

Water Pollution Policy Vis-À-Vis Red Category Industries: A Case Study

G. Mahalakshmi Pooja¹ and Carolin Arul²

¹Research Assistant, Advance Centre for Integrated Water Resources Management, Bengaluru, Karnataka, India

²Associate Professor, Centre for Water Resources, Anna University, Chennai, Tamil Nadu, India

E-mail: poojagm28@gmail.com, carolin@annauniv.edu

Abstract - According to the Constitution of India, the water right comes under Article 21 as Right to Life. Having water as a basic need in life, it has to be protected well by enforcing the law in an orderly manner with more stringent actions towards water polluting agents. Even though several laws exist on controlling water pollution, the punitive measures are not strong enough to control, especially in the case of industrial pollution. The purpose of this study is to find out the lacunae existing in Indian legal provisions on the view of water polluting industries. A case study is undertaken by selecting a red category industry located at Cuddalore, particularly in SIPCOT institutional area. To value the awareness and perceptions of different stakeholders on Water Pollution Policies, semi-structured interviews were conducted with the AGM of the industry and the NGOs and questionnaires survey were administered with the students and public. It was known that the 51% of people were affected by water pollution and 83.33% of people opt for plastic containers of 20-liter capacity for drinking and supplied by SIPCOT. Sadly, 100% of people recorded their responses saying industries were the prime source of water pollution. While question airing on health aspect, it was found that 85% people were affected by skin diseases and respiratory illnesses. The forte of the NGOs and the students were the involvement of all related stakeholders in granting permission at the initial stage of industrial establishment at any place is mandatory. Keeping that every solution is unique with regard to every problem; a proactive step of introducing a rationalist model specifically to tackle these kinds of uncertain conditions with respect to Government protocols on Water Pollution Laws towards red category industry was made. Based on the situational model, proposals of the establishment of the industries could be granted.

Keywords: Water Pollution laws, industry, perception of people and rationalist model.

I. INTRODUCTION

The government of India has taken several measures both legislative and executive, in addition to the Constitutional amendments to protect and preserve the environment. The judiciary has played a vital role for the environmental protection through its dynamic interpretation of Articles 21, 48A and 51A (g) of the Constitution of India. The Indian scenario with regards to the availability of water with regards to the availability of water is a paradox. India accounts for four percent of the water resources of the world. Yet people face drought in one part and flood in another part of the nation. In order to control water

pollution, these statutory bodies have playing their roles effectively in some cases and failing in some. These turbulences are due to the presence of loopholes in the existing Law. Finding them and providing suggestions for these uncertainties will give betterment of Law execution and maintenance.

India is one of the most rapidly developing countries in the world with well-developed human resources and other natural resources. With the treasures existing, edification, institutions, governance, implementation, and enforcement go hand-in-hand. In India, education, technical skill and infrastructure have developed well but the proactive action is very much lagging. To have those kinds of action in developing state, India must focus on reviving each and every Law in accordance with the current status. In India, purity of water has been always emphasized from time immemorial.

In the Rig-Veda and the Yajur Veda, one can find many verses in praise of Lord Varun (God of Water) and Lord Indra. In Yajur, pollution of water is a tortuous act. Regarding Constitutional framework in India, the 42 amendment to the Constitution of India in 1976, provisions to protect and improve environment effect were incorporated in the Constitution of India (CoI) with effect from 3 January 1977 [1].

The Directive Principles of State Policy in Article 48-A and Article 51-A (g) of the Constitution enjoins upon the state to protect and improve of the environment and for safeguarding the forest and wildlife of the country and provides that should be the duty of every citizen of India ought to protect and improve the natural environment which includes water as well and to have compassion for living creatures respectively. The subject water is placed in the Constitution of India in Entry 17 of List II (State List) of Schedule VII. Regarding Policy framework in India, water law is mainly referred in State List. This is due to the Constitutional scheme, the India Act, 1935 had in principle given power to the states to legislate in this area. Thus, states have the exclusive power to regulate water supplies, irrigation and canals, drainage and embankments, water storage, hydropower and fisheries. Thus, with regard to water pollution, the Parliament did adopt an Act in 1974, The Water (Prevention and Control of Pollution) Act of

1974. This was the first law passed in India whose objective is to ensure that the domestic and industrial pollutants are not discharged into rivers and lakes without adequate treatment and followed by many other Policies, Acts and Rules. The reason is that such a discharge renders the water unsuitable as a source of drinking water, for the purposes of irrigation and to support marine life. This Act paved way for the creation of the Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCBs) [2].

