

The Role of Environmental Economics in the National Budget of Bangladesh: Future Prospects

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The Bangladesh Economy has flourished and survived many challenges since the Liberation War. In order to achieve long-term sustainability, the National Budget needs to account for issues commonly facing developing countries such as low living standards and productivity levels, etc. and also be prepared to address unforeseen consequences of social, economic, and environmental pressures. Environmental Economics has extensive scope in the National Budget of Bangladesh, and its basic principles are followed in various sectors of the economy. A brief theoretical overview of Environmental Economics is presented, and the article aims to be a theoretical blueprint for more detailed instruments and policies. Environment-related allocations of the National Budget are briefly discussed, followed by an account of the main concept of sustainable development as it is related to environmental concerns. The study recommends Environmental Fiscal Reform (EFR) as the approach to enable Environmental Economics to gain a more prominent role in the National Budget of Bangladesh and also mentions the areas of concern that should be taken into account for this approach.

1. Introduction

The Bangladesh Economy has gone through fundamental changes since the Liberation War of 1971. The tolls of the war, combined with natural disasters before and after the conflict, shook the foundations of the economy to such an extent that its viability began to be questioned at home and abroad (Osmani 2008). The economy of Bangladesh had not only survived, but showed signs of sustained vibrancy (ibid, 2008). The responsibility of the current Government will be to accelerate the pace of past progress and put the economy on track for still faster economic growth (Bhuyan 2010). To achieve success in this endeavor may not be easy given the economic situation in many developed nations at present, but building on good economic performances of the past years along with drawing on lessons from weaknesses in certain areas of the economy, the Government will be able to adapt the policies and strategies required for accelerated economic growth (ibid 2010). However, being a developing nation Bangladesh faces many problems like low living standards, low productivity levels, high population growth and dependency burdens, substantial dependence on agricultural production and primary product exports (Salman 2009). Therefore the Budget for the new fiscal year has to take into account the above mentioned issues whilst be sensitive to new issues that will arise due to the extensive social, economic, and environmental pressures exerted on the resource base of the nation.

A study in the 1990's keenly observed that in the future inevitably that market will be constrained by and dependent upon nature (Hart 1995). The same study went on to suggest that it is highly likely that strategy and competitive advantage in the coming

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ideal circumstances competitive markets will allocate resources efficiently to maximize the satisfaction of individual preferences in so far as the available resource base allows (Sagoff 2012). This is thought to hold true because under those conditions markets will in theory allocate assets to those willing to pay the most for them, and there is a concern to make environmental decisions respond to the full range of preferences that could be expressed in a market (ibid 2012). Governments formulate and implement policies in a wide range of economic and social activities with varied and conflicting objectives (Markandya 2005). Policy making by its very nature is somewhat chaotic and partly self-contradictory, since it is impossible to imagine a process where all policies were set simultaneously, taking account of their inter linkages, so as to achieve a coherent set of economic and social goals (ibid 2005).

The Bangladesh Economic Review (2011) acknowledges that environmental problems are linked with the macroeconomic issues of Bangladesh due to its geographical and environmental characteristics. Therefore environmental economics can play a prominent role in the National Budget of Bangladesh, since environmental economics is the application of the principles of economics to the study of how environmental resources are developed and managed (Field 1997). Those who are interested in the efficient use of natural resources are keenly aware of the challenge of estimating the costs and benefits of programs which change the flow of services from these assets (Blomquist, Newsome & Stone 2003). The challenge for Bangladesh in this context will be to keep this in mind when constructing budgets in the future.

1.1 Problem Statement

The main problem statement of this study is to know about environmental economics and to identify the role of environmental economics in the national budget along with its future prospect in Bangladesh.

1.2 Objectives of the Study

The specific objectives of this study are:

- To know about the basic concepts of environmental economics
- To know the relationship between environmental economics and environmental policy
- To identify the role of environmental economics in the national budget of Bangladesh
- To identify the future prospect of environmental economics in Bangladesh

1.3 Scope of the Study

The present article attempts to make the case that environmental economics as a discipline has the scope to address the resource allocation and consumption issues of Bangladesh given a growing population and related issues. Although no significant empirical evidence about the positive externalities of environmental economics on the various aspects of the National Budget of Bangladesh is presented, the main premise is that environmental economics can enable Bangladesh maximize the benefits it derives from its resource base and formulate and implement long-term measures for

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growth and development. The article does not delve into a detailed sector analysis of the National Budget, nor does it attempt to make financial projections. The authors intend the article to be theoretical blueprint from which policy makers and public and private stakeholders will be able to formulate and implement policies.

