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The Role of Economic Instruments for Against Unhealing Industrial Water Pollution

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ABSTRACT

Contemporary, different impediments strongly challenge our planet. However, nothing can be equated with the problems encountered by the pollutions released from industries. These pollutions adversely affect the environment, health, social, and economic aspects of human beings. Countries have tried to codify various international and domestic laws to oversee the problem. Besides making laws, Governments are looking for policy options. Among the options developed in the last half a century, Economic instruments (EIs) are the prominent approach. This paper aims to briefly discover vital issues of EIs with their role in protecting the environment. As the paper's findings revealed, EIs can play a pivotal role in protecting and curing the environment of industrial pollutions. Thus, the paper urges the Governments to apply EIs properly in compliance with their respective situation. To achieve its goals, the paper has been organized into four parts. The first part is the introductory part that deals with industrial pollution and its causes. Part two critically analysis EIs and their components. Part three endeavored to extract international legal instruments that dealt with EIS. The fourth part is the conclusion part that puts conclusion remarks and possible recommendations. To do all this, the paper employed a doctrinal analysis method based on primary and secondary data sources.

Introduction

Water is one of the global scarce and precious resources. To describe this special nature of water, the British poetry W. H. Auden describes it as," Thousands have lived without love, not one without water." [1] However, we are acting contrary to this fact that rather than protecting, we are trashing it.[2]

Global water demand is predicted to be increased significantly over the coming decades, while water availability is toppling due to *inter alia*, pollution, and population growth. [3] Next to the agricultural sector's water demand, which is currently responsible for 70% of water abstractions worldwide, substantial water demand increases, and scarcity is predicted, particularly for industry, domestic use, and power generation.[4]

Pollution is the primary factor for water scarcity. According to the UNESCO report, some 80% of the world's wastewater is dumped—largely untreated—back into the environment, polluting rivers, lakes, and oceans.[5] That means the polluted water from industries and domestic are back into service without any treatment with a minimized amount.

At the juncture of water treatment, on average, high-income countries treat about 70% of the wastewater they generate. In comparison, that ratio drops to 38% in upper-middle-income countries and 28% in lower-middle-income countries, and it is only 8% of wastewater undergoes treatment in low-income countries.[6] This notifies industrial pollutions are still unhealed.

Moreover, water treatment by itself is not an adequate solution against unhealed industrial water pollutions. For this reason, this paper comes up with other solutions: taking some policy measures. According to the United Nations Environment Program (UNEP), there are two prominent policy options to address the problems of water pollution: "Command and Control" (CAC) [7] and "Market-based Economic Instruments" (or simply, Economic Instruments) (EIs).[8]

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[1] *See* UN world water development, f*act and Figures* (2017). Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000247553/PDF/247553eng.pdf.multi > Accessed on November 23, 2019.

[2] Ibid.

[3] Sahar Zarei & Negin Mosavi Madani, 'International Cooperation for Environmental Protection in the 21st Century' (2020) 1 CIFILE Journal of International Law 2, 1-07, 1.

1. [4] 2017 UN World Water Development Report, *Wastewater: The Untapped Resource*. Available at: <https://reliefweb.int/report/world/2017-un-world-water-development-report-wastewater-untapped-resource > Accessed on December 21, 2019.

[5] UN world water development (n 1).

[6] *See* Sato T and others, 'Global, regional, and country level need for data on wastewater generation, treatment, and use. Agriculture Water Management' (130:1–13, 2013).

[7] Command and Control regulations are traditional tools which included standards, bans, permit requirements and sanctions. The CAC approach basically involves the setting of standards to protect or improve environmental quality. *See* Economic Issue of the Day, 'A Law of Nature: The command-and-control Approach' (2002) 3 Philippine Institute for Development 1.

[8] *See* UNEP, *The use of Economic Instruments in Environmental Policy: opportunities and challenge's* (2004) 11.

