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# The role of economic and social instruments of environmental policy

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## Abstract

Environmental policy ensures activities which are directed to environmental conservation. In order to achieve this goal, it uses different instruments at both national and international levels. However, these instruments can sometimes cause new problems, which can prevent sustainable development. In this article economic and social instruments that environmental policy uses have been systematized. Also, poverty, as the main problem caused by these instruments have been studied in this paper. The main difference between economic and social instruments and their role are emphasized. Moreover, the benefits of these instruments are assessed. In conclusion, the application of a new environmental instrument called “environmental social transfers” is investigated.

**Keywords:** Sustainable Development; Environmental Policy; Economic Instruments; Social Instruments

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## 1. Introduction

In society integration of economic, social, cultural and ecological factors are necessary to provide sustainable development which protects the long-term value of the environment (Gallopín, 2003). Environmental policy tries to provide coordination of all factors in order to protect natural resources and save interests of the future generation (Emas, 2015). As seen, this is a large-scale and versatile activity, and it requires to answer some questions and determine coverage area of the coordination. These questions may be asked as follows:

- 1- How must development tendency of environmental policy be determined?
- 2- Which areas must environmental policy prefer to cooperate with?
- 3- Which problems must environmental policy pay attention to areas which it cooperates?
- 4- How must instruments which are used for the solving of environmental problems be determined?

In fact, answers to these questions are not so easy as seen. Because, at the attitudes which environmental policy tends, two parts stand – the world and the human. The human part is such concept that it hasn't been opened/learned clearly yet and can exhibit unconscious and surprised behaviors (Aarts and Custers, 2012). Although there is uncertainty in the human's nature, there is such a reality about human behavior that it is possible to see it clearly – needs of the human are unlimited and they use resources irrationally by producing them more than enough. From the other side, sometimes the human sees himself as away from nature and independent. At this time, he forms his behaviors according to this thought. For this reason, in his article Cronon says that people don't have to put barriers between themselves and nature, and should destroy these human-perceived barriers to protect the environment (Cronon, 1995).

According to mentioned, it can be said as an answer to some of the previous questions, 'Environmental policy has to be progressive, it has to unify in its policies which will adapt to development tendency of both world and the human. Environmental policy has to be in coordination with all areas, such as economic, political, social, psychological and other areas which surround human being and necessary for sustainable development'. The answer to the third question is formed by the previous answers. 'Environmental policy should cover all the problems that arise in the process of the world and human development in the ecological, economic, political, social, psychological and other areas, as well as problems that impede sustainable development. These problems can change according to society, region and time'. We can give the answer to the last question according to the result which will be taken at the end of the article.

Today, a lot of economic and social instruments are used in the frame of available environmental policy in order to provide sustainable development. The main economic and social instruments are shown below.

## 2. Economic instruments in the implementation of environmental policy

The main target of economic instruments which serve to realize of environmental policy is to influence consumers and producers' economic interests and form their behaviors again. Economic instruments have an impact on the ones who are producers and consumers. Keeping his financial interests at the first row,

'economic men' decisions are influenced directly by his financial profit. The main economic instruments which are used for the realization of environmental policy are as follows.

### 2.1. Ecological taxes

Ecological taxes are the most significant means which are directed to the solution of issues of the environment among economic instruments. As the sole market instruments, ecological taxes have been compensation for use and pollution of the environment (Brink, 2013:4). These taxes are converted to taxes as social marginal costs (Eurostat, 2013:11).

As environmental policy means, ecological taxes can be approached from two aspects. First, it is tried to be adjusted amount of production and consumption, prevented undue production and wasteful consumption and limited activities which are harmful to environment. Secondly, it can be appreciated as increasing budget incomes as a kind of tax and spending for ecological aims. But collected ecological taxes can be more or less than expenses which are necessary for ecological aims. Therefore all obtained incomes from ecological taxes cannot be spent for ecological problems definitely. At the same time, funds the state spends for ecological problems can not just be defined with the income which comes from ecological taxes (Williams, 2016:3).