1.4 Organization of the Study

This portion is the concluding part of the introduction section, which is divided into several sub-sections. The following sections are present in order as indicated: literature review, methodology, discussion and conclusions. The literature review and discussion sections are also divided into several smaller sub-sections to highlight the different aspects of the main topic. The whole paper is followed by a references section which lists in alphabetical order the papers cited in the study. The study begins with an abstract of the whole paper.

2. Literature Review

2.1 Environmental Economics

Environmental Economics draws more from microeconomics than macroeconomics (Field 1997). It mainly focuses on how and why people make decisions that have consequences for the natural environment, and it is also concerned with how economics institutions and policies can be changed to bring environmental impacts more into balance with human desires and needs of the ecosystem itself (ibid 1997). Any economic system exists within and is encompassed by the natural world and its dynamics are governed by the laws of nature (ibid 1997). Economies make direct use of all types of natural assets, and the natural world is the provider of raw materials and energy inputs, without which the two elementary economic functions of production and consumption pursued by the society would be impossible (ibid 1997). Environmental Economics studies how the goals of efficiency, utility, well-being, and the maximization of benefits over costs are to be achieved in the allocation and exchange of scarce environmental goods (Sagoff 2012). Environmental economists generally study how environmental assets can be traded or allocated more efficiently so that their consumption or use will maximize welfare or well-being, which is typically measured or defined in terms of peoples' willingness to pay (WTP) for those goods or resources (ibid 2012).

Environmental economics is distinguished from Ecological economics that emphasizes the economy as a subsystem of the ecosystem with its focus upon preserving natural capital (Bergh, 2001). One survey of German economists found that ecological and environmental economics are different schools of economic thought, with ecological economists emphasizing "strong" sustainability and rejecting the proposition that natural capital can be substituted by human-made capital (Illge & Schwarze, 2006). Roy et al. (2013) acknowledge that fiscal instruments through the mobilization of domestic finance can help to generate environmental benefits, and Elkins et al. (2010) promote the shifting of financial burden to the use of natural resources and pollution generation. Kumar and Managi (2009) posit that intergovernmental fiscal transfers can be an effective form of compensation for the provision of environmental services, together with a suitable strategy for communication and information.

2.2 Protecting Bangladesh's Environment: The Role of the Civil Society

Bangladesh is experiencing serious environmental degradation. Several factors make Bangladesh particularly vulnerable to environmental damage. Yet, environmental degradation is not an inevitable price that Bangladesh has to pay for economic growth. The goals of environmental protection and economic growth can be complementary. Bangladesh is making some efforts to confront environmental problems. However, these efforts are not proving adequate for the challenge. The underlying cause of the inadequacy is absence of a strong, broad-based social movement for environmental protection in Bangladesh. The common people of Bangladesh because of their link with the traditional mode of life are inherently environment friendly. However, they are also burdened with the daily struggle for survival. The intelligentsia and members of the civil society will have to play a leading role in building up the necessary social movement. The non-resident Bangladeshis (NRBs) and members of the international environment movement can join the resident Bangladeshis in this effort. There are some encouraging signs. It is now necessary to build on them. Existing pro-environment forces need to coalesce, enlist new forces, and thus build up a strong, broad-based, social movement for protection of Bangladesh's environment (Islam 1999).

2.3 The Impact of Economics on Environmental Policy

Environmental economists have seen their ideas translated into the rough-and-tumble policy world for over two decades. They have witnessed the application of economic instruments to several environmental issues, including preserving wetlands, lowering lead levels, and curbing acid rain. We focus on two related, but distinct phenomena—the increasing interest in the use of incentive-based mechanisms, such as tradable permits, to achieve environmental goals; and the increasing interest in the use of analytical tools in regulatory decision making, such as benefit-cost analysis. The authors argue that economists and economic instruments have had a modest impact on shaping environmental, health and safety regulation, but that economists will play an increasingly important role in the future. Although the role of economics is becoming more prominent, it does not follow that environmental policy will become more efficient. This apparent inconsistency can be explained by the political economy of environmental policy (Hahn 2000).

