TAXATION AS AN INSTRUMENT OF ENVIRONMENTAL PROTECTION

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Abstract

Industry and, indirectly, the consumer, have failed to pay for ait and water resources, treating them as "externalities". Thus, in one respect, the essential problem of environmental enforcement is to find methods and ways to compel industry and the consumer to assume the costs they have treated as external. This challenge entails giving a renewed attention to the subject of the role of sanctions in environmental enforcement. It is argued in this paper that regulatory activities in the field of environment ought not to rely wholly on essentially negative sanctions, whether civil or criminal. Rather, such activities ought to place some emphasis on economic inducements of sufficiently pursuasive nature to compel the assumption by industry of the costs it has hithertofore treated as external. For instance, there is more to taxation than mere revenue generation. Taxation can play a crucial regulatory role with a view to bringing about an "internalizing" of environmental (pollution) externalities.

INTRODUCTION

Air, water and other natural resources have traditionally been regarded as "free goods", but the enormous costs to society of past and present pollution show that they are not free. The environmental costs of economic activity are not encountered until the assimilative capacity of the environment has been exceeded. Beyond that point, they cannot be avoided. They will be paid. The policy question is how and by whom they will be

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paid, not whether. Basically, there are two ways. The costs can be "externalized" - that is, transferred to various segment of the community in the form of damage costs to human health, property, and ecosystems. Or they can be "internalized" - paid by enterprise.[1] This paper is concerned with the latter option - i.e. internalization of environmental costs of economic activity. The paper is divided into several sections. Section (a) identifies the problem of environmental externalities. The purpose of section (b) is to show that the market had hitherto nothing to offer for solutions to the problem of environmental (pollution) externalities and to introduce the reader to the imperative for externality remedies. Section (c) examines the concept of externality remedies and its content and outlines the objective of "ecology tax," also variously known as "environment tax" as species within the wider genus of externality remedies. Section (d) examines how ecology tax works to bring about an internalizing of environmental (pollution) externalities. Section (e) attempts to bring out the legal underpinnings of ecology tax. It zeroes in on the 'polluter pays' principle. Section (f) is concerned with the relevance of ecology tax to Tanzania. It starts by unfolding Tanzania's environmental (pollution) externalities, proceeds to identify the shortcomings of the regulatory framework for environmental quality control in Tanzania and subsequently, discusses the state of available taxation approaches to environmental quality control and conservation of natural resources.

(a) Environmental Externalities

Economists have studied social choice[2] and resources allocation problems since the time of Adam Smith and John Stuart Mill. A body of theory has developed which is applicable to environmental quality issues. An "externality" is one of the economic concepts and terms which began to be heard more often in the 1970s as economists got more involved in environmental matters.[3] The best definition of an "externality" is that given by Lochman and Conner. They define an externality as "a use of resources by a consumer (or producer) which has a direct effect on other consumers (or producers). Restated, on externality is an activity by party A which either imposes costs

on party B for which B is not compensated or gives benefits to B for which he does not pay".[4]

External costs, as understood by economists, are costs for which the manufacturer does not pay, and which, therefore, form no part of the cost of manufacture of the product for which the consumer is charged. They are the costs of use of air, water resources for which the public pay in some fashion, though not through the purchase of goods or services, they are calculated in cost-benefit analysis as part of the cost to the public.[5] Pollution is an example of this type of market imperfection known in economics as an externality.[6] In 1966 the U.S. Committee on Pollution had had occasion to address itself to the question of externalities. That Committee gave a pictorial illustration of the phenomenon of environment (pollution) externality in the following words:

> Our whole economy is based on taking natural resources, converting them into things that are consumer products, selling them to the consumer, and then forgetting about them. But there are no consumers - only users. The user employs the products, sometimes changes it in form, but does not consume it - he just discards it. Discard creates residues that pollute at an increasing cost to the consumer and to his community.[7] (Emphasis is mine)

