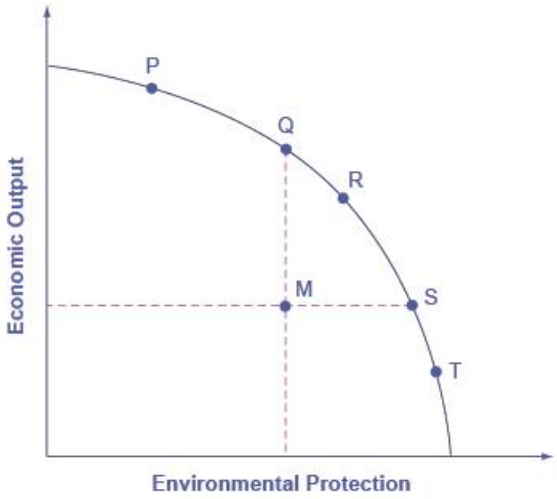
Development-environment Trade-off-I

1. Concept

In economics, the term **trade-off** is often expressed as opportunity **cost**. A trade-off involves a sacrifice that must be made to obtain a desired product or experience. Development and environment……do they go hand in hand or are the two different sides of the same coin? Is it possible for a country to develop without compromising the environmental conditions? Are the two terms antagonistic or complementary? These become one of the important issues in the environmental economics a well as developmental economics.

We can analyze the tradeoff between economic output and the environment with a production possibility frontier (PPF) such as the one in (Figure). At one extreme, at a choice like P, a country would be selecting a high level of economic output but very little environmental protection. At the other extreme, at a choice like T, a country would be selecting a high level of environmental protection but little economic output. According to the graph, an increase in environmental protection involves an opportunity cost of less economic output. No matter what their preferences, all societies should wish to avoid choices like M, which are productively inefficient. Efficiency requires that the choice should be on the production possibility frontier.

Each society will have to weigh its own values and decide whether it prefers a choice like P with more economic output and less environmental protection, or a choice like T with more environmental protection and less economic output.



Economists do not have a great deal to say about the choice between P, Q, R, S and T in (Figure), all of which lie along the production possibility frontier. Countries with low per capita gross domestic product (GDP), place a greater emphasis on economic output—which in turn helps to produce nutrition, shelter, health, education, and desirable consumer goods. Countries with higher income levels, where a greater share of people have access to the basic necessities of life, may be willing to place a relatively greater emphasis on environmental protection.

However, economists are united in their belief that an inefficient choice such as M is undesirable. Rather than choosing M, a nation could achieve either greater economic output with the same environmental protection, as at point Q, or greater environmental protection with the same level of output, as at point S. The problem with command-and-control environmental laws is that they sometimes involve a choice like M. Market-oriented environmental tools offer a mechanism for providing either the same environmental protection at lower cost, or providing a greater degree of environmental protection for the same cost.

Depending on their different income levels and political preferences, countries are likely to make different choices about allocative efficiency—that is, the choice between economic output and environmental protection along the production possibility frontier. However, all countries should prefer to make a choice that shows productive efficiency—that is, the choice is somewhere on the production possibility frontier rather than inside it.

2. **Relationship between development and the environment:** The relationship between development and environment can be characterised as one of interdependence. Just as development is impossible without a good condition of living environment, so quality environment cannot be maintained in inhabited or intensively exploited areas without their sustainable development. The impact of development on environment is determined specifically by the following two factors:

i) **Approach to development:** If we regard development narrowly only as economic growth, the quality of environment in general is not quite so important as abundance, quality and accessibility of natural resources of raw materials and energy central for the economy. If we understand development more broadly, for example in the sense of sustainable development, the quality of environment and its sustainable condition will become one of key priorities. In that case, the long term preservation of environment's inhabitability or eventually the betterment of its condition (in case of its past devastation) will be at the centre of attention. The condition or quality of living environment after/during implementation of development programmes

The implementation of development programmes or projects can have negative or positive impacts on living environment.

a) negative impacts:

programmes: construction of transport infrastructure, great water dams, cities; mining of natural resources of raw materials and energy etc.

effects: fragmentation of natural habitats; loss of fertile soil; deforestation and soil degradation; pollution of environment; local climate change etc.

b) positive impacts:

programmes: construction of smaller water dams; application of environment - friendly technologies etc.

effects: increase in biodiversity; enrichment of landscape by cultural features; sustainable exploitation of environment for present as well as future generations.

ii) **Impact of living environment on development Environment:** It is one of the important decisive factors exerting influence on development's possibilities. It is empirically known that diversified strategies of development must be applied in urbanised, industrial and rural areas. Different methods of development must be chosen in coastal and landlocked areas, different ones are valid in mountains and in lowlands. The type of ecosystem and climate of the area where we want to implement a development programme also play an important role. Among the most decisive factors rank: climate zone (tropical, subtropical, temperate zone); basic physical-geographic factors (e.g. elevation above sea-level, rainfall, temperatures), the living environment quality (e.g. the degree of pollution, population density, expanse of deforested areas, the level of soil degradation and desertification), the quality and fertility of soil, the quality and quanta of natural resources of raw materials and energy, Accessibility of sustainable drinking water resources, and the like.