

# Taxing 'Grey' Products— Market-based Instruments

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*Taxing production of and consumption of 'grey' products (antithetical to 'green' products) is quite likely in view of the deteriorating environment and increasing awareness and clamour for sustainable environment in developing countries. The concept and practice of market-based instruments (MBIs), which can help in mitigating the environmental pollution, is discussed in this article, which also brings together experiences of some developed and industrialised nations in implementing MBIs. Kulbhushan Balooni, Assistant Professor at the Indian Institute of Management, Kozhikode, suggests that it has now become essential for factoring environmental considerations into business decision-making, and that companies will have to adhere to the maxim of 'survival of the greenest' instead of, and in addition to, 'survival of the fittest'. This concept also merits more attention from researchers and policy makers.*

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## **Introduction**

Before we set out to discuss environmental taxes and other market-based instruments (MBIs), it is essential to define 'grey' products, an antonym of 'green' products. A product is 'green' when its environmental and societal performance, in production, use and disposal, is significantly improved and improving in comparison to conventional or competitive product offerings (Peattie 1997: 201), i.e., they are sustainable from the environmental point of view. When a product is unsustainable from the environmental point of view, it is termed as 'grey'.

In India, the government has identified 18 categories of industries as highly polluting. We can say that these industries are producing grey products. These include sugar, fertilizers, cement, distillery, aluminum, petrochemicals, thermal power, caustic soda, oil-refineries, sulphuric acid, cluster of tanneries, copper smelter, zinc smelter, iron and steel, small-scale pulp and paper, dye and dye intermediate, pesticide manufacturing and formulation (Kuik 1997: 110). A proclamation saying, 'close down all these polluting industries' will be irrational. Moreover, total abatement of pollution during the production and

consumption of products and services can not be achieved—as explained by the *first and second law of thermodynamics*. It is possible that flow of residuals back to nature can be delayed—through not prevented—through recovery, recycling, and reuse (Callan and Thomas 1996: 7). The other way out is that products can have: an extended life span, be made of renewable materials, not pollute the environment, be energy efficient in production and consumption, and require minimal packaging (North 1997: 8). So the question of what represents a 'green' product is difficult to answer. There are absolute green products, which actually contribute to environmental improvement about which there will be no debate. For other products it is a question of the degree as to whether they are relatively green or grey, and this can change significantly according to the weightings that are attached to different forms of environmental impact (Peattie 1997: 201).

In this article, the importance of the MBIs, which can help in mitigating the environmental pollution, is sought to be highlighted. This kind of surcharge on goods is even not in a nascent stage in most of the developing countries. This subject merits study in the context of developing countries. This article also brings in together the experiences of some of the developed and industrialized nations in implementing MBIs. However, this paper does not answer to the questions of how to use the revenues from the environmental taxes, using it as an instrument for income redistribution and other related issues, which are broad subjects and have to be discussed at some other level.

#### **Two Recent Accounts in India**

Literature is replete (e.g., Callan and Thomas 1996, Hanley 1997, Kuik *et al* 1997, Mehta *et al* 1997, Thalmann 1997, Kohan 1998, Xepapadeas 1998) with the propositions of implementation of MBIs to curb the environmental resulting from the production and consumption of grey products. Here, we summarize two such recent studies, which

give direct/indirect overture to the implementation of MBIs in the Indian context, one report by Government of India (GoI 1999) and a note by the Centre for Science and Environment (CSE 1999) which has appeared in the popular press.

It was a landmark in the history of India in context of the environment, when the *Economic Survey* for the year 1998-99 came out with a special feature. One chapter of this survey (GoI 1999: ch 8) has dealt in detail about the present scenario of the 'environment and forests' in the country. This chapter also deals with abatement of pollution in the country and suggests a number of mechanisms to curb it, like: environmental audit, adoption of clean technologies in small scale industries, development of environmental standards, pollution monitoring and review, economic instruments (*ibid*: 936-939). It also revealed that efforts are being made in this direction to integrate economic and environmental planning and a variety of incentives are being promoted to adopt efficiency enhancing and waste minimization practices. For example, enhancement of cess rates on water consumption, duty concessions on import of certain pollution control equipments, and accelerated depreciation on pollution abatement equipment (*ibid*: 939). To facilitate a wider introduction of such instruments, the GoI is analysing the MBIs such as taxes/charges for industrial pollution abatement.