EIs policy approaches encourage or discourage activities by manipulating market signals instead of using explicit directives concerning pollution control levels or resource utilization methods.[9] There is no clear evidence for when and where EIs were introduced. However, as Duncan Austin layout, it is first introduced in the USA in the early 1980s to control pollution by harnessing market incentives' power by offering a more cost-effective, flexible, and dynamic form of regulation than conventional measures.[10]

As different studies revealed, the role that EIs in deterring industrial water pollution is irreplaceable due to: (1) EIS is a system where the market itself protects the environment; (2) it creates a sense of belongingness to the users; (3) it improves environmental equity; and (4) it generates income for the government (will see in detail later).

Therefore, this paper attempted to provide some basic information about the role of EIs in the prevention and supervision of industrial water pollution. For achieving this purpose, data would be extracted from different documents and analyze it using qualitative methodology.

1. Industrial Water Pollution

Industrial water pollutions are pollution released from companies, manufacturers, and industries that make the water unsafe for domestic and agricultural uses. Since the industrial revolution, our planet has been shown progress in various aspects. For instance, technology has developed from hand to robotic machines. However, with this technological development, water pollution couldn't show blatant improvement. Instead, it is still a worsening challenge for our planet due to wastes released from industries.

Countries do not pollute water with an equal amount. Some countries polluted more and some others less. The table below alludes to the index of the top nine greatest water pollutant countries in the world.

	Country	Daily Amount of Water Pollutants (kg)
1.	China	6,088,660
2.	United States	1,968,200
3.	India	1,556,370
4.	Japan	1,279,290
5.	Germany	1,020,140
6.	Indonesia	753,657
7.	Brazil	629,406
8.	United Kingdom	604,821
9.	Italy	495,973

Table 1. List of high-water polluter countries in 2018.[11]

According to the above statistics, the world's most polluting countries are the huge economic and industry owners because industries are a massive water pollutant. It produces highly harmful

[9] Sato and others (n 6).

[10] *See* Duncan Austin, *Economic Instruments for Pollution Control and Prevention – A Brief Overview* (1999) World Resources Institute.

[11] *See* Aneki.com, *Ranking & Records*. Also available online at: <http://www.aneki.com/water_pollution.html?number=25 > Accessed on December 1, 2019.

pollutants to the people and the environment.[12]

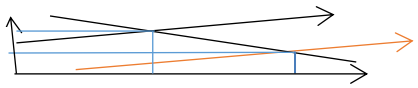
There are many reasons why industrialization is the cause of water pollution. Here are some reasons: weak policy frameworks, inherent insolvent nature of water, outdated technologies/industries, lack of capital, unplanned industrial growth, and water leaching with hazardous chemicals and mines.

2. Economic Instruments

EIs, also called a market-based approach or economic incentives or cost-effective approach is a set of policy options that can be used for different purposes. Uniquely, it has overwhelming importance to environmental protection in general and industrial water pollution in particular.[13] The instruments are termed 'economic instruments' for environmental management to convey the message that their effect is to influence decision-making and behaviors. They are "economical" because they affect the estimates of the costs and benefits of alternative actions or choices open to a firm or individual economic agent.[14]

Compared with other options, EIs can be easily set to protect industrial water pollution due to their flexible nature. It relies on market forces and price changes in the economy. These market forces and price changes can push manufacturers to manufacture products with less pollution. This is reflected in the figure below.

Figure 1 shows the market outcome of an environmental charge on two goods with different elasticity.[15] The figure is relatively elastic that a change in price results in a significant shift in the demand side. Because of the demand elasticity, not all the charge is passed onto consumers- the difference p^o (equilibrium price without the charge) and p^1 (equilibrium price with the charge) is less than the charge's size. The price increase leads to a reduction in the quantity consumed (from Q_1 to $Q_{0)}$. Thus, it reduces environmental damage. In contrast, the decrease in the price has a vice versa effect.[16]



[12] *Industrial Water and Water Pollution*. Also available online at: <https://www.water-pollution.org.uk/industrial-water-pollution/#:~:text=Industry%20is%20a%20huge%20source,into%20rivers%2C%20lakes%20and%20oceans.&text=Asbestos%20%E2%80%93%20This%20pollutant%20is%20a%20serious%20health%20hazard%20and%20carcinogenic. > Accessed on September 12, 2020.