2.4 The Role of Economic Analysis in Shaping Environmental Policy

Over the last two decades, the environment has become a major concern for all developed nations. An increasing amount of national resources is being expended to address environmental problems. Many environmental initiatives take the form of government regulation of the private activities of manufacturers and consumers. By controlling the emissions to air and water, requiring the safe disposal of wastes, and banning the use of certain substances and products, regulations can yield substantial environmental and health benefits. Unfortunately, the regulatory actions needed to create these environmental benefits often impose substantial costs. In a typical year, the Environmental Protection Agency (EPA) publishes several major proposed or final regulations, each of which will impose net annual economic costs ranging from half a billion to well over a billion dollars. In addition to the substantial direct costs of these rules, they may also have unintended effects that interfere with other social goals. For example, the adoption of more stringent automobile fuel economy

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standards will likely have adverse effects on automobile safety. Therefore, it is important to consider all the effects of proposed initiatives before imposing regulations. This will insure that regulatory actions achieve their intended objectives effectively and efficiently (Frass 1999).

The literature shows a strong theoretical baseline that connects the environment and economics, and in certain cases discusses solutions for particular scenarios. However, as the authors have observed, although the link between fiscal instruments and environmental outcomes have been discussed, previous studies cited have not established a direct link between national budgets and environmental economics. In our opinion, this is a macro level issue which may be too broad in scope for one paper to address. This will change with the publication of more papers in the future, and the development of more advanced models which permit an analysis of this scale.

3. Methodology

To examine the role of Environmental Economics in the National Budget of Bangladesh will require a methodology that is able to analyze variables that are connected in a very complex fashion and at the same time provide solutions to simple issues. The paper is mainly conceptual and theoretical in nature since it will attempt to examine the scope of Environmental Economics to make a sustainable contribution within the National Budget of Bangladesh. The paper seeks to identify the theoretical baseline for the paper through a literature review, and forward recommendations for the next logical step. The paper was formed after a Literature Review in the prominent journal databases such as Emerald, Science Direct, Google Scholar, etc. and selecting relevant papers. Certain academic texts were also consulted.

4. Discussion

4.1 Basic Concepts of Environmental Economics

Economics is a body of knowledge (a science) that has certain theories, values, methods, and assumptions. One goal of economists is to understand how to produce goods for society in the most efficient manner. This is achieved by having a better understanding of human activities in a market system.

Environmental economics is an emerging area in the realm of economic science. Before 1970s a little attention was paid for the growth and development of this part of the area of knowledge in economics. The first oil stock in 1971 and thereafter the emergence of relatively higher levels of environmental damages at the global level prompted the scholars in this field to apply economic tools to environmental science. Studies on environmental science are plentifully available; however they do not cover the economic content of environment. Similarly, early economists of the classical and neoclassical regime made specific comments about the significance of nature and environment, but did not include them in their exposition of theories. Today, people all over the world have realized that environment is not just the study of flora and fauna, but a synthesis of study of various branches of knowledge like Science, Economics, Philosophy, Ethics, Anthropology, etc. It is the application (or adaptation) of economic principles in tackling issues related to the environment and the variety of natural

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resources surrounding us. Environmental economics is a subfield of economics concerned with environmental issues.

The assumption in environmental economics is that the environment provides resources (renewable and non-renewable), assimilates waste, and provides aesthetic pleasure to humans. These are economic functions because they have positive economic value and could be bought and sold in the market place. However, traditionally, their value was not recognized because there is no market for these services (to establish a price), which is why economists talk about “market failure”. Market failure is defined as the inability of markets to reflect the full social costs or benefits of a good, service, or state of the world. Therefore, when markets fail, the result will be inefficient or unfavorable allocation of resources. Since economic theory wants to achieve efficiency, environmental economics is used as a tool to find a balance in the world’s system of resource use.

Another basic term in environmental economics is the idea of “scarcity.” Historically, goods and services provided by the environment were seen to be limitless, having no cost, thus not considered scarce. *Scarcity* is a misallocation of these services (which are not limitless) due to a pricing problem. If resources were properly priced to include all costs, then the resource could not be over-exploited because the actual cost would be too high. This is a powerful tool in environmental problems – proper pricing.