It is not only the GoI, which has come into action to save the environment of the country after the fall out of the Earth Summit in Rio de Janeiro in June 1992—in this Summit, more than a hundred heads of government adopted a global action plan called Agenda 21 aimed at integrating environmental imperatives with developmental aspirations. Efforts are also being made in this direction by the non-governmental organisations (NGOs) to raise the environmental concern among all the sections of the society. Here, we give an example of such efforts by CSE, a leading NGO in the country to stir up a feel-

ing for the environmental concern among the people investing money in the polluting industries. This NGO came up with almost one full page note in *The Economic Times* featuring the rating of 28 pulp and paper industries in India according to their environment-friendly approach (CSE 1999: 13). All of these companies are listed in the major stock exchanges. This Green Rating Project by CSE looks at the complete raw material to production to production process. The project found that there was a wide variation in the scores earned by these industries ranging from 42.75 to 19.01 but none of them deserved full points. The last 12 industries in the rating list just had one point in the scale (in a five-point scale). This first ever such an attempt in the country sends a clear message to all the investors and public in large to be aware of the damage caused by these industries to the environment.

These two studies clearly show that it is possible that MBIs and taxation of production and consumption of grey products will be introduced in the near future in India.

### **Market Failures and Environmental Degradation**

The market in the economic sense is a social institution that facilitates the free exchange of commodities between buyers and sellers, usually for money; relative prices are determined by demand and supply (Kerr *et al* 1997: 66). In other words, it can be defined as an exchange institution that serves society by organising economic activity (Singh 1999: 22). It is pre-supposed that markets work efficiently i.e., there is efficient allocation and utilization of resources. However, it is not always true. For example, in the case of developing countries, markets for natural resources and their products are highly imperfect and consequently market prices do not reflect real resource costs (in terms of supply) and real use value (in terms of demand) (Singh 1999: 27). There is also a lot of government intervention in such markets in the form of subsidies, administrated

prices, rationing and quotas. Besides, public goods, imperfect information, nonexistence of markets (Callan and Thomas 1996: 68) and externalities—spill-over effects damaging environment during production or consumption of a good, in the developing as well as developed countries also result in inefficient market conditions. These conditions are collectively termed as 'market failures' and are responsible for the environmental degradation to a larger extent.

It is not only the market failure, which is responsible for environmental degradation. Marketing has also been identified as one of the factor responsible for heightening the rapid environmental degradation by stimulating individual human consumption (Gupta 1998).

As a key driver behind the expansion in consumption and production since the late 1950s, marketing has contributed strongly to a level of economic growth, which is not environmentally sustainable (Peattie 1997: 195). For details see Coddington (1993) and Peattie (1997).

Now the question arises, what is being done to take care of the market failures so as to check the environmental deterioration?

The fundamental model of economic activity is represented by the '*circular flow model*', the first model students learn about in introductory economics. However, this model does not explicitly show the linkage between economic activity and the environment, though it is implied (Callan and Thomas 1996: 4). According to Singh (1999: 19), in response to threats to sustainability, a new paradigm is emerging '*eco-nomics*', which focuses on internalization of environmental costs into conventional micro-economics and macro-economics. The emergence of '*natural resource economics*' and '*environmental economics*' in the recent years is trying to accommodate these market failures in the conventional economic analysis to reflect

real resource costs (in terms of supply) and real use value (in terms of demand) of the natural resources and their products. The former deals with the flow of resources from nature to economic activity; the latter deals with the flow of residuals from economic activity back to nature, and the explicit relationship between economic activity and natural environment is taken care by the '*materials balance model*' (Callan and Thomas 1996: 5-7).