(b) Externality Remedies

The concept of an externality recognizes that there are social costs and social benefits from use of resources apart from private benefits and costs. The general conclusion emanating from the extensive literature on externalities, which is concerned with devising mechanisms to influence individual decisions to correspond to the public interest,[8] is that, in cases of externalities, decision making cannot be completely private or decentralized to achieve maximum social welfare. For example, a polluter's resource use decisions should have to depend not only on his own satisfaction

but also on how his pollution affects the welfare of other producers and consumers. The orthodox view is that, here, the usual market system did not give proper incentives for use of resources in the public interest.[9] Proposed economic strategies to obtain an internalizing of the external (environmentally damaging) effects of the production process have been variously dubbed "externality remedies"[10] or "ecology tax".[11]

(c) Objective of Ecology Tax

The basic premise from which advocates of externality (pollution) remedies proceed is simple: regulatory activities in the field of the environment ought not to rely wholly on essentially negative sanctions, whether civil or criminal. Rather, such activities ought to place some emphasis on positive inducements of a primarily economic and sufficiently persuasive nature to compel the assumption of new economic costs in the form, say, of added expenses for pollution control equipment, added expenses in plant and production reorganization, added expenses in the use of more highly refined fuels, added expenses in the use of materials that are less likely to cause product dust or other emissions resulting from manufacturing as well as added costs in disposing of wastes in ways other than dumping it in the rivers and lakes, or on land, or disposing it in the air.[12]

Externality remedies are thus founded on the philosophy of motivation instead of punishment. In the broad view of the US Committee on Pollution:

> If the purpose of regulation is to reduce insults to the environment rather than to penalize the polluter, a range of sanctions, criminal, civil, equitable and administrative, as well as a range of positive incentives such as special tax treatment, including accelerated write-off for pollution control devices, subsidies for new experimental methods and the like may have to be provided. Other areas for exploration may include the use of effluent charges and other devices to use market pressures to internalize "external" costs.[13]

The Association of German Industry (BDI) has expressed

that philosophy thus:-

> Environmental policy based on free-market principles should rely on mechanisms that reward innovation and thereby provide incentives for the development of clean technologies. Just as prices and costs have steering and signalling functions for consumption and protection, benefits granted to users of low emission cars, higher depreciation for investments in advanced clean technologies, advisory services and consumer information have similar functions in encouraging environment-conscious behaviour.[14]

According to the BDI, "[the] objective of environment levies must be to change peoples' attitudes towards the environment ....."[15]

(d) The Mechanics of Ecology Tax

It is pertinent at this juncture to examine the steering objective of ecology tax in fostering environment-sensitive behaviour. The starting point in embarking upon an examination of the mechanics of ecology tax is to understand the root cause of ecologically irrational behaviour in resource use. According to Professor Hansmeyer, "overutilization of the environment and the consequent misallocation [of "external" costs] - are always caused by the absence of effective feedback processes which would immediately draw attention to undesirable uses and impose sanctions on the consequences".[16] Those feedback processes are non-existent. As observed earlier, the market hitherto provided no such mechanisms.

Ecology tax ensures to bring about feedback processes by diverting, though cost charging, the trajectory of external (environmentally deleterious) effects from the public back to the polluting industry/firm. The instrumental end result is more than clear: the effects would impinge upon industry directly and compel it to correct its behaviour with a view to lifting the pressure on the environment.[17]

(e) The Legal Underpinnings of Ecology Tax

Albeit economic remedies for pollution control have been emphasized above, we do not mean to suggest that economics is the only discipline which has something to offer for solutions to environmental externality problems. For instance, law and sociology have certainly a role to play in finding ways to effect social changes in environment-related behaviour. As regards the former, before any mechanism based on economic incentives can work to improve the quality of the environment, such mechanism must, to borrow the words of Engels, "assume the form of juristic motives in order to receive legal sanction".[18] The legal system can thus be viewed as a complement to economic remedies for environmental quality control problems. Acknowledgedly, the task of a researcher in environmental law is to establish if law - legislation, case law or a principle arising out of custom - exists for a given area and the content of that law.[19] The following discussion is a brief introduction to the polluter pays principle. In our opinion, this principle constitute the juristic edifice and foundation of externality remedies.