[13] Ibid. According to the study of OECD, "market based approaches" or "market instruments" has scanty difference with EIs that the terms encompass a mix of policy instruments designed to influence producers and consumers' behaviour (e.g., product labelling or strict liability rules) but which have loose links with market mechanisms.

[14] Kazoora, C., Mwerinde, F., Birungi, P. and Yaron, G, *Economic Instruments for Promoting Sustainable Natural Resource Use, Environmental Sustainability and Responses to Climate Change* (2009) UNDP/NEMA/UNEP Poverty Environment Initiative, 3.

[15] **Elasticity** is an economics concept that measures the responsiveness of one variable to changes in another variable. For more visit *Principle of Micro-economics*. Also available online at: <https://pressbooks.bccampus.ca/uvicecon103/chapter/4-2-elasticity/ > Accessed on December 21, 2019.

[16] Ibid.

The same conclusion we may have in the case of water consumption of industries. The more we charge industries, the more reduction of the quantity of water and wastewater release. Thus, the industries would deter from polluting more water and trigger to use water efficiently and effectively. The increment of water price also has other effects that especially when the increased price exceeds the cost they may incur for treatments; industries would look at other options like treating their wastes using recycling or any other methods.

2.1. Taxonomies of EIs

We can take several types of EIs, but here are the prominent types:

Pricing is the first type of EIs that has a tremendous impact on every goods and service production and consumption. For industrial water protection, pricing plays a significant role, which can be done through marginal cost pricing that can reduce excessive water use and consequent pollution and ensure water treatment programs' sustainably.[17] When the price of water and wastewater treatment increases, the production cost would also increase while the product's consumption decreases.

Pollution charges are the second type, which is somehow related to the prominent environmental principle called "the Polluter pay principle (PPP)." The charge is paid in the form of tax by polluters to make what it pollutes well. However, it is hard to measure the value and amount of the environment that industries have used except water, which can be measured volumetrically.

Pollution charges can be: (a) **Effluent charges**- it is based on the quantity and quality of the discharged pollutants.[18] It is always welfare dominant over a subsidy on consumer purchases of the clean product because of its contribution to reducing environmental damage.[19] (b) **User charges**- it is paid based on the quantum of water consumed by industries. (c) **Product charges** are charges levied on *products* that are harmful to surface or groundwater (e.g., *pathogens*, *fertilizers*, pesticides, lubricant oils).[20] (d) **Administrative charges**. It is a cost paid for the administrators to recover the cost they have to bear for the administration and water pollution supervision.

The third is **Marketable (Tradable) permits,** which is also known as 'emission trading, are regulatory tools designed to allocate privileges or obligations more efficiently by harnessing the market's decision-making powers.[21] It is intended to lower compliance costs, ease administrative burdens, and incentivize

[17] Bora (n 14).

[18] See Corinne Waelti, *water charge*. Also available online at: <http://archive.sswm.info/category/step-university/module-4-sustainable-water-supply/module-4-sustainable-water-supply/furt-69 > Accessed on November 27, 2019.

[19] Pourkarimi, Elahe & Hojjat Yossef, 'A Review of International Green Economy and Green Tax Policies' (2019) 1CIFILE Journal of International Law (CJIL) 1, 29-36, 1.

[20] Ibid.