### **Taxing Grey Products**

There are some MBIs (economic instruments), which have already been developed or are still in the embryonic stage to take care of environmental considerations while pricing the products, whose consumption or production results in unsustainable environmental impact. In India, the Policy Statement for Abatement of Pollution, 1992, favour the use of MBIs for pollution control, wherever feasible (Mehta et al 1997: 71).

### **The Market Approach**

The use of MBIs in environmental policy has a long history on the theoretical side and a short but rapidly growing one on the empirical side (Markandya 1997: 335). The traditional economic approach to correcting externalities comes from the economist Pigou, who reasoned that taxes and subsidies could be used to encourage economic agents to internalize the externalities (Nadkarni *et al* 1997: 72). Thereafter, a lot of development has taken place in this direction to mitigate pollution through economic instruments. It has been suggested that the increased use of MBIs form the lynch-pin of any future-oriented environmental policy or policy for the sustainable development and it also represents an important step in the realising the concept of tying environmental policy to sustainable development into reality (Albrecht 1997: 332).

MBIs can take many forms. Thalmann (1997: 36) have classified environmental taxes into three categories:

- (i) Taxes on natural resources: primary goods, land, fossil energy. Some of these goods are free due to lack of property rights;
- (ii) Taxes on intermediate goods (fuels, electricity) or final goods (consumer goods, packaging); and
- (iii) Taxes on emissions: materials discharged into the environment, garbage, noise, etc.

Table 1 presents different variations of environmental taxes (emission taxes, output taxes, and user charge) and other MBIs (tradeable emission permits, deposit-refund systems, fiscal incentives, and subsidies) with examples drawn from the industrialized nations.

The implementation of these MBIs is not an easy task as complete property rights are a prerequisite to such kind of market systems, which involves a lot of cost (the transaction costs). The negative externalities arising from production and consumption of grey products, are itself the outcome of incomplete property rights. Some of the circumstances, which determine the relative success of different types of instruments, are: severity of damage; non-linearity—environmental damage progressively rise if total pollution exceeds some threshold level; time and space dependency; large variation in control costs; complex process; poor measurability of emissions; poor accessibility of target groups; and private versus public enforcement (Kuik *et al* 1997: 42-50).

### **The Institutional Approach**

#### *Legislation*

The 1970s saw a new surge of legislation activity and institution building for environmental regulation (Kuik 1997: 72). The enactment of Water (Prevention and Control of Pollution) Act of 1974 was the first step in this direction followed by others. To name a few of them are: The Water (Prevention and Control of Pollution) Cess Act of 1977; The Air (Prevention and Control of Pollution) Act,

| <b>Table 1: Different variations of Environmental Taxes and MBIs</b> |  |   |   |
|--|--|---|---|
| <b>Environmental Taxes/MBIs</b>                                      |  | <b>Example(s)</b>   |   |
| Pollution Charge (Polluter-Pays Principle)                           | Effluent/ Emission Taxes                           | An effluent/emission tax per unit of waste released in the environment. Well known as 'Pigouvian tax' or 'effluent fee'.  | In Italy, tax is charged on release of polluted water in the environment. For air emissions, taxes have been introduced for CO <sub>2</sub> in the Scandinavian countries and in the Netherlands. Use of effluent charges to control the noise pollution generated by aircraft in Japan and Switzerland.  |
|  | Output/ Product Taxes                              | Output or product taxes (or charges) levied on products that are environmentally harmful when used in production or consumption processes or when consumed.   | Charge on the use of plastic containers and packagings in Italy for financing recycling. Gasoline consumption is taxed in USA, Britain, France (tax rate 77% of the gasoline price), Germany and many other countries.  |
|  | User Charge  | A fee levied on the user of the environmental resource based on the costs for treatment of emissions or effluents that adversely affect those resources.  | Waste water tax and municipal solid waste tax in Italy for partial financing of collection and treatment. In Seattle, consumers of waste disposal services are charged higher prices as the volume of their disposal activity increases.  |
|  | Tradeable Emission Permits/Pollution Permit Market | Involve the determination of a total level of allowable emissions and then distribution of these permits to the firms. After their initial distribution, permits can be traded subject to a set of prescribed rules.                        | Marketable permits have been used to phase out lead in gasoline in USA. The Environmental Protection Agency instituted a trading system whereby refineries who achieved more than the required reduction could sell the surplus to those who did not meet the reduction by the appropriate dates.   |
|  | Deposit-Refund Systems                             | The main target is the evidence of pollution by returning potentially polluting products or their residual. Under this system a deposit is paid on the potentially polluting product and the refund follows upon the return of the product. | Used in Italy for promoting Chlorofluorocarbons collection and recycling or disposal. Used in USA to encourage proper disposal of beverage containers.  |
|  | Subsidy  | Subsidies are also given to the firm for reducing emission below a given benchmark. These incentives encourage the polluting firms to set up abatement plants.  | Payment of US\$21 per ton to tire recyclers for tires recycled or incinerated for energy recovery in Utah in USA.   |
|  | Fiscal Incentives                                  | Fiscal incentives to the polluters are one of the alternatives to curb the growing menace of pollution. For example, rebates in excise duty/customs duty lower the purchase prices of equipment's used in pollution abatement.              | A 100 per cent depreciation for pollution control equipment (1993-94 budget) in India, which amounts to treating this capital as if it were a current expenditure for the purpose of computation of corporation income tax. Tax reduction on unleaded gasoline in Italy to promote use of unleaded gasoline. Property tax exemptions in Indiana in USA for buildings, equipments, and land used in recycling waste into products. |