When an individual or a societal goal is not satisfied, a need to 'Act' arises which may be satisfied with legal or political action. 'Ignorance of Law' as an excuse is unacceptable even for an industrialist particularly with reference to water pollution. For a professional, it is imperative that he or she is aware of all the laws that govern his or her actions in the discharge of functions for the benefit of society [3]. The Governance part on water pollution is vested with the State Pollution Control Board (SPCB) and Central Pollution Control Board (CPCB) in India. The SPCB and CPCB independently working well but coordination between them is lagging [4].

Gonzalez and Saarman (2014) [5]. have underlined the concept of taking responsibility on environmental protection against pollution which significantly includes the industrial polluters. Also, the authors had brought to light that the role of industries should be redefined with the perception of the community and participation through the principle of Community Empowerment. The community level protection against the negative impact of local industries had been viewed as a mechanism to hold corporate accountable when the state and federal regulatory bodies fail to. Also, this conceptualization will help to disclose the illegal proceedings of the particular industry. R. J. Campos and *et. al.* (2015) [6]. suggested that a bottom-up approach to implementation in public policies through questionnaires (21 kinds of the questionnaire have been conducted with differential officials).

It was found that the main challenges for the implementation of the transparency policy in Coahuila are related to several factors. H. Choudhary (2014) [7]. suggested that penalties should not stop only for the discharge of waste into the river but have to include fine for cleaning the waterbodies as well. Polluter Pays Principle (PPP) laid close relation between environmental policy and socio-economic policy. PPP acts as an instrument for allocating costs of pollution prevention and control measures. Certainly, PPP has loop holes but it is recommended to reconsider the criteria. The author stressed the regulation in the nation to add up on the Precautionary Principle and analyze its benefits. There is a long gap of 18 years for the State Water Policy was being revisited in a comprehensive way [8].

The draft policy calls for the abolition of all forms of water subsidies to the agricultural and domestic sectors. Also,

subsidies and incentives should be provided to private industry for recycling and reusing treated effluents. It is highlighted that subsidy to agricultural electricity users is curtailed because of wasteful use of both electricity and water [9].

II. STUDY AREA

Cuddalore is a district located in Tamil Nadu, India, and is located between the coordinates 11° 45' 0" N and 79° 45' 0" E. The district has an area of 3,564 km². It is bounded on the north by the Viluppuram district, on the east by the Bay of Bengal, on the south by the Nagapattinam district, and on the west by the Perambalur district. Cuddalore is drained by the Gadilam and the Pennaiyar rivers in the north, the Vellar and the Coleroon in the south. In Cuddalore, The State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT) [10]. Industrial Complex Phase I, was established in 1984 at an extent of 518.79 acres. At first, in the SIPCOT, a red category industry, Tagros Chemicals India Limited (Selected based on The Water (Prevention and Control of Pollution) Cess Act (1977) under Schedule I by section 2(c). and by Tamil Nadu Pollution Control Board's Pollution Database 2016 under the Code type: 1022 and 1037: Red industry) [12].

The industry is one of the chemical industries located in the SIPCOT area of Cuddalore and committed to manufacture and supply products and intermediates for agriculture, public health, veterinary and other allied applications. Tagros produces 25, 00,000 kilogram of active ingredients and exporting them to 90 countries. Secondly, to know the perception of NGO on water pollution laws and other aspects such as its control, monitoring, enforcement and their solutions towards the clean environment. NGOs namely WOTR (Watershed Organization Trust, a national organization) located at Secunderabad, SACEM (SIPCOT Area Community Environmental Monitors) situated at Cuddalore, a regional organization and Arappor Iyakkam, a regional organization, located at Chennai were taken for the study.