[21] Jason A. Schwartz, *Marketable Permits in New Contexts: Have We Learned the Right Lessons from History?* (Final Report, Administrative Conferences of the US, 2017) 1.

innovation more than traditional regulation.[22] However, tradable permits will be given following check-ups and tax levied.[23]

The fourth type, **Subsidies**, is something that the government provided for industries in order to encourage their environmental-friendly works. The subsidies may be a reduction or tax exemption, or in cash, or any form of financial support.[24] The payment is made based on the levels of production by the companies' activities or values of the products that they produce, sell, or import. 5) **Deposit-refund systems.** It is a combination of charges and subsidies. The charge is concomitant with subsidies where the charge would be refunded after the check-ups on companies' efficiency of protecting the environment.

2.2. Merits and Demerits of EIs

a. **Merits of EIs.**

EIs have several benefits. Here are some of the benefits. (1) **EIs bridge the gap between private and social costs.** It bridges the gap by internalizing all external costs (depletion and pollution) to their sources: the producers and consumers of the resource depleting and polluting commodities.[25] The difference between private and social costs to society of a product, service, or activity is called an external cost; pollution is an external cost of many products. External costs are directly associated with producing or delivering a good or service, but they are not paid directly by the producer. When external costs arise because environmental costs are not paid, market failures and economic inefficiencies at the local, state, national, and even international levels may result.[26]

In sum, the social cost is the summation result of external cost and private cost.

Social Cost = External Cost + Private Cost

(2) EIs secures property rights. Unlike other environmental protection instruments, EIs are free from government interference because EIs operate by realigning firms' rights and responsibilities, groups, or individuals to have both the incentive and the power to act in a more environmentally responsible manner.[27] Besides, one of the pre-requests of EIs to trigger its function is ownership rights. If a person is interested in implementing EIs,

[22] See Condensed Version of Marketable Permit Report by Jason A. Schwartz available at <https://www.acus.gov/sites/default/files/documents/marketable-permits-condensed-draft-report.pdf> Accessed on September 29, 2020.

[23] See Jason A. Schwartz, *Condensed Version of Marketable Permit Report.* Available at <https://www.acus.gov/sites/default/files/documents/marketable-permits-condensed-draft-report.pdf > Accessed on November 28, 2019.

[24] United States Environmental protection authority, *Economic incentives*. Available at <https://www.epa.gov/environmental-economics/economic-incentives > Accessed on November 29, 2019.

[25] Theodore Panayotou, (n-7) 3.

[26] Federal reserve ban of San-fransixco, *the difference between private and social costs and how do they relate to pollution and production*'. Also available at <https://www.frbsf.org/education/publications/doctor-econ/2002/november/private-social-costs-pollution-production/> Accessed on September 12, 2020.

[27] UNEP (n 8)6.

s/he/it should first check his/her/its own right on the object. Barde ascertained this by stating that identifies well-defined and enforced property rights as a critical condition for EIs, arguing that they must be "exclusive, transferable and safe." It is certainly the case that open access resources – where clear and enforceable property rights do not exist – are particularly vulnerable to degradation.[28]

(3) **Cost-effective, flexible, and equitable.** EIs can be applied at the least cost to a wide range of environmental problems. They can involve varying degrees of incentives, information, and administrative capacity for effective implementation and enforcement.[29] Unlike CAC, which abided by the government's strict regulation and applied only to huge companies, EIs are more flexible and dynamic. The price and other elements are determined by the market and allow the markets to determine which specific firms control pollution.[30]

A vast majority of the relevant empirical studies have found that the CAC's control costs are substantially higher than the least-cost means of allocating the control responsibility in EIs.[31] A summary of 11 studies review shows that CAC ranges from 1.07 to 22 times (average of 6.13) more expensive than the cost-effective approach.[32]

(4) **The source of revenue for the government**. The revenues may be collected from polluters, distributors, or users. The collected revenue would be re-invested to areas that assure the sustainable development of the people. For instance, publicly owned or delivered resources (such as drinking water or oil) are sold at the market (or at least full cost recovery) price. This reduces the use of the resource and generates important revenues that can be used to finance the continued provision of government services. [33] The revenue would also potentially help the government to enforce, improve, and expand environmental and resource protection programs or can be used to reduce distortionary taxes such as income taxes, which reduce the incentive for work or sale taxes that distort consumption decisions.[34]