Polluter pays principle is an anglo-saxon term.[20] As an operational concept, this principle serves as a vehicle of allocation of environmental (pollution) externalities. As Professor Hansmeyer puts it, "[the] 'polluter pays' principle - as a principle replacing or simulating the market - has rightly also been adopted as the basis for attribution of costs in the field of environmental policy".[21] This principle enjoins that the adverse external effects caused by the polluter must be charged to him in full. For example, in the context of the OECD, where the "polluter pays" principle already occupies a central role in environmental policy, the principle requires members to charge polluters "the costs of such measures as are necessary to eliminate pollution or to reduce it so as to comply with the standards or equivalent measures which enable quality objectives to be met or, where there are no such objectives, so as to comply with the standards or equivalent measures laid down by public authorities".[22]

In the proper functioning of the "polluter pays principle", the polluter must, needless to say, be defined. In the opinion of Professor Hansmeyer, a polluter is:

> he to whom the environmental pollution can technically best be attributed, and who rather than any other, can be called upon to change his behaviour with a view to relieving the burden on the environment .....[23]

In this definition, the polluter is not the "ultimate originator" or "last polluter" or just any guilty party. The polluter is here defined in totally pragmatic terms - by reference to attribution of the adverse external effects caused and to be charged and by reference to the need for bringing about changes in policy with the aim of improving the environment. For technical reasons, therefore, the main sector to which the "polluter pays" principle can be applied will be that of production.[24]

Essentially the "polluter pays principle" is an economic efficiency measure. As a normative category the principle is an instrument or vehicle of social action/change.[25] Its function and purpose is to encourage industries to internalize environmental costs and reflect them in the prices of products.[26] Its operational and functional value lies in providing an effective feedback process which draws attention of industry to undesirable resource uses and impose sanctions on the consequences of such use, thereby compelling it to rectify its wrong conduct.

(f) <u>The Relevance of Ecology Tax to Tanzania</u>

Approaches to environmental policy based on free-market principles had first been advocated in developed, free-market economies in the 1970s. It was not until 1987 that the use of economic instruments in environmental quality control was urged for all states. In its landmark report, the World Commission on Environment and Development urged states to make effective use of such instruments.[27] The recognition of the universal significance of economic remedies for environmental

quality problems underscores the global nature of environmental (pollution) externality problems. Tanzania, for one, has not been spared from those problems, which are inextricably linked to the quest for economic development. There is a growing body of literature that furnishes empirical evidence on an insidious but progressively increasing problem of environmental pollution in Tanzania.[28] In more recent times, newspapers have unfold massive industrial pollution of Lake Victoria. In 1990 the Government of the United Republic of Tanzania promulgated a National Investment Promotion Policy in recognition of the important role of private foreign investments in the development of the economy. That policy was followed by the enactment of the National Investment (Promotion and Protection) Act, 1990[29] which not only gave legislative effect to the policy but also established the legal and institutional framework for investors to operate within apart from providing investors with incentives and guarantees with a view to encouraging investments. Predictably, a corollary of these policy and legislative developments, which evidence the trending towards a free-market economy, will be the stimulation of industrial development and the concomitant heightening of the potential for environmental pollution. The environmental costs of economic activity are not encountered until the assimilative capacity of the environment has been exceeded. The policy question is how and by whom they will be paid.[30] In the following discussion we point to the weaknesses of existing sanctions/devices for meeting the challenge posed by this policy question.

In the past, regulatory activity in the field of the environment in Tanzania has preponderantly relied on sanctions of criminal and civil nature. However, these sanctions are neither effective nor appropriate as devices of environmental quality control. The mistaken emphasis on criminal penalties and civil liability regimes in environmental regulation is on the punishment of the

culprit and compensation of the pollution victim, respectively. In addition, if criminal penalties as presently used had any capacity for deterrence, that aim might long be accomplished.