*Source:* Xepapadeas (1997: 11, 17, 21-23), Majocchi (1997: 52), Markandya (1997: 339, 355), Callan and Thomas (1996: 129-148), Mehta et al (1997: 83).

1981; The Environment (Protection) Act, 1986; The Hazardous Waste (Management and Handling) Rules, 1989; and The National Environment Tribunal Act 1995. A paper and pulp mill based in the South India, polluting a perennial river Chelivayar is facing operational problems in view of legislation and resistance from the local people affected by the water pollution caused by the toxic effluents released by the mill.

*Citizens' Suit Provision and Role of Judiciary*  
Besides, these legislative activities, as an instrument of pollution abatement in India, citizens' suit provision in the form of Public Interest Litigation and role of judiciary in pollution abatement have brought a revolutionary change and awareness for the environment. For example, keeping in view the high levels of suspended particulate matter in Delhi, the Supreme Court of India has ordered that all the diesel buses in Delhi should move to compressed natural gas by March 2001, which will reduce particulate emissions by 30-35 per cent (Agarwal 1999: 37). In another significant ruling on April 29, 1999, the Supreme Court ordered the automobile industry to adhere to stringent emission standards. Besides restricting the sale of cars that comply with Euro I norms to 1,500 (1,250 petrol and 250 diesel) per month in National Capital Region (NCR) (Down to Earth, May 31, 1999: 13). Moreover, all car manufacturers wanting to sell their vehicles in the NCR will have to meet the Euro II norms by April 1, 2000 as per the order of Supreme Court (ibid: 3). This means that inferior engines can not be sold at all.

There is no dearth of the cases where many environmental problems have been solved through Public Interest Litigation. Among others, M.C. Mehta, a practicing advocate and a one-man army, has consistently been taking interest in matters relating to environment and pollution. He has brought many of the grey culprits to the court. See Diwan and Diwan (1997: 377-664) for some of the leading environment cases.

### **Lessons and Policy Implications for Developing Countries**

The lessons and policy implications for developing countries in context of the preceding discussion have been summarised as follows:

#### ***Factoring Environmental Considerations***

The best way is to avoid environmental taxes imposed by a government; hence loss of revenue for a company in the near future in developing countries is to take care of the environmental considerations into the business-decision-making at the earliest before it is too late.

According to Khare (1998) and Mishra (1998), it has now become essential for explicitly factoring environmental considerations into business-decision-making.

Take an example from Germany. In a survey on the greening of purchasing (North 1997: 63), an overwhelming majority of the German manufacturing firms interviewed considered environmental criteria as very important for purchasing decision. Their motives to do so ranked as follows: legal requirements, image considerations, ethical motives and cost ranked only fourth.