(5) **Encourage innovations.** Since EIs are based on market signals and have a flexible nature, industries are encouraged to create new and innovative solutions for pollution and emission problems. (6) **Increase transparency.** Compared with CAC, EIs are more transparent because, for instance, in CAC, the permit and reporting system is onerous for industries, users, and even the government to analyze the reports. However, things are different in EIs that are not as complicated.

[28] J-Philippe Barde, and Smith, S, *Economic Instruments in Environmental Policy: Lessons from The OECD Experience* (UNESCAP, 2008).

[29] See UNDP, *Water Pollution Control - A Guide to the Use of Water Quality Management Principles* (Richard Helmer and Ivanildo Hespanhol (Edt.), 1997)..

[30] UNEP International Working Group on Economic Group, *Opportunities, Prospects, and Challenges for the Use of Economic Instruments in Environmental Policy Making* (2004) 4.

[31] Bojan Vračarević, *Economic instruments in environmental policy* (University of Belgrade – Faculty of Geography, Belgrade, Serbia, 2004) 80.

[32] Perman, R., and others, *Natural Resource and Environmental Economics* (3rd edition, 2003)

[33] Ibid, 5.

[34] Vračarević (n 30) 80.

b. Demerits of EIs

All the above are some of the advantages of EIs. Nevertheless, this does not mean that EIs are only full of benefits. Hereunder are some of the weaknesses of EIs: (1) **Its impact is unpredictable.** It allows the organization to control environmental pollution through market signals rather than through explicit directives. By its very nature, market signals' impact is unpredictable, making the market's impact on the environment's protection unpredictable. (2) **Sometimes, the pollutant may choose to pollute and pay charges.** (3) **Its implementation requires sophisticated technology.**

3. International Laws about EIs

Since EIs is a young phenomenon, we cannot find a separate international law. However, this does not mean no laws are existed dealing with this phenomenon in a dispersed way. Here are some of the international legal instruments:

European Commission (EC) and the Organization for Economic Cooperation and Development (OECD) were seen as a precursor to the more recent discussion and proposals about EIs in the early 1970s.[35] **OECD** is the first international instrument that expressly refers to the PPP via its Council's Recommendation, Recommendation No. OECD/**LEGAL/0102,** on Guiding Principles Concerning the International Economic Aspects of Environmental Policies made on May 26, 1972.[36] OECD endorsed the PPP to allocate costs of pollution, prevention, and control measures to encourage rational use of environmental resources and avoid distortions in international trade and investment.[37]

The recommendation under the guideline principle A/a/3 expressly advocates PPP stating that "…. the cost of these measures should be reflected in the cost of goods and services which cause pollution in production and/or consumption. Such measures should not be accompanied by subsidies that would create significant distortions in international trade and investment."

The recommendation also endeavors to address the issue of EIs. According to guideline principle A/a/1 of the recommendation, environmental resources are generally limited, and their use in production and consumption activities may lead to their deterioration. When the cost of this deterioration is not adequately considered in the price system, the market fails to reflect the scarcity of such resources both at the national and international levels. Public measures are thus necessary to reduce pollution and to reach a better allocation of resources by ensuring that the price of goods depending on the quality and/or quantity of environmental resources reflect more closely their relative scarcity, and the

[35] Philippe Sands QC, *Principles of International Environmental Law* (2nd edn Cambridge University Press, 2003) 158.

[36] CECD, *Analysis and Recommendation on the* polluter-pays principle, (OCDE/GD(92)81. See also OECD Council Recommendation C(72)128 (1972), 14 ILM 236 (1975).