Thirdly, having selected the industry, five villages were selected to understand the perception of the people about the impact of industrial pollution and to understand their awareness towards pollution and its policies. The villages are Raasapettai, Sothikuppam, Kudikadu, Panchyankuppam and Echangadu. These villages are located near the east coast of the Cuddalore district with a radius of 2 km from the chosen industry.

Nearby the villages, the river Uppanar and Gadilam are located. Finally, the views of the students were also included to know their opinion on current happenings with regard to water pollution laws. It was conducted with the students of Centre for Water Resources, Anna University, Chennai. Since they are undergoing courses on conservation and management of water resources.

III. WATER POLLUTION POLICIES, A BRIEF APPRAISAL

Some of the policies related to water pollution and its survey are; the Draft National Water Framework Bill, 2016 was framed by the Ministry of Water Resources, River Development & Ganga Rejuvenation, India, in the year 2016. This is the most recently drafted National Water Framework Bill, 2016. It emphasized mainly on 'Right to Water for Life'. The drafted bill tries to build a comprehensive governance structure on water, dealing with its conservation and preservation, regulation of use, pollution prevention and abatement, pricing, administration and river and aquifer management. It says that the state at all levels holds water in public trust for the people and was obliged to protect water as a trustee would take precedence over all other uses, including agricultural, industrial and commercial. Industries, in particular, were being asked to state their water footprint in their annual reports, along with an action plan to progressively reduce it over time.

Also, it entrusts on the prohibitive penalties to discourage profligate use with denial of water supply services beyond a threshold level. Its vision includes Nirmal Dhara (unpolluted flow under river rejuvenation), appropriate treatment and use of wastewater (equity principle and 3Rs), standards for water quality and water footprints. National Water Policy, 2012 pointed out that the water as a common pool community resource at local and national level contexts. Significantly, it is noted that the growing industrial effluent discharge into the water bodies need to be concerned with new methods; economic incentives and penalties to reduce pollution and wastage; appropriate institutional arrangements should be made to monitor the water quality; strict regulation on developmental activities, there must be stringent punitive actions on polluters whoever harms the natural waterbodies and other environmental components.

Specifically, the industrial sector has been viewed in the Water Policy and Action Plan 2020 to have certain facilities and services which includes water tariff, recycling water. Special attention is recommended to the water from agricultural lands where were difficult to treat as there is no single point of pollution and for that prevention would be the best method.

In National Water Policy, 2002, the prominent points were stated. That is, the industrial waste effluents should be treated before its discharge; minimum flow should be ensured in the perennial streams; the principle of polluter pays should be followed in the management of polluted water and necessary legislation is to be made for the preservation of existing water bodies by preventing deterioration of water quality. The National Environment Appellate Authority Act, 1997, says a person aggrieved by an order granting environmental clearance in a given area for establishing an industry, within 30 days from the date of such an order, might appeal under this Act. The timeframe

can be extended to 90 days if there were good grounds for delay. This Act has the power to review its own decisions. No civil court or other authority has jurisdiction to entertain any appeal in respect of any matter with which the Act is empowered. The Water (Prevention and Control of Pollution) Cess Rules, 1978 were framed by the Ministry of Environment, Forest and Climate Change, India. The Rules on Cess provide the powers to meter the standards and affixation, the manner of payment of the Cess to the Central Government (taking samples from effluents) and functions of boards. Underlying the Sections 7 and 9, the power of the officers and authority of the state government to rebate the consumer violation and assessment of penalization for inappropriate actions on water are done.

The Water (Prevention and Control of Pollution) Cess Act, 1977, proposed to levy a Cess by the local authorities who are entrusted with the duty of supplying water. The Cess proposed to be levied will be on the basis of water consumed by such local authorities and industries. Water (Prevention and Control of Pollution) Rules, 1975 has been framed by the Ministry of Environment, Forest and Climate Change, India. After the enactment of an Act, rules follow. By the Water (Prevention and Control of Pollution) Act, 1975, the rules give procedural guidance for the officers to deal with the pollution issues.

