



ORIGINAL RESEARCH PAPER

IMPORTANCE OF ENVIRONMENTAL SUSTAINABILITY IN SUSTAINABLE DEVELOPMENT

Management

KEY WORDS: environmental taxation; environmental sustainability; life cycle costing

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ABSTRACT

Environmental sustainability is the need of the hour. With rapid industrialization and technological explosion, it is found that there is a huge damper on the ecosystem. Industrial ecology has started gaining momentum. Industry and the common man has a very important role in maintaining and preserving the ecosystem. The role of introducing environmental taxation is explored. A survey is conducted to find the awareness of the environmental damage and the acceptance of introducing an environmental taxation is explored. The research reveals that creating an awareness is the most important step to be undertaken followed by a different approach of accounting procedures. Environmental costs need to be included through life cycle costing approach is recommended.

INTRODUCTION

History reveals, governments always faced the problem of raising the much-needed revenue. A wide range of approaches to this problem exists to this day. Developed and developing countries have to approach the problem from their context. Although differences in population density as well as social and cultural factors account for many of these differences, environmental considerations are becoming increasingly important (Saner, 2000). However, the bottom line is individuals are responsible for the environment (Bina and Vaz, 2011).

Levying taxes tend to alter the behavior – taxes on labor discourage work effort; those on savings reduce the pool of capital available for investment; and those on investment discourage risk taking. Such tax distortions reduce society's overall economic well being. Economist Arthur Pigou argued that environmental taxes – which discourage "bads" such as pollution rather than "goods" such as work, saving or investment – can raise revenues without creating economic distortions (Ballet et al., 2013).

Furthermore environmental economists argue that environmental taxes will yield in obtaining additional revenue as well deter consumers from unnecessary use of the natural resources and will focus on conserving the resources. Environmental taxes thus help to reduce other taxes as well as remove distortions those taxes may cause. Environment tax would itself may result in few other distortions, but the revenue it generates may offset some of the distortions it creates.

The study of ecology asserts that sustainability can be realized by balancing the living species and the natural resources available within their environment. Resources must be renewable or replaceable to the quantum consumed to be sustainable. However, the modern use of the term sustainability has changed with intense industrialization and digitization. With internet and pervasive technology looming large, sustainability on the technology front is a challenge that calls for international and national laws. Ways of living sustainably entails reorganizing the living styles (with smart cities, ecovillages), reappraising economic sectors (green buildings, sustainable farming), redrafting work spaces (sustainable architecture), redesigning with recent technologies (smart grid, fusion power). Sustainability is hence viewed as achieving human-ecosystem equilibrium while sustainable development is a holistic approach involving temporal processes that lead to sustainability (Shaker, 2015).

ENVIRONMENTAL SUSTAINABILITY

There is a need to have a deep respect for the environment. This calls for relatedness and connectedness to nature by

mankind. This is possible only if living beings living on this planet are able to revere the earth and treat it as something precious. For environmental sustainability, a reverential respect has to be given to this planet earth and to the universe. Environmental degradation has become a serious impediment to economic development. Environmental degradation leads to the downfall in all disciplines because of imbalances in the ecosystem. Sustainable development has five major dimensions – economic, social, ecological, technological and institutional as shown in Fig.1. Economic sustainability is based on the monetary stability. Environmental stability is focused on the biological and physical systems stability and the social is maintaining the stability of social and cultural system. With the recent developments happening globally, the role of technological and institutional stability is also considered very important for sustainable development. Environmental ethics is emerging as a very important concept towards sustainable development (Caciuc, 2014; Damjanov, 2018; Sovacool et al., 2017). Among the dimensions, it is seen that environmental sustainability is very important for all living organisms to survive. It forms the bed on which development happens. A low for nature is a very important component for tackling any environmental issue (Crowley, 2013). It is hence essential to ensure there is stability of the ecosystem.

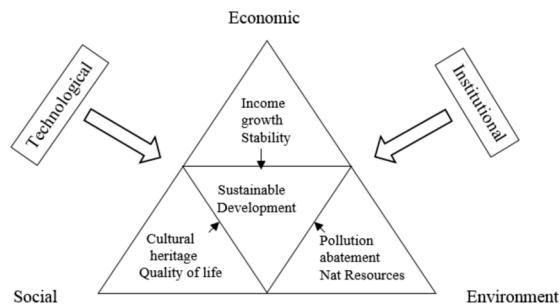


Fig. 1. Interdependency among the elements for sustainable development

To ensure environmental sustainability, environmental taxing can be introduced to ensure the ecosystem is preserved and conserved.