It has also become important factoring environmental considerations into our concepts and definitions of business success (Wahal 1998). The environmentally unconscious consumer may give managers the comparative feeling of not being threatened by the 'Green Wave', these enterprises may be trapped by companies which have already adjusted to the new challenge (North 1997: 11). The companies like BMW and Volvo argue over who produces the greenest car (Peattie 1997: 201). Toyota, Nissan, Honda, and Mazda in Japan are intensely focused on developing cleaner-running engines and superior catalytic converters (Callan and Thomas 1996: 43). Japan and German penetration into the American automobile market could not have been so successful if

American manufacturers had not misunderstood their consumers' need for fuel economy and greater quality (Denton 1994: 35). So if the car manufacturing companies in U.S.A. do not follow the suit of their rivals in Japan and Germany, then they will be losers in the long run. But in the Indian automobile market, its going around the other way. The European and Japan automobile manufacturing companies are flooding Indian automobile market with their collaborating counterparts, the diesel models for the obvious reasons. Back home, are the environmental conscious customers.

### ***International Trade and Environment***

The linkages between the international trade and environment have been the subject of many debates in recent years (Faber 1996: 79) and moreover, this relationship is exceedingly complex, requiring careful analysis (Swanson 1996: 143). Here we discuss two such issues, environmental dumping and pollution havens, which have a serious repercussion on the environment of the developing countries and necessitates introducing the market approach and the institutional approach to check environmental pollution.

Industrial countries have generally been more successful than developing ones in seeing to it that export product prices reflect the cost of environmental damage and of controlling that damage but in the case of exports from developing countries, such costs continue to be borne entirely domestically (Singh 1999: 29). The latter case is termed as *environmental dumping*. Environmental dumping occurs when environmental costs of a particular product are externalized; as a result products are sold below the actual cost of production, or sold abroad for less than the price at home, and if such dumping causes injury to the importing country (Agarwal 1997: 249). This kind of environmental damages in the developing countries necessitates some kind of MBIs to tax the grey products.

Environmental dumping is more prevalent in the case of developing countries. These countries have adopted liberal economic policies in the recent years, which have lead to the attraction of industries that deplete resources or pollute the environment (Faber 1996: 79). For example, the Government of Brazil gives direct subsidies to those converting tropical forests in Amazon into cattle ranches to produce beef for export purposes. In this case the price of exported beef does not include the costs (defensive expenditures) incurred by Brazil to mitigate the environmental damages like soil erosion, loss of bio-diversity. Though the instruments of domestic environment policy such as prohibition, levies, taxes and subsidies have an influence on the international competitiveness of industries (ibid: 79) but as a consequence such policies have a negative outcome for the environment. It is like that nations that do not count the full environmental costs in the price of their exports are in effect subsidizing their exports as surely as if they have taxed their citizens and transferred the money to the exporters (Agarwal 1997: 249). This is not true in the case of industrialized countries as they have MBIs and strict legislation to keep a check on environmental dumping.

Pollution haven is another case, an outcome of the international trade, which is damaging environment in the developing countries. Due to consolidated laws at home, industrialized countries are dumping hazardous waste in the poor developing countries, i.e., pollution havens. African Nations call it *garbage imperialism* or dumping of the West's waste into Third countries (ibid: 250). It has been estimated that annually there are over 600,000 tons of net exports from OECD countries, with at least eleven developing countries being significant recipients of such waste (Richardson 1991 quoted in Johnstone 1996: 157). This one way-traffic is still going on even when the Basal Convention (which took effect in 1992) prohibits trans-boundary movements of hazardous waste and is aimed

at protecting countries from dumping of hazardous waste. The story of Alang in Gujarat, the hub of shipbreaking industries, pollution haven, quite often appears in the Indian dailies, telling the damage being inflicted on the environment. The Indian companies can not think of dumping their waste in industrialized nations. These companies have freedom to do so on their own soil without paying any damaging costs to the effected ones.