[37] Ibid.

economic agents concerned react accordingly.[38]

Rio Declaration[39] is another international organization that deals with EIs. The declaration, under Principle 16, provided about the responsibility of national authorities to endeavor for the promotion of internalization of environmental costs and the use of EIs, taking into account the approach that the polluter should, in principle, bear the cost of pollution with due regard to the public interest and without distorting international trade and investment.

Berde attempted to summarize the declaration's words by stating that '… the member states for the declaration have to promote EIs and make polluters pay the cost for the damage they incurred on the environment. Even though the declaration is soft law, it has now grown into international customary laws. Based on this guideline provision of the declaration, several states, especially OECD member states, have attempted to develop systems for implementing EIs throughout their activities.[40]

Agenda 21 is another international document that materialized EIs.[41] Chapter 8 of the agenda states that Environmental law and regulation are essential but cannot deal with environmental and development problems alone. But prices, markets, and governmental fiscal and economic policies also play a complementary role in shaping attitudes and behavior towards the environment. Part 2.37/e, 7.70/c, 8.31, and 8.34 of the agenda also deals with EIs.

The European Commission (EC) is a regional organization that appeared with some basic concepts of EIs. Its environmental council has made various recommendations and press releases about the role of EIs to protect the environment at different times. In April 1990, the president of EC stated that EC Ministers' should acknowledge the value of supplementing existing regulatory instruments …..by using economic and fiscal instruments.[42]

In March 1990, **the UN Economic Commission for Europe (UNECE) Bergen Ministerial Declaration** also stated that to support sustainable development, it is important 'to make more extensive use of EIs in conjunction with …. Regulatory approaches.[43]

[38] Ibid.

[39] The Rio declaration, also known as Earth summit, held on from 3 to 14 June 1992 was made with the goal of establishing a new and equitable global partnership through the creation of new levels of cooperation among States, key sectors of societies and people, working towards international agreements which respect the interests of all and protect the integrity of the global environmental and developmental system.

[40] Barbe and others (n 18) 1.

[41] Agenda 21 is the result of the 1992 UNCED, which is a comprehensive plan of action to be taken globally, nationally and locally by organizations of the United Nations System, Governments, and Major Groups in every area in which human impacts on the environment (See UN <https://sustainabledevelopment.un.org/outcomedocuments/agenda21> Accessed on March 19, 2021.

[42] Berbe and others (n 18).

[43] Ibid.

4. The Role EIs for Against Unhealing Industrial Water Pollution

Water is a public good that is not subject to anyone to sell or own (except in some countries and situations). As industrialization, population, and urbanization expand, consumption of water is substantially increased. More importantly, industrial water consumption, which is ranked first in environmental pollution, has increased. Due to this, the scarcity of water has become common everywhere. The worse is the effect of shortage of water that the lives may be lost by thirst, conflict, starvation, and finally, the people's ugliness behavior may change our beautiful planet into the trash.

Before the worse comes, the global community has to heal the environment and make the industries pay for its damage. One way to make the polluters pay for their pollution is EIs, where it can reduce industrial water pollution by manipulating the market signals. Reduced pollution can reduce the need for and costs of cleaning up contaminations, the production costs resulting from contaminated inputs, and help polluters to mitigate other economic and social losses from the impacts of pollution on production and health.[44]

EIs are a composition of pricing, pollution charges, marketable permits, deposit-refunding, and others. All these and other taxonomies of EIs espoused the protection of the environment in general and water in particular. To reduce or abstain (if possible) industries from polluting water resources and disposing of wastewater without treatment, implementing EIs has brought several benefits. For instance, as discussed above, pricing has an intrusive effect on water use and wastewater disposal: the more water charge, the more reduction of the quantum of water consumption. Similarly, the more we charge for the wastewater disposal, the more reduction of wastewater release. In effect, industries will begin to use water efficiently and effectively.