It will be good if environmental tax is introduced globally. And it is in the industrialized nations that a step by step introduction of carbon/ energy tax is most necessary because they are, by far, the largest per capita consumers of energy and resources and should therefore be first to move towards environmentally sound pricing (Loe and Kelman, 2016). This will encourage developing countries to take initiatives. When environmental taxes are introduced trade obstacles, socio economic and institutional obstacles will have to be faced.

While it is true that some countries would need higher environment taxes to achieve the same emission reduction efforts it is not necessarily true that this translate into higher macro-economic costs. It is how the carbon / energy taxes are implemented that will dictate economic costs and benefits. If properly implemented, the environment tax will not be regretted. This was proved when energy prices were high, economic performances were equally good in developed countries during the last decade. When energy price is increased through taxation, this will call for energy savings on one hand and extensive utilization of renewable energy on the other. Also higher energy prices are expected to bring in better economic benefits as was proved by several models.

A survey was conducted among consumers to find their opinion. 100 responses were collected. The main objectives behind the conduct of the survey was to study the awareness of environmental condition among public and will imposing environmental tax be useful in conserving and preserving the environment was examined. The responses were collected from people belonging to various walks of life such as industrialists, economists and academicians in Chennai.

Awareness

The responses obtained were analyzed. About 64 % of the respondents have felt that the world is going to face considerable danger because of environmental degradation. The rate of deforestation taking place every year in India is 5%. 24% of the respondents have rightly indicated this. The remaining 76% of the public are away from the mark. The best method to prevent pollution was next queried. 49% of the respondents felt that creating awareness among the public is the best method to prevent pollution rather than impose heavy penalty for polluters or give subsidy for environmental friendly products or supply pollution free equipment free of cost. The analysis indicates that awareness among the public has to be increased. Environment degradation has to be stressed and advertised through media /programs. Without this any effort to introduce environment tax will be futile.

Acceptance

If environmental tax is levied on polluting equipment, then 44% of the respondents felt that the price of the commodities will go up and the burden will be transferred to the user, while 36% felt that manufacturers will start producing non-polluting equipment in order to save tax. Only 6% felt that demand for the product will go down. When queried into what will be the reaction to environmental tax from the public and manufacturers, it is felt that there will be major opposition from public (51%) while only 12% will accept and welcome it. Among manufacturers it is felt that 43 % may accept and welcome the environmental tax while 21% may vehemently oppose it.

From the analysis, it was inferred that the design and management of industrial systems that need to be more sustainable ecologically. It must address societal needs which requires multidisciplinary participation. Changes in technology, consumer values and behavior and corporate and public policy are necessary to achieve a more sustainable society. Environmental costs consists of usual costs, hidden regulatory costs, liability costs and less tangible costs. The normal costs consisting of standard capital and operating revenues and expenses are considered as usual costs. Hidden costs include environmental costs including the regulatory costs. Liability costs include costs related to liability such as personal accidents, injury, and property damage. Intangible costs are costs related to company image etc. Life cycle costing is a useful tool that ensures all costs are considered. It is called cradle to grave costing method. Total life cycle design can be considered for ecological and economically sustainable products. In addition to production and manufacturing costs, total life cycle costing approach ensures ecological and social costing are also taken into

consideration.

CONCLUSION

GPI (Genuine Progress Indicator) has been introduced as the effective indicator for a nation. This indicator incorporates the environmental factors. Hence the future development must be focused to be environment friendly. Immediate steps are to be taken by government and other voluntary agencies to create awareness about the dangers of environmental degradation. The next step is to make the public understand that the introduction of environmental tax will have double dividend effect and suspected side effects will not be there. Introduction of environmental taxes after preparing the public will bring forth fruitful results and sustainability will be ensured. Life cycle costing approach can be adopted to ensure all costs are considered and it ensures sustainable development keeping environmental sustainability in focus.

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