Balasubramanian (1984) stated that “no longer is economics merely a science of production and distribution, it has to take into account the ecological repercussions of economic activities that could affect both production and distribution.” It means that economics as a subject cannot exist in isolation, it cannot even be a mere study of how goods and services are produced, but at the same time it has to take into consideration the impacts of the use of resources on the environment. The impacts may be in the form of externality, pollution, exhaustion, etc. Any study on the economic content of production, distribution, development, etc., cannot be completed without touching upon the environmental aspects like externality, pollution, damage, exhaustion, depletion etc.

According to Sarkar (2001) environmental economics can therefore be defined as that “part of economics which deals with interrelationship between environment and economic development and studies the ways and means by which the former is not impaired nor the latter impeded.” It is thus a branch of economics which discusses about the impacts of interaction between men and nature and finds human solutions to maintain harmony between men and nature. Environmental economics teaches us how to promote economic growth of nations with least environmental damage. Classical and neoclassical school of thoughts underestimated the environmental issues of production and consumption, since they considered these issues merely as social issues. When environmental goods are transformed to economic goods the problems of environmental damage crop up, and therefore the need to interact with economic principles.

4.2 The Relationship between Environmental Economics and Environmental Policy

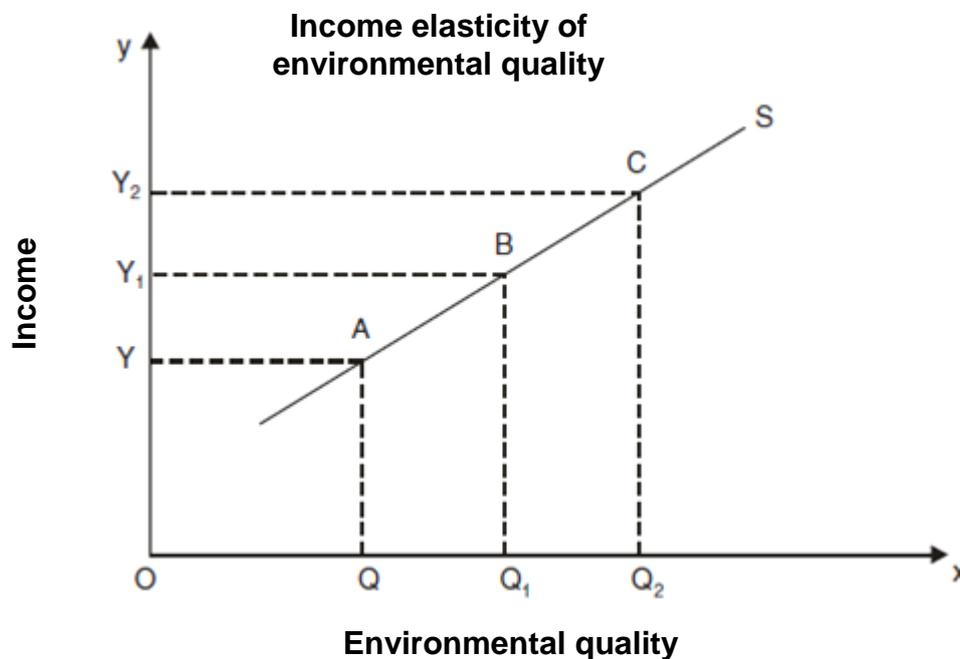
Concern with the environment is brought on in large part by the coincidence of high income and high population density. If there were a few people in the world, earth’s

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environment would be capable of absorbing most of the wastes that they throw at it. The demand for environmental quality is income elastic. This is one of the reasons for higher levels of environmental damage, and is quite dominant in developing economies. The higher income groups treat environment as luxury good.

For the marginalized groups and the poverty stricken, environment is a perennial source of food and shelter. For them environmental concern is in their blood, and therefore they generally do not disturb the environment. But as the main concern of these groups of people is to earn food, they put environmental issues in the back seat. The poor are the worst sufferers of environmental damage. There is an unacceptable theory being popularized in the Third World countries by the rich that the poor are the creators of environmental damage, because a higher level of population is found in these economies. As a reply to this argument, the leaders of the Third World countries point out that the environment of these countries are being damaged by the overuse of resources in order to meet the requirements of the West.