It states that the officials of the central board will be given a certain set of terms and conditions of services. It upholds the power and duties of member secretary against the water pollution activities. It often forms a temporary association of persons with the central board. By this rules statement, the Central Board could invite any person, whose assistance or advice considered being useful in dealing with the water pollution control activities. Further, the action involves the formulation of reports and its analysis, accounting testing in the laboratory provided and budgeting the entire picture of water pollution control action.

Section 24 of the Water (Prevention and Control of Pollution) Act, 1974 says that if a person knowingly pollutes the water, he/she is vested with the actions which come under The Tamil Nadu Water (Prevention and Control of Pollution) Rules, (1983) and necessary steps are taken underlying the Section 63. This Act is intended to ensure that the domestic and industrial effluents are not allowed to be discharged into water courses without adequate treatment. The regulation cared for nature's standards and its existence. Underlying the Section 63, the prevention and control of water pollution become an inevitable phenomenon; Government and people had foreseen the degradation of natural resources as the development growth takes place in the country. On account of that, this Act is insisting on the maintenance and restoration of waterbodies.

As this Act forms the first root on water pollution, it aids in the establishment of a board, which should possess the powers and functions of conducting activities and

interventions in the context of prevention and control of water pollution.

The Hazardous Waste (Management, Handling and Trans boundary Movement) Rules, 2008, gives twelve different application forms where given to handle trans boundary movement, renewal authorization, annual returns, labeling of containers of hazardous and other wastes, import and export applications for hazardous wastes, transport emergency card, manifest for hazardous and other wastes, format for reporting accident and for filing appeal against the order passed by state pollution control board.

It is noted that the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules Amended, 2016, was well defined and it needs effective enforcement which in turn includes integration of various sectors like industry and transportation department. In the Policy Statement for Abatement of Pollution, 1992, methods and equipment to be adapted and achieving the goals either short term or long term, standards on air and water, environmental audit and public partnership. The Public Liability Insurance Act, 1991, it mandates that business owners operating with hazardous substances.

The Environment (Protection) Act, 1986, gives recommendations on setting new national standards for the quality of the environment are pointed out. It is also appreciably proposing to address various important issues in environmental management namely hike in penalties for contravention of its provisions; a civil administrative adjudication system to ensure fast-tracking of the imposition of penalties on environmental offenders; provision for furnishing suitable bank guarantees for specific performance and for restoration of the damaged environment; establishment of a National Environmental Appraisal and Monitoring Authority (NEAMA) to carry out environmental appraisals and monitoring of compliance conditions.

IV. RESULTS AND DISCUSSION

The study had used questionnaires and semi structured interview solicitant opinion from experts. An expert opinion survey is conducted through interviews or discussions with experts in person or by telephone and relied on e-mails for conducting an expert opinion survey. The advantage of using a questionnaire is that it lends precision and gets the commitment of experts to their search area addressed.

The semi-structured interview may be filled in through a direct personal appointment with the experts or through e-mails or post or a combination of all these. In the expert opinion survey undertaken to assess India's policy to control industrial water pollution, respondents were chosen from all stakeholder groups – Assistant General Manager of the Industry (one respondent), non-governmental organizations (three respondents), public (each village

twelve, therefore totally sixty respondents) and students (twenty-three respondents).

A. Perception of the Industry

Based on the data collection (includes plot plan of the industry, obtained water quality test details, online CPCB monitoring concept, industrial set up) and semi structured interview with the Assistant General Manager (AGM) of the industry were at the satisfactory level. Additionally, Cuddalore SPCB visits the industry once in a month and detailed investigation is done once in a year to keep the standards at check. Since the concept of Zero Liquid Discharge (ZLD) is not compulsory, they adopt partially ZLD that is the combination of Individual Treatment Discharge System (ITDS) and High Treatment Discharge System (HTDS). Sadly, the industry was unaware of the Ecotax which is one of the famous Pigouvian taxes (A Pigouvian tax is a tax levied on an agent causing an environmental externality (environmental damage) as an incentive to avert or mitigate such damage) [11]. While interviewing, they have responded that there was no residential building located within a radius of about 2 km from the industry. (But as per the field visit, the Kudikadu village is located at a distance of 1.25 km and the Sothikuppam is located at a distance of 1.77 km from the Tagros Chemicals India Limited). In the view of water consumption₃, the industry uses 215m³/s; effluents discharge is 110m³/s. These two parameters match with their compliance provided by the industry for the study.