Actually, it is difficult to define the real rate of ecological taxes which are the cost-effective way to reduce pollution. Even though these rates have been defined, the determined high taxes cannot be acceptable in terms of economic and political influences that tax rate will affect. Generally, the rates of ecological taxes which are used in practice are low (Brink, 2013:4). Regardless of low or high rate, efficiency may be possible in ecological taxes if it reduces consumption of goods and services which causes ecological sensitivity directly or indirectly, and directs producers to alternative goods production.

### 2.2. Environmental service fees

A fee is one of other economic means which are used for conservation of the environment and an instrument for efficiently operating resources as well. Fees are applied to services when ecological resources are used. This instrument is a mean that people who cause ecological pollution must pay. The main reason for getting these fees is to ensure being paid expenses as a result of pollution by people who pollute ecology. Another purpose is to increase producer's expenses by applying the pollution fee, user fee and other fees which are put on kinds of environmentally damaging activities. So that, a producer who wants to get more profit with less expense will begin using other resources which such fees are not applied (Hoffmann, 2006:2).

### 2.3. Ecological standards

Ecological standards show the level of the compulsory performance that is defined as the legal basis for preventing the use of means that cause to pollute. These ecological standards can be related to both ecological damages which they occur during the process of production, and problems which will occur after production. In order to increase of producers and consumers' sensitiveness to ecological problems, standards are defined and then required suitable attitude with the standards specified in the activity on consumption and production

(OECD, 2011). Otherwise, they are involved in criminal responsibility. The main reason for its being regarded as economic means is, like other economic means these standards also affect producer's economic interest as other economic means. Such standards can move entrepreneurs away from putting investment, because, it creates extra expenses.

#### 2.4. Ecological Subsidies

In order to use technologies which will be less harmful to the environment during production and reduce pollution by new production, economic subjects are given ecological subsidies. The main difference between this financial aid and taxes and fees is subsidies has not got a discouraging feature like other mentioned economic means (OECD, 2011). On the contrary, subsidies are motivating and encouraging methods, equipment, and activities which are seen as a friend of ecology. The Economic man who benefits from ecological subsidies will get more profits by selling more products in comparison with not eco-friendly goods in the market.

### 3. Social instruments in the implementation of environmental policy

As a human is a creator of main ecological problems and can exhibit changeable behavior by his nature, we can say and will not be mistaken that 'environmental policy is accepted in the condition of uncertainty'. In this situation, the most effective instruments appealing to human nature may be social instruments. Because social instruments do not see the human just as an economic man like economic instruments. Social instruments try to adjust the human's behavior as influencing his humanist and caring senses.

Generally, the results of environmental policy depend on the social development level of society. That is why social development level affects instruments to be selected along with volume and coverage of environmental policy in the country. What is social development? *'Social development is the bundle of technological, subsistence, organizational, and cultural accomplishments through which people feed, clothe, house, and reproduce themselves, explain the world around them, resolve disputes within their communities, extend their power at the expense of other communities, and defend themselves against others' attempts to extend power'* (Morris, 2010:144). According to this definition, it can be mentioned that social development level - subsistence, technological, organizational and cultural accomplishments influence effectiveness that will be proven by environmental policy. There are a lot of factors which affect social development. Education, health, income distribution and others can be included here. For example, excessive income gap obstructs to get effectiveness at environmental policy by creating social, political and economic problems (Zeynalova, 2017). If there are a sharp gap and unjust income distribution, then, there will be burglary, bribery, slow-wittedness, fear and other feelings in a society (Cornia, 1999). If people try to steal from each other, trample down others' rights why will not steal from nature or avoid damage to it? Therefore there must be fair income distribution in the country and people must have at least minimum income that they can meet their mandatory needs that, let them answer positively to activities which are realized by environmental policy. At the same time, they must be educated about ecological problems and comprehending its danger. They must also have healthy body

and spirit so that, they can be interested in environmental problems and find time for looking after them. Therefore, social instruments which can form ecological sensibility in people by influencing their feelings in use of environmental policy are shown below.