Figure 1: Relationship between Income and Environmental Quality



Source: constructed by the authors based on the Literature Review.

A positive correlation exists between income and the demand for environmental quality. Higher demand for environmental quality will result in higher levels of environmental damages. It means that as income (Y) increases, damages to the environment also increase. However this theory is not found suitable to developed economies. In such countries, higher levels of income promote higher levels of environmental protection. But this argument need not be true always. When the rich nations grow substantially, they depend on other developing nations for resources. In such dependent economics, there will be higher levels of environmental damages. The relationship between income and environmental quality (Environmental damages too) is represented in Figure 1.

The figure shows that when the income of the people increases from OY to OY_1 and then to OY_2 , the demand for environmental quality increases from OQ to OQ_1 and then to OQ_2 , correspondingly. In fact there exists a positive correlation between

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income and environmental quality. Income and environmental damages are also positively correlated.

From the above discussion one is able to realize that separate environmental policies are required to address these critical issues. Therefore, suitable environmental policies applicable to each nation, and also at the same time to address transnational environmental issues are to be formulated.

4.3 The Role of Environmental Economics in the National Budget of Bangladesh

Environment is the vital and fundamental issue for everyone. As climate change and global warming of the world is continuing, society demands that business take responsibility to save us from tough heating, extra greenhouse gas, fummy air, excessive rain etc. Our policy makers gave concentration on the climate change recently. They also concerned so that to greener environment economy.

Economics is the key and focusing object for any place of the world, as it is related to the people and politics. World politics also centered to economics. So economy cannot be denied. We should move forward to protect our environment as the same pace we should continue dimensional growth process. In this context the concept of Environmental Economics comes into attention. For the high economic growth as well as sustainable environment friendly development environment policy need to imply. Bangladesh takes some initiatives to go forward to the path of environmental economics. To save the environment along with the business some environment policies take place in the national budget of Bangladesh for several years.

4.3.1 Environmental Issues and the National Budget

There is a link between the environmental economics and the national budget. An understanding of the proposed linkage between Environmental Economics and the National Budget of Bangladesh can only be gained first through a brief review of the concept of sustainable development and its relation with environmental concerns. For most of the last couple of hundred years, the environment was largely viewed as external to humanity, mostly to be used and exploited, and on the whole the relationship between people and the environment was thought of as humanity's triumph over nature (Hopwood, Mellor & O' Brien 2005). The concept of sustainable development is the result of growing awareness of the global links between environmental problems, socio-economic issues and concerns about a healthy future for humanity (ibid 2005). The Brundtland Report's definition of sustainable development and the ideas it expresses recognize the dependency of humans on the environment to meet need and well-being in a much wider sense than merely exploiting resources (WCED, 1987). Sustainable development is supported as a new planning agenda (Beatley & Manning 1998) and critical global environmental issues such as greenhouse gas emissions and loss of biodiversity have led to increased advocacy for more sustainable land use practices (Vitousek et al. 1997). Developing countries are facing major challenges in balancing the three pillars of sustainable development – economic, environmental, and social objectives – and significant financial resources are necessary to achieve the objectives of sustainable development so consequently the mobilization of domestic resources is one of the major challenges (Speck 2008).

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The terms “Environmental Economics” and “National Budget” are neither used in the copy of the latest Budget Speech given by the Honorable Finance Minister nor the Bangladesh Economic Review in a linked manner. However, both documents agree that environmental issues are an important concern for the development of Bangladesh. Bhuyan (2010) addresses the policy priorities of the Government as regards to environment-related sectors such as industry and infrastructure. Financial policies and instruments for addressing environmental concerns in Bangladesh in terms of the National Budget have largely focused on the impacts of climate change (Bangladesh Economic Review, 2011). In the Fiscal Year 2011 – 2012 an additional amount of Taka 700 crore has been allocated to six thematic areas to tackle the possible disasters arising out of climate change: (i) Food security, social protection and health security, (ii) Comprehensive disaster management, (iii) Infrastructure, (iv) Information and research management, (v) Mitigation and low carbon development, and (vi) Capacity building and institutional strengthening (ibid, 2011). The listed thematic areas demonstrate that the main theme of environmental economics is being followed in the National Budget of Bangladesh. What remains is to specifically incorporate the terms in national policies and planning so that the main principles of environmental economics are focused specifically to maximize natural resource management efficiency of the government.