The trivialization of environmental violations resulting from minimal custodial penalties and fines prescribed by statutes means that deterrence is minimal or non-existent. The fines authorized under most environmental laws are still entirely out of proportion to the amount of damage the violator can inflict upon the environment.

The imposition of criminal penalties on body corporates, which incidentally, form the majority of environmental culprits, especially in the realm of pollution, with the impact of the penalty diluted by the corporate form is a serious shortcoming in environmental regulation in Tanzania. In addition, criminal and civil sanctions partake of the old approach to environmental policy, dubbed the "standard agenda", an approach that concentrates on environmental effects rather than the policies and actions or inactions that are the source of those effects.[31]

As Professor Sax has observed, "[c] ourts have an important and fruitful role to play in helping to promote rational management of our natural resources".[32] In Tanzania the court has in the recent past proved to be a resource for dealing with resources in three cases[33] which marked the coming to age of environmental quality control.[34] Much as this development is welcome, it is ill-suited to deal with the problem of attribution of environmental (pollution) externalities. The reason is clear: when balancing the claims of private litigants, a court need not consider "external" costs - the costs of air, water resources, etc. As a matter of fact, the bulk of seemingly environmental litigation is essentially intended to serve some other narrow and specific purpose, to wit adjustment of private property interests.[35]

Plea for Taxation Approaches in Tanzania

It is clear that existing regulatory framework in the field of the environment lacks the capacity for providing that

feedback process between the polluter/environmental violator and the harmful environmental effect. Initiative towards bridging that gap is long overdue. The existing regulatory framework must be supplemented by economic approaches if the purpose of environmental regulation is to minimize abuse of the environment rather than to punish the polluter or to compensate the victim.

For over two decades, economists have argued that market-based approaches should supplement the current system of direct controls on individual polluters that forms the cornerstone environmental policies of many nations. Available economic approaches include the use of effluent charges especially in the context of water quality control.[36] In an effluent system the agency that regulates environmental quality imposes a charge on the discharge of pollutants but does not directly control the quantity discharged.[37] Other studies endorse the use of tax incentives to encourage recycling of used oil[38] and clean technologies[39] and the use of marketable permits.[40] In a system of tradable permits the regulatory agency determines the number of permits to be sold. The quantity of pollutants that can be discharged by each firm/company is limited by the number of permits that the firm/company holds. Thus the agency controls the quantity discharge but not the price at which the permits trade.[41] The use of taxation approaches to environmental quality control is not restricted to pollution. It has been extended to environmentally sensitive products, such as timber.[42] In a country part of which is on the verge of desertification, thanks to deforestation, which is what Tanzania actually is, imposition of timber tax may provide a useful device for protection of the depleting forestry resources.

Tax measures should not be stereotyped. The proper choice of economic instruments should depend on clearly defined national goals and priorities. The environmentalist in Africa is not simply concerned with conservation of natural resources, which is central to the field in Europe and North America, but in the African sense ought to be

concerned with the kind of environmental policy and normative measures which will eradicate problems of underdevelopment.[43] Taxes and levies always have an impact on price and cost patterns in business. Thus, all tax measures in the field of the environment must be checked with reference to the following point: Do the intensity and pace of the tax take into account the need of industry and the economy as a whole to remain competitive domestically and internationally while contributing towards restructuring national environmental policy in line with environmental quality goals?

CONCLUSION

Tax measures are a tool of restructuring environmental policy in line with environmental quality goals. Their greatest merit lies in achieving what the existing regulatory framework in the field of the environment has miserably failed to attain: creating a feedback process between the polluter/environmental violator and the environmentally deleterious consequences. The instrumental consequence of this feedback mechanism is to bring about a change in peoples' attitudes towards the environment. However, in adopting a taxation approach to environmental quality control, everything must be kept in perspective in order for the necessary structural changes to occur without creating a stumbling block to the development process.