B. Perception of the NGOs

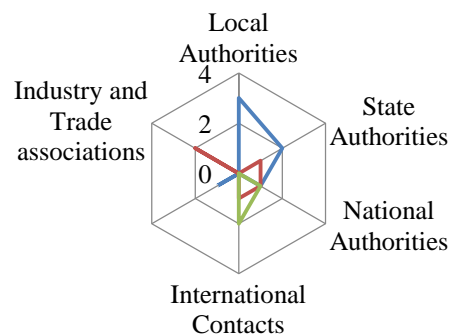


Fig.1 NGO liaising with other stakeholders

It is understood from the above Fig 1 that there is no communication between international forums with the regional NGOs. Local authorities and state level authorities were in good communication with the NGOs. In other words, it is very easy to approach regional authorities by the NGOs for any detail requirements.

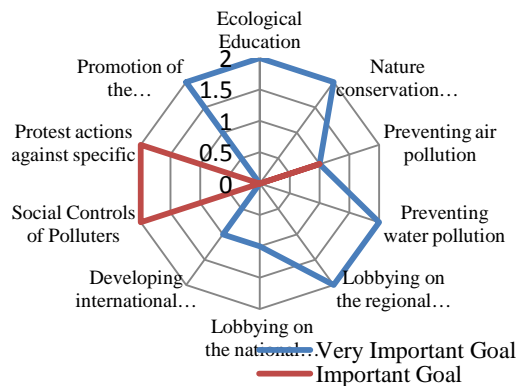


Fig.2 Goals and its importance of the organizations

The above Fig 2 gives the important goals in the view of NGOs. They are; to control water pollution, lobbying on the regional level itself, giving education on ecology, conserving nature and promoting sustainable development. Other goals like social control over the polluters and protest against them were considered to be less important than previous goals.

C. Perception of the People

The above Fig 3 give the drinking water source details of the villages collectively. It was shocking that only 16.67% of people from the samples were using groundwater for drinking and that too after boiling the water. Remaining 83.33% of people were using plastic container water or mountain water supply by SIPCOT office. In that 25% were using mountain water supply by SIPCOT and remaining 75% were buying plastic container water. During the visit, it was understood that their livelihood was below middle class. If they spend their money indirectly in boiling or buying the water (plastic containers of 20 litre capacity) they would be struggling financially

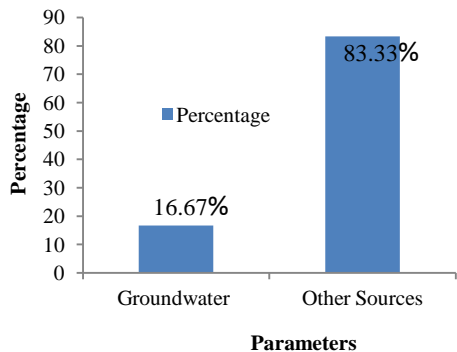


Fig.3 Drinking water source

In Fig 4 occupations in the villages were fishing, laborer in those industries and other jobs like tailoring, agriculture, coolies, cattle rearing and dairy.

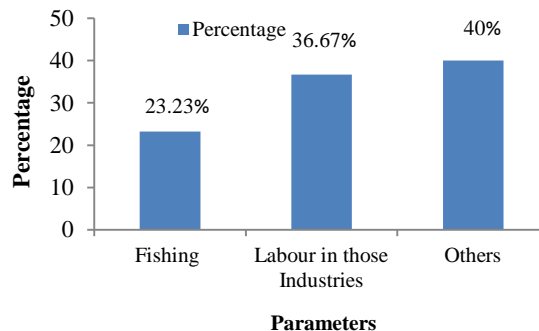


Fig.4 Occupation

Before 30 years it was said that the fishing job was the predominant one, now it becomes 23.23%. Because of industrial development, labors at those industries have increased and now it is 36.67% and others were of 40%.