Other way environment can also have serious repercussions on the trade also. There are also many cases of unilateral ban on the import of goods, which are harvested or ~~manufactured in unsustainable way.~~

For example, in the early 1980s, USA had justified a ban on imports of tuna and tuna products from Canada on grounds of conservation of exhaustible natural resources (Reinhardt and Vietor 1996: 4-13). Similarly, the U.S.A. banned imports of tuna from Mexico in order to make Mexico adopt their rules for protection of Dolphins (ibid: 4-4). Pressure is also being built up to realize the unilateral bans. For example, the Netherlands has advocated the use of unilateral bans of imports of timber from countries whose exploitation is not managed sustainably (Johnstone 1996: 164).

In the coming days the polluting companies will face resistance from the public, the government, the importers to produce green products and they should be ready to face these new developments.

#### **Utilisation of Proceeds from Environmental Taxes**

The revenue collected from such environmental taxes is expected to be transferred to the projects meant for environmental amelioration. But will this really take place in the developing countries.

There is one caveat from the government side in the utilization of the proceeds from the environmental taxes. The government

may claim that it has environmental concerns and fills its empty coffers with the proceeds from environmental taxes—it is altogether different if the explicit aim of collection of environmental taxes is to generate revenue for the government. This may take place in the case of leviathan governments with huge fiscal deficit, and where politicians give more emphasis to the populist schemes to keep themselves alive in the political arena or to appease some powerful sections of the society. In the latter case, during redistribution of the proceeds from the environmental taxes, a large chunk may go back to the polluter in the form of some incentive. This will kill the purpose of the environmental taxes, as there will be mere transfer of money collected from polluter and again redistributed to them. This will result in high transaction costs without solving the problem.

It is a different aspect how the MBIs will be implemented in the developing countries and how the proceeds from the environmental taxes will be utilized. But one thing is sure that use of MBIs to keep a check on grey products is going to be a reality and are knocking the doors of producers in the developing countries. The companies will have to adhere to the maxim of 'survival of the greenest' in the business environment of the 'survival of the fittest', as the environmental taxes will drain away their profits. This subject also merits more attention from researchers and policy makers.

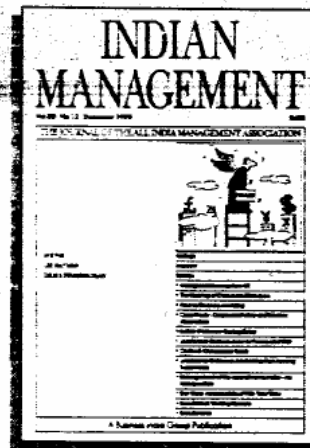
#### **References**

1. Agarwal, Anil (1999) 'Licence to Kill', *Down to Earth*, July 15, 1999.
2. Agarwal, S.K. (1997) *Environmental Issues and Themes*, APH Publishing Corporation, New Delhi.
3. Alrecht, Christian (1997) 'Regulation and Market-based Instruments in Swiss Environmental Policy', in C. Jeanrenaud (Ed.), *Environmental Policy between Regulation and Market*, Birkhauser Verlag, Boston.
4. Callan, Scott J. and Janet M. Thomas (1996) *Environmental Economics and Management*.