NOTES AND REFERENCES

1. *WCED, Our Common Future, Oxford University Press, Oxford, 1987, at p.220.*

2. *Social Choice problems are problems of making public decisions when there are groups or individuals with varying preferences for benefits and costs. See Loehman, E., and Conner, J.R. "Economic Perspectives on Environmental Decisions". In Environmental Law: People, Pollution and Land Use, edited by Bill Shaw, West Publishing Co., St. Paul, Minnesota, 1976 at pp.89-90.*

3. *See e.g., Solow, Robert, M. "The Economists' Approach to Pollution and its Control". Science 173 (1971): 498-503; Randals, Allan. "Can We Trust The Market to Solve Externality Problems?" In Economics and Decision Making for Environmental Quality, edited by Edna Loehman*

and J. Richard Conner, pp.47-64. The University Presses of Florida Gaineville, Florida, 1974.

4. *Supra note 2 at p.91. For as in-depth study of the concept of externality see Buchanan, James M., and Stubblebine, William Craig. "Externality" Economica NS. (1962): 371-84.*

5. *Committee on Pollution, National Academy of Sciences - National Research Council Waste Management and Control 3-10 (A Report to the Federal Council for Science and Technology 1966). In Environmental Law: Sources and Problems, edited by Frank P. Grad, Mathew Bender, New York, 1971, p.1-18.*

6. *For this view see supra note 2 at p.91.*

7. *Supra note 5 at p.1-11.*

8. *See supra note 2 at p.92.*

9. *See ibid., at pp.91-92. See also Hansmeyer, K.H. "'Polluter Pays v. 'Public Responsibility'", Environmental Policy and Law 6 (1980): 23-24 at p.23.*

10. *See supra note 2 at p.92.*

11. *See BDI (Association of German Industry) "Economic Instruments in Environmental Policy" Environmental Policy and Law 20/4-5 (1990): 140-141 at p.141. Professor Hansmeyer prefers to refer to this phenomenon as "environment tax". See supra note 9 at p.24.*

12. *Supra note 5.*

13. *Ibid., at p.1-21.*

14. *Supra note 11.*

15. *Ibid.*

16. *Hansmeyer, Supra note 9.*

17. *For a description of this feedback mechanism see Hansmeyer, supra note 9 at pp.23-24.*

18. *Engels, F. "Ludwig Feuerbach and the End of Classical German Philosophy" in Marx, K. & Engels, F, Selected Works Vol.II (Moscow:*

Progress Publishers, 1970) at p.371.

19. *The author is greatly indebted to Professor Okidi for this inspirational point. See Okidi, O. "Environmental Law in African Universities" Environmental Policy and Law 6 (1980): 18-22 at p.22.*

20. *Hansmeyer, supra note 9 at p.23.*

21. *Ibid, For an in-depth study of this allocational function see UNCTAD, Trade and Development Board, 38th Session, 1st Part, "Policies and Mechanism for Achieving Sustainable Development", TD/B/1304, p.11, para.58.*

22. *Anonymous, "Polluter Pays", Environmental Policy and Law 3 (1977): 142. In 1972 the member countries of OECD agreed to base their environmental policies on a Polluter Pays Principle (PPP). See OECD, "Guiding Principles Concerning International Economic Aspects of Environmental Policies", Council Recommendation C (72) 128, Paris, 26 May, 1972.*

23. *Hansmeyer, supra note 9.*

24. *Ibid.*

25. *For a contemporary exposition of the instrumentalist function of law see Shivji, I. "Law in Independent Africa: Some Reflections on the Role of Legal Ideology" Ohio State Law Journal 46 (1985): 689-695.*

26. *Supra note 1 at p.224.*

27. *Ibid, at pp.220-222.*

28. *See e.g., Bryceson, I. Pollution of Dar es Salaam Coastal Environment by Industrial and Domestic Effluents (Unpublished). Paper presented to the Workshop on Development of Marine Sciences in Tanzania, Zanzibar, 1982; Bryceson, I. An Assessment of the Ecological Impact on the Marine Environment of Present and Proposed Sewerage System for Dar es Salaam (Unpublished Report). Dar es Salaam, Howard Humphreys & Partners, 1979; Steinbach, A. Industry and Environment in the Msimbazi Valley Drainage. (Unpublished Report). East African Society and Environment, University of Dar es Salaam, 1980; UNEP, Socio-Economic Activities that may have an Impact on the Marine and Coastal Environment in the East African Region. UNEP Regional Seas Reports and Studies No.41, UNEP, 1984; UNIDO/UNEP, Industrial Sources of Marine and Coastal Pollution in the East African Region. UNEP Regional Seas Reports and Studies No.7, UNEP, 1982.*