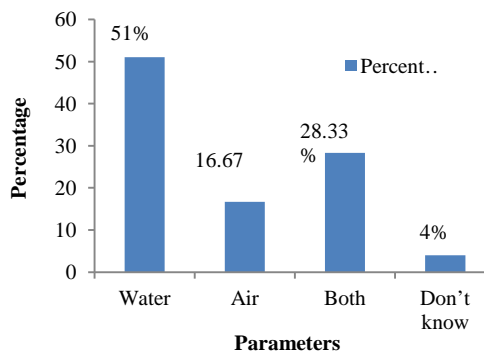


Fig.5 Pollution

Regarding Fig 5 pollution condition in SIPCOT, it says that the water pollution is predominant (51%). For air pollution, people of 16.67% have recognized it. People of 28.33% experienced both the pollution. Only 4% of people could not able to say that they were under the impact of both or either pollution.

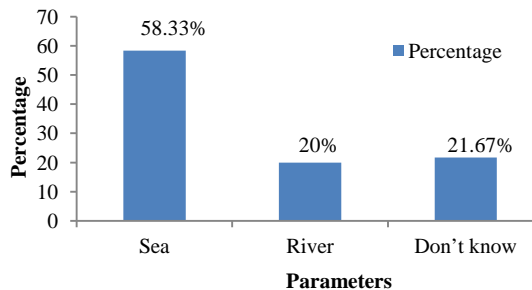


Fig.6 Species of Birds

In the Fig 6 represents that the species of birds have reduced considerably. About 68.33% of people accepted it. The people of 21.67% were not experienced the species of birds reduce in number and said that they remained the same. The people of 10% were not noticed the species of birds (species like eagle, sparrow and cranes).

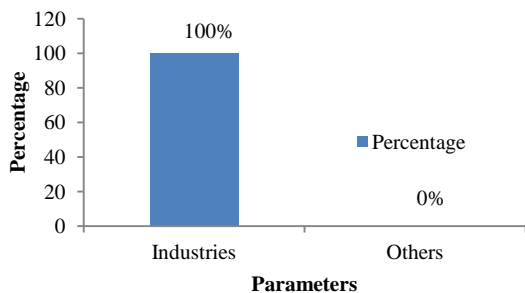


Fig.7 Cause of pollution

In the Fig 7 gives the causes of pollution. The people of 100% said that the establishment of industries was the reason for harmful effects on environment. weren't affected.

In this Fig 8 regarding environmental degradation, the people were 85% sure that it is affected by the industries, 11.67% people were not responded to the question, 3.33% of people in environment said their environment

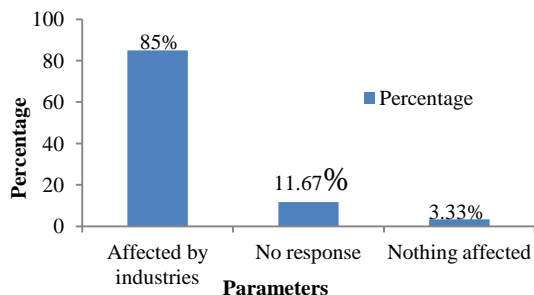


Fig.8 Environment

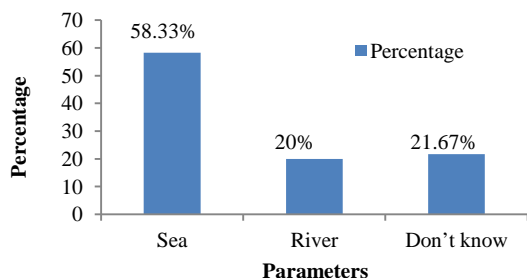


Fig.9 Effluent discharge

In the Fig 9 people were aware of effluent discharge by the industries. The people of 58.33% said it was discharged into sea. The people of 20% voted for river and 21.67% of people unaware of the disposal spot.