### 3.1. Ecological education

The main object of ecological education is to form people's knowledge, though and values for protecting the environment. From this point of view, it is important to place every person, group and society's behaviors into a new mold in this aim directions to providing economic, social, political and ecological solidarity in the urban and rural areas as well (UNESCO, 2006).

Various educational programs can be realized to prevent ecological damage by people. These programs can be realized as a formal lesson at schools or universities, as an activity, as well as an informal education and other forms of associations. The main purpose of ecological education programs is to accept an effective decision and apply gained knowledge at practice. As an example of this, ecological data-gathering tool - 'Landscapes, Wildlife, and People' prepared for Canadians by Sonoran Institute in 2001 can be shown. 'Landscapes, Wildlife and People' has been a useful workbook for ecological education and analysis, and gives information about analysis of local and regional ecosystems and changes which has occurred over time. People can see changed attitudes between the quality of local economy and local environment more clearly and make more effective decisions (Hamstead, 2005:154).

Ecological education is interdisciplinary which warns people about ecological problems and can encompass biological, sociological, anthropological, economic political and human resources (Ravi, 2011). As well it is a transmission of lifetime experiment and gained knowledge (Hautecoeur, 2000). Thereby, ecological education, which plays an indispensable role in protecting the environment and transmission of gained knowledge from all branches, increases people's awareness of sustainable development and environmental problems by providing training and systematic information.

### 3.2. Ecological labels

Labelling which organizes inseparable part of connection among actors in society is one of the significant ecological means. Posted ecological labels on the products at the level of production and use, wish to be preferred to these products and consumption as showing these products are nature-friendly rather than other products. Ecological labeled products show reducing the influence of damages which can affect human health and environment besides providing customers and workers information about health and safety (EPA, 1998).

Labellings which can be used as seal-of-approval, single-attribute, hazard warning, information disclosure, and report card categories change according to the content and specific features of every product. Inviting consumers to more 'ethic' behavior, this instrument increases sensitivity toward environmental problems. From this point of view, it can be regarded as the most important social instrument. Moreover, while being evaluated by the producers' point of view, ecological labeling requires extra investment for changing

producers' industrial practices (UNEP, 2005) and increases industrial expenses by a certain amount. This influence warns that it also has features of economic instruments.

### 3.3. Eco-audit

Eco-audit can be accepted from three aspects - consumer, producer and government. From the consumers' point of view, eco-audit is a voluntary arrangement which informs consumers about managing environment. But from the aspect of producers, eco-audit can be seen as a process of self-evaluation. It is finding ways for firms to work more efficiently and reduce harmful ecological consequences in this way. At this process, producers prefer to follow standards which are determined for managing environment. Participation in this kind of programs helps them to connect with producers, suppliers, stakeholders and employees well. From the aspect of government, eco-audit is an arrangement which let us realize ecological benefits without high management expenses (Hatch, 2005:6).

### 3.4. Voluntary agreements

Voluntary agreements are '*an agreement between government and industry to facilitate voluntary action with a desirable social outcome, which is encouraged by government, to be undertaken by the participant based on the participant's self interest*'. These agreements can be realized by the various forms from formal industrial contracts to informal declarations. In the contrary to order and control, during voluntary agreements, firms participate in achieving certain emission targets with a good grace. Because of this process is based on volunteers, firms are self-dependent in terms of time and method that they will use. This independence can encourage them to be more effective and innovative. The positive aspects of this method include activities based on cooperation and can be carried out at very low cost but at a faster rate in order to achieve environmental protection goals (Hatch, 2005: 6).