29. *Act No. 10 of 1990.*

30. *Supra note 1.*

31. *Ibid, at p.310. For a detailed study of the characteristics and differences of the two approaches see WCED, "Mandate for change: Key Issues, Strategy and Workplan", Geneva, 1985.*

32. *Sax, "The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention" 68 Michigan Law Review (1970): 471 at p.565.*

33. *The first case pitted Tabata residents against the Dar es Salaam City Council over the hitherto age-old dumping of waste at the infamous Tabata dumping site. The second case brought Tegeta residents at loggerheads with the same authority over a similar incidence. The third case involved some Moshi residents and the National Chemical Industries over the construction of a potentially pollutive pesticides plant in Moshi municipality.*

34. *For this instrumentalist role of the courts see e.g., Stoel, T.B. (Jr.) "Environmental Litigation from the view point of the Environmentalist" Environment Law Revies (1975): 707-714. Hanks, E.H. & Hanks, J.E., "An Environmental Bill of Rights: The Citizen Suit and the National Environmental Policy Act of 1969", Environmental Law Review (1971): 147-198; Sax, J.L. & Dimento, J.F. "Environmental Citizen Suit: Three Years of Experience Under the Michigan Environmental Protection Act" 4 Ecology Law Quarterly (1983): 1.*

35. *See e.g., Lohrmann, "The Environmental Law Suit: Traditional Doctrines and Evolving Theories to Control Pollution" Environmental Law Review, (1971): 199-254.*

36. *See e.g., Brill, Revelle & Liebman, "An Effluent Charge Schedule: Cost, Financial Burden and Punitive Effect". 15 Water Resources Research 1979: 993; Ferrar, "Progressive Taxation as a Policy of Water Quality Management", 9 Water Resources Research 1973: 563; Upton, "Optional Taxation of Water Pollution", 4 Water Resources Research 1968: 865.*

37. *Revesv, R.L. "Incentives for Environmental Protection", 2 Ecology Law Quarterly 1984: 451.*

38. *See e.g. Gadda, D.G., "Taxation as a Tool of Natural Resource Management: Oil as a Case Study" 1 Ecology Law Quarterly 1983: 749;*

Irwin, W.A., "Used Oil: Comparative Legislative Controls of Collection, Recycling and Disposal" 6(4) Ecology Law Quarterly (1978): 699-754.

39. *Anonymous., "Lower Taxes for Quiter Aircraft" Environmental Policy and Law, Vol.5 1979, at p.35.*

40. *See e.g. B. Acherman, S. Rose-Ackerman, J. Sawyer and D. Handerson, The Uncertain Search for Environmental Quality 262-81 (1974); Tietenberg, the Design of Property Rights for Air Pollution Control, 22 Public Policy 1974: 275; Note, "Technology-based Emission and Effluent Standards and the Achievement of Ancient Environmental Objective". 91 Yale Law Journal 1982: 792, at p.809-13.*

41. *Supra note 37.*

42. *See e.g. Unkel, W.C., & Cromwell, D., - "California's Timber Yield Tax", 6 Ecology Law Quarterly 1978: 831. It is interesting to note that taxation approaches to sustainable development are also advocated on the international level. Suggested international environmental tax measures include: a global tax; fossil fuel consumption taxes; Pollution taxes, Greenhouse permits, global common taxes; taxes on international trade in environmentally sensitive products; taxes on weapons as well as taxes on consumer items. See Human Development Report 1992, Oxford University Press, Oxford, 1992 at p.84.*

43. *Okidi, supra note 19.*