Regarding the Fig 10 health issues at SIPCOT, 36.67% of people said that they were affected by skin diseases due to water. The people of 28.33% from a respiratory illness like asthma, wheezing. The people who have suffered from both skin diseases and respiratory illness were of 26.67%. People who have not affected by both diseases were 11.67%.

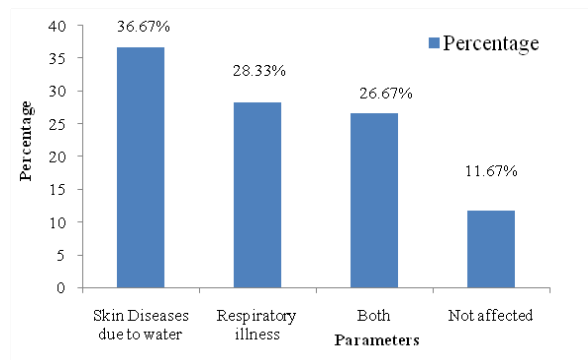


Fig. 10 Health issues

In the above Fig 11, it was understood that the awareness of the students is better when compared with other stakeholders. Still adequacy of laws on controlling water pollution is in need.

D. Perception of the Students

The views of the students were also included to know their opinion on current happenings with regard to water pollution laws. It was conducted with the students of Centre for Water Resources since they are undergoing courses on conservation and management of water resources.

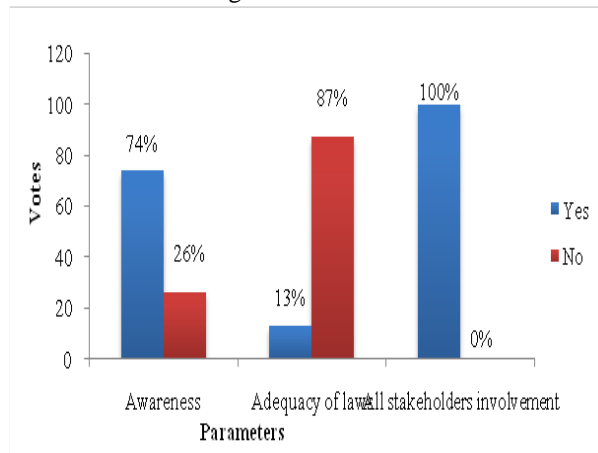


Fig.11 Response of the students

From the below Fig 12 it is understood that the rigid rules are very much in need. Secondly, integration in sectoral

laws and awareness on water pollution laws are important to be counted in improvising the laws.

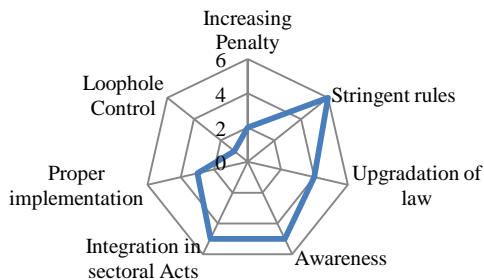


Fig.12 Need in water pollution laws

As the Fig: 13 represents that the political issues play a major role. It was clear that individual politician should take steps to control pollution with honest consciousness or by law. Thereby, it reduces the corruption and increases the political will.

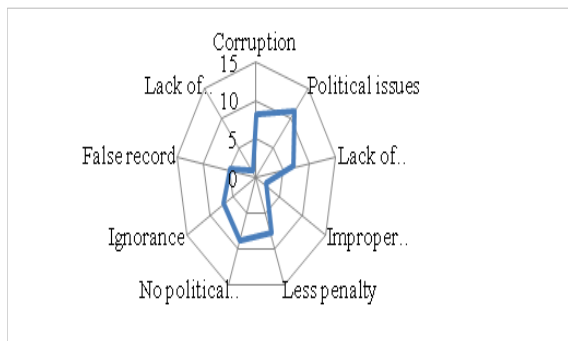


Fig. 13 Social hindrances

It is observed from the below Fig: 14 that the control measures towards pollution are necessary and it should be ensured in advance. It was clearly shown that the Polluter Pays Principle and Precautionary Principle are the best proactive actions that could be taken on polluters in advance.