## 4. Scale of use of economic and social instruments

Sustainable development necessitates simultaneous thinking and action (Gallopín, 2003) in local and global levels. By reason of the fact that complications occur with ecological problems do not just stay within the borders of a state, all sustainable development issues are arranged with both national and international actions. Influence on ecology, which is included in global public goods, covers the interests of all peoples. Therefore, necessary arrangements must be realized for a solution of problems at both international and national level. However, realizing of these arrangements leads to new expenses. Indeed for being fair, these expenses must be paid with the principle like 'which state uses more goods, it must pay more' or 'state must pay how much it damages to ecology'. But one of the main features of public goods is 'non-excludability', and this feature shows that it is impossible to detect the number of users of ecological resources like seas, trees, clouds and others. Therefore, it is difficult to determine number and identity of users who make damages. Even if it is identified who causes damage, it is difficult to determine the cost of damage. Because, going to a chain reaction directly

or indirectly, ecological damages cause new and greater problems. In this case, it is impossible to find real cost of ecological damage. From the other side, it is difficult to measure the quantity of used ecological resources at national level. For example, natural minerals are found and obtained not only by state but by imperialist organizations (states, companies) in the states where there are natural mineral resources (Schaub, 2004). Sometimes, imperialist organizations get the main benefits from such natural resources. At this case, to load gained ecological benefits to imperialist organizations, but expenses of damage to the state would not be right. It is a complicated process to find answers to questions as defining of users of ecological resources, how financialization of damages will be taken, how distribution and management will be realized. Even if answers are found to these questions, it is impossible to make execution for all states. So that, all states do not pay attention to ecological problems at the same level. Also, if they want to pay attention, sometimes, not enough budgets can cause problems. In spite of these difficulties, there is a reality that, for providing sustainable development, it is necessary to make coordination of actions and essential expenses at local and global scales. Yet these expenses must work on the principle of 'the more money you (at national or international level) have, the more you must spend' for own or common well-being.

Ecological instruments that are used in the arrangement of environmental problems and preventing them may be different as well same at national and international level. For example, as taxation power belongs to the only state (or any organization which it gives authority to) and cannot be set by the non-state institution the use of the favorable instrument – ecological tax is not possible at international level yet. Every state can apply these taxes to ecological problems within its borders. It can be simply recommended to the countries about using some taxes (or means like taxes) at international level. In contrast to ecological taxes, some ecological instruments as ecological education, ecological subsidies, eco-audit can be used both at national and international levels. Generally, cooperation at international and national levels lets selection and use of beneficial instruments. For example, research and collections can be shown at sustainable development field of WB, UN, OECD. At the result of these research, sometimes, the countries are analyzed separately and given recommendations inherent these countries. Sometimes, suggestions that all states can benefit are prepared. As an example, it can be shown Political Matrix prepared by World Bank (WB, 1997). Political matrix is designed for analysts which manage natural resources and realize environmental policy. According to the matrix, in order to get the certain purpose and achieve success states must realize four policies together: policies based on existing markets, policy instruments that involve creating new markets, regulations and quantitative restrictions, policies that seek to harness the power of public information and participation. Political matrix as well as other research of international organizations, determine tools that can be used for successful environmental policy. Nevertheless, we have to say that, effectiveness that will be achieved from used instruments at environmental policy changes according to both social development level, and economic condition of the society.

Thus, for achieving sustainable development, it is aimed to reduce harmful influence to ecology through the environmental policy which is applied both at international and national level. But sometimes, instruments that are used in environmental policy can increase this influence indirectly. So, for adjusting producers' behaviors sale price of the same goods increases at the result of limiting of production or increasing of industrial expenses by some economic instruments. At this time demands to products which are sold at high

prices are reducing. Reducing of demands causes reduction of the quantity of production. Poverty risk can arise due to the dilemma between environmental care and production. Increasing poverty in society brings ecological pollution with itself too. From one side poverty risk encourages to increase production that does not pay attention ecological problems, from another side it makes forget care to the ecological system. For example, as poverty increases, firewood extraction from forests in rural areas grows. Furthermore, sometimes poverty is considered as the worst form of pollution (Nadkarni, 2001:65).