- Theory, Policy, and Applications*, Irwin, Chicago.
5. Centre for Science and Environment (CSE) (1999), 'Will you allow your investment to pollute', *The Economic Times*, Mumbai, July 19, 1999.
  6. Coddington, Walter (1993) *Environmental Marketing: Positive Strategies for Reaching the Green Consumer*, McGraw-Hill, New York.
  7. Denton, D. Keith (1994) *Enviro-Management*, Prentice-Hall, New Jersey.
  8. Diwan, Paras and Peeyushi Diwan (Eds.) (1997) *Environment Administration Law and Judicial Attitude Part - I, Studies on Environment Protection: Leading Cases*, 2nd edition, Deep and Deep Publications, New Delhi.
  9. Faber, Gerrit (1996) 'International Trade and Environmental Policies', in Andrew Blowers and Pieter Glasbergen (Eds.), *Environmental Policy in an International Context: Prospects for Environmental Change 2*, John Wiley & Son Inc., New York, Toronto.
  10. Government of India (GoI) (1999) *Economic Survey 1998-1999*, Ministry of Finance, Government of India, New Delhi.
  11. Gupta, Mukul P. (1998) 'Is Marketing Responsible for Environmental Crisis?', *Indian Management*, 37(5), 53-57.
  12. Hanley, Nick, Jason F. Shogren and Ben White (1997) *Environmental Economics in Theory and Practice*, Macmillan Press Ltd., London.
  13. Johnstone, Nick (1996) 'International Trade and Environmental Quality', in Timothy M. Swanson (Ed.), *The Economics of Environmental Degradation: The Tragedy for the Common?* Edward Elgar, Cheltenham.
  14. Kerr, John M., C. Ramasamy and T.R. Shanmugam (1997) 'The Role of Markets in Natural Resource Management', in John Kerr et al (Eds.), *Natural Resource Economics-Theory and Application in India*, Oxford & IBH Publishing Co., New Delhi and Calcutta.
  15. Khare, Anshuman (1998) 'Greening the Earth is Corporate Responsibility', *Indian Management*, 37(5), 46-52.
  16. Kohan, Robert E. (1998) *Pollution and the Firm*, Edward Elgar, Cheltenham, United Kingdom.
  17. Kuik, O.J., M.V. Nadkarni, F.H. Oosterhuis, G.S. Sastry and A.E. Akkermann (1997) *Pollution control in the South and North: A Comparative Assessment of Environment Policy Approaches in India and Netherlands*, Sage

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18. Majocchi, Alberto (1997) 'Environmental Taxes in the Italian white Paper on Fiscal Reform', in *C. Jeanrenaud (Ed.), op.cit.*
  19. Markandya, A. (1997) 'What have we learned about Market-based Instruments', in *C. Jeanrenaud (Ed.), op.cit.*
  20. Mehta, Shekhar, Sudipto Mundle and U. Sankar (1997) *Controlling Pollution: Incentives and Regulations*, Sage Publications, New Delhi.
  21. Mishra, K.K. (1998) 'A Case of Environmental Reporting', *Indian Management*, 37(5), 96-98.
  22. Nadkarni, M.V., John M. Kerr and M. Ravichandran (1997) 'Economics of Externalities and Pollution Abatement in India', in John Kerr *et al* (Eds.), *op.cit.*
  23. North, Klaus (1997) *Environmental Business Management: An Introduction*, Oxford and IBH Publishing Co., New Delhi.
  24. Peattie, Ken (1997) 'Environmental Marketing', in Pratima Bansal and Elizabeth Howard (Eds.), *Business and Natural Environment*, Butterworth-Heinemann, Oxford.
  25. Richardson, J.A. (1991) 'Introducing Sustainability into the International Trade in Natural Resource Services: The Case of Hazardous Waste Disposal', *Paper presented for the 4th joint conference between the European Association of Law and Economics and the Geneva Association*. Paris, April 4-5, 1991.
  26. Reinhardt, Forest L. and Richard H.K. Vietor (1996) *Business Management and the Natural Environment, Cases & Text*, South-Western College Publishing, Cincinnati, Ohio.
  27. Singh, Katar (1999) 'Sustainable Development: Some Reflections', *Indian Journal of Agricultural Economics*, 54(1), 6-11.
  28. Swanson, Timothy M. (Ed.) (1996) *The Economics of Environmental Degradation: The Tragedy for the Common?*, Edward Elgar, Cheltenham.
  29. Thalmann, Philippe (1997) 'Environmental Taxes: Analytical Framework', in *C. Jeanrenaud (Ed.), op.cit.*
  30. Wahal, R.N. (1998) 'Environmental Business Management', *Indian Management*, 37(8), 57-61.
  31. Xepapadeas, Anastasios (1998) *Advanced Principles in Environmental Policy*, Edward Elgar, Cheltenham, United Kingdom. ■



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