4.3.2 Allocations for Environmental Economics in the National Budget of Bangladesh

According to Mr. Abul Maal Abdul Muhith, the Honorable Finance Minister of Bangladesh, the National Budget of Bangladesh does not have a specific sector allocation under Environment. However, there are sectors of the National Budget which deal directly or indirectly with the natural environment of the nation and therefore it can be stated with a degree of optimism that the National Budget of Bangladesh has not totally ignored environmental concerns.

The Budget Speech highlights the following areas with environmental concerns: Power, Energy, Agriculture, Fisheries and Livestock, Water Resources, Food Security, Roads and Bridges, Water Transportation, Industrialization, and Climate Change. It is observed from the preceding list of sectors that environmental issues have achieved prominence in the policy agenda of the Government.

The Bangladesh Economic Review (2011) states that the government has been implementing various programs which include, protecting Bangladesh from the adverse effects of global warming, creating a pollution-free environment, adopting policies, and planning to protect the water resources of the country. Therefore it logically follows that environmental concerns will have a more prominent share in future National Budgets of Bangladesh.

4.4 Future Prospect of Environmental Economics in Bangladesh

In Bangladesh, environmental economics concept neither comes into light for long time, nor so early. To protect our environment and take initiative to better and safer our country this concept is analyzed for some years. Last one decade this concept is conceptualized. Now small numbers of people, organizations, and policy makers are becoming more cautious about environment, working and willing to maintain environmental policy. Environmental Economics has become a vital part of the national budget of Bangladesh. It will be able to achieve a more specifically

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prominent function in the National Budget of Bangladesh through an approach known as Environmental Fiscal Reform (EFR). According to Speck (2008), EFR describes any policy measure in the overlap between environmental and fiscal policy. The OECD (2005) and the World Bank (2005) support the implementation of EFR in developing countries as it helps to raise revenues and create incentives that generate environmental benefits (World Bank 2005). The exact design of this policy depends on the prevailing economic, social, institutional, and political situation of the country, and in particular, what policy objectives are addressed and aimed to be achieved when an EFR is launched (Speck 2008).

Environmental Fiscal Reform for Bangladesh should take note of the following aspects:

- Given the present economic, social, institutional, and political scenario of the country, whether any scope exists to increase the Budget Allocation of environment-related sectors.
- Changes required if any, in existing fiscal and environmental policies of Bangladesh so that EFR can be implemented with minimal management externalities.
- Scope of the EFR within the existing fiscal and environmental policies of Bangladesh.
- Whether new fiscal or environmental policies and instruments need be formulated and signed into law.
- Role of specific Government stakeholders in pre and post implementation stages of the EFR.
- Involvement of private sector stakeholders.

5. Conclusions

The study attempted to ascertain the scope for Environmental Economics to play a significant role within the National Budget of Bangladesh. While no new knowledge has been generated, the study has been able to identify Environmental Fiscal (EFR) reform as an option to achieve this goal. Published evidence comments favorably for the application of EFR, even though the level of agreement on this matter is variable. Environmental Economics is emerging as a key discipline in the global discourse, and the same comments for EFR are applicable here as well. However, the study contains certain limitations. No primary data has been collected, and therefore no statistical evidence can be provided to either confirm or refute the main claim in this paper, and how it compare to the evidence found in other studies. So the next logical step will be to conduct an empirical investigation into the proposition of the study and frame policies accordingly to the findings. The working hypothesis has been that Environmental Economics will play a positive role in the National Budget. An empirical investigation therefore will need to examine variables which will either prove or disprove the hypothesis.

Environmental Economics as a discipline has all the attributes, which if correctly applied, can provide sustainable solutions to the society, environment and economy interface. Environmental economists have witnessed the application of economic instruments to several environmental issues, including preserving wetlands, lowering lead levels, and curbing acid rain. Bangladesh also needs to take such steps to save the environment as well as the economy of the country, given the mounting pressure

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on the natural resources of the country, and a steady economic growth observed in recent years. Under this scenario, EFR is a feasible option to consider. Other than this, the economists of Bangladesh need to formulate and implement inclusive policies in the National Budget of Bangladesh which will benefit the economy in the long run and enable to adjust to periods of turmoil and uncertainty with flexibility.

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