At this case, a solution of the problem is carefully selected ecological instruments that can ensure sustainable development. As mentioned previously, effectiveness that will be achieved from ecological instruments depends on social and economic development level in the society. Without economic and social development, it is difficult to get a desirable benefit. So that, proceeding with development of economic field allows to find new methods for reducing of industrial expenses and decreasing of expenses during the production of eco-friendly products. At the same time growing creative people for preparing new industrial methods and making progress in technology are impossible without social development. In order to achieve sustainable development, it is necessary to provide a socially sustainable system, and for this purpose - to ensure social equality, high education and healthcare services in society. Otherwise, in case of high income inequality and poverty, citizens' social conditions will get worse, therefore the stability of the social system, then the stability of the economic system and consequently, the stability of the ecological system will stop.

## **5. Which is more advantageous, economic instruments or social instruments?**

Even though purposes of use of economic and social instruments are the same, the subjects which they influence are different. So that, target mass of economic instruments of environmental policy is 'homo economicus'. Target subject of social instruments is 'sensible human'.

Among the economic instruments mentioned above, except ecological subsidies, others have a negative impact on the economic interests of the economic man. Since these instruments reduce profits, manufacturers sometimes try to minimize the impact of economic instruments in various ways, including informal ones. In this case, economic instruments do not give the expected effect. In this context, social instruments are more effective than economic instruments. Because social instruments change the behavior norms of people in favor of nature. Modified norms are not easily deformed, producers and consumers who choose between "personal gain or public benefit" will pay more attention to the public interest and will not try to escape from ecological responsibility.

On the other hand, social instruments can be applied not only at national level but the same time at international level. This advantage allows its systematic implementation and the effectiveness of the results to be achieved.

## **6. Concluding thoughts**



It is known that direct interference of state to the economy in the independent market economy is not a desirable case. Because of this reason, to ensure sustainable development, all policies of state must be oriented to regulation and coordination. From this point of view, a lot of economic and social tools are used in the environmental policy. Harmful influences to ecology are being tried to reduce to a minimum through making a change in both producer and consumer's behaviors with these tools. In order to achieve this target, there must be two conditions. The first of them is learning ecological problems, finding solutions, preparing suggestions and ultimately realization policies at both international and national levels through cooperation. The second is an investigation of negative influences that can be arisen by ecological tools and prevent these influences.

While having a look at tools of environmental policy, we see that these tools (taxes, fees, standards, education and others) are actively used by the state in economic regulation. In this case, guiding the irreplaceable role of environmental policy in sustainable development, the following question arises. 'Can all economic and social means that the state applies to regulate economy be a tool of environmental policy at the same time?' For example, transfers, which is used in the economic regulation. Governments transfer benefits to their citizens for a variety of reason. Usually, these can be spendings or expenditures includes as social and economic aims. Can this tool be used in the environmental policy called 'environmental social transfers'?

A definition of environmental social transfers can be: 'The provision of eco-friendly goods, yet they are more expensive, the government pays citizens by transferring resources using in-kind aid. Since cash transfers are paid by the government, these means must definitely be spent on nature-friendly goods if they are available'. In other words, in-kind aids provided by the government should consist of only eco-friendly goods. At the same time, it is essential to put the condition and necessity of spending cash transfers on eco-friendly goods. For example, in-kind transfers by the state – educational means such as books, notebooks, pens, handbags, or food such as milk, meat, oil, etc. for meeting the basic needs of citizens – should be chosen from eco-friendly goods. The use of government cash transfers by citizens should be kept under control, and it should be provided spending of these aids for purchasing of eco-friendly goods. As a result of the implementation of environmental social transfer programmes, the government will be able to increase the demand for eco-friendly goods in the market as well as improve awareness and sensitivity of citizens towards eco-friendly goods.

Mentioned 'environmental social transfers' can be used as a tool of environmental policy. However, to determine the usefulness of this tool requires detailed research.

Consequently, as an answer to the question given at the beginning of the article, it can be stated that tools that are used as enviromental problem solving must be chosen according to available economic and social development level of the country, be proactive and prevent emerging environmental problems.

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