Unlike other instruments, EIs can heal industrial water pollution quickly by bridging the gap between private and social costs through internalizing pollution costs to industries. If internalizing external costs is appropriately done, industries would reduce their water consumption and wastewater disposal. Instead, it makes them search for other options, like water treatment, recycling, or any measures.

EIs can also heal industrial water pollution ever than any other instruments because of their flexible, cost-effective, and equity nature. Since the activities are managed and run by the market signal, industries triggered to search other options like attempting to equate the marginal social cost of reducing pollution by an additional unit with the marginal benefit of one-unit reduction of pollution (i.e., the value of averted damages).[45] When industries began to be cost-effective and searching out other mechanisms, in one or another way, they are going to invent new findings.

[44] European Environment Agency, *Market-based instruments for environmental policy in Europe* (2005) 11. Also available at: <https://www.cbd.int/financial/doc/eu-several.pdf> Accessed on September 12. 2020.

[45] UNEP, 'Economic Instruments for Environmental Management A Worldwide Compendium of Case Studies' (2000, Jennifer Rietbergen-McCracken and Hussein Abaza (edt.)) 9.

In other words, EIs will encourage innovations.

Last but not least, EIs can heal industrial water pollution by being a source of income for the governments. The governments would then re-invest revenues to areas that assure the sustainable development of the people. The revenue would also help the government enforce, improve, and expand environmental and resource protection programs. This is the role that EIs could play in healing the damaged water.

To the end, Bojan Vračarević supports the above tips by saying that as resources or emissions become more expensive, consumers have strong monetary incentives to reduce resource use, either through conservation, substituting materials with a more favorable environmental profile rationalizing consumption, or recycling. Not only does this encourage reduced emissions, but the use of EIs can also be more conducive to sustainable development by reducing pressure on natural resources.[46]

5. Conclusion

The world is still unhealed from its environmental disease. Finding the right policy instruments would be one solution, mainly used for solving aggravated industrial water pollution because industrial water pollution is currently the main challenge for our planet. In doing so, countries have two policy options: CAC or EIs. Each of them has its own prone and cons. However, to date, the concept and benefits of EIs for environmental protection have prevailed over CAC throughout the world because of its flexible nature and other benefits provided for environmental protection.

The other most reason for EIs's getting acceptance over the other policy option is its similar characteristics with the capitalist system, which is now the world's dominant economic system. Both of them are doing their tasks based on market signals. So, to protect the environment in an entitled manner, it would be the most straightforward task for capitalist countries to implement EIs easily.

EIs have got support from international environmental laws. The Rio Declaration and Agenda 21 are among the prominent laws that explicitly declared the importance of EIs to protect the environment. However, to change the worse environment still, several other EIs laws have to be codified.

In a nutshell, as doctors struggle to cure their patients, environmentalist, lawyers, and, of course, all human beings, who are directly or indirectly shared the effect of industrial water pollution, should struggle to cure the environment of the disease, pollution.

6. Recommendations

The first and foremost requirement for healing the environment is establishing a system. The system alone is, however, not enough by itself. There should be binding laws to smooth the interaction of the system. Besides, both the existing national and international laws have to get into practice, as the legal authority and efficacy and political structure and priorities are the

[46] Vračarević (n 59) 3.

two baseline elements for implementing EIs across all environmental issues.

Institutions should also be established for the better administration of EIs. Since it runs with the market signals that the market itself is the drawee of the line, there should be strong and independent institutions that can be able to function with the changing market signals. In addition to this, aligning individual and social costs through Market-based Policies is also essential for healing the environment.

The other important issue for healing the environment from industrial water pollution via EIs is creating a conducive environment for the prevalence of the EIs. In the end, as Kazoora C. and others point out, operating EIs is a highly political negotiation process that concerns not only the government but also those to whom they are targeted as well as the general public.

Finally, strengthening scientific and technical support for researchers is crucial for developing EIs to protect the environment in general and water pollution in particular.

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