco domestic product.

In my vision, countries are willing to change their attitude and think about other principles of behavior. We cannot expect that people will be able to change their actions immediately. The different ways of valuing the depreciation of natural capital could show them the shortcomings of the present situation and the distance to a more preferable situation. A comparison of the net domestic product with the eco domestic product could demonstrate to what degree the result of our production activities is achieved only by destroying the natural environment.

Following this philosophy, different types of valuation reflect differing stages in the development of our way of thinking and understanding our situation. Some countries may start to analyse environmental problems from an economic point of view, others may be able to introduce immediately a more radical approach like the avoidance cost concept. Our advice should be to apply the avoidance cost approach but to accept also economic valuation methods which could support changes of behavior towards sustainability as well.

Describing the present exploitation of the natural environment and showing the distance to a more preferable situation does not imply that we have already done our work. Even if we apply advanced methods of valuation, this would be a passive attitude which might be attractive from an intellectual point of view but would be completely insufficient. The measurement activities have to give information which supports actions to achieve a sustainable development of the society. The calculation of an eco domestic product could be compared to a thermometer measuring fever in the case of diseases. This information could be used to determine the right medicine for curing the disease. In the case of environmental problems, the "medicine" could be an ecological tax reform. No doctor would decide either to use a thermometer or to prescribe a medicine. Just so, measurement of environmental deterioration and activities to overcome our present situation should be combined to achieve improvements of our society which might open up chances of survival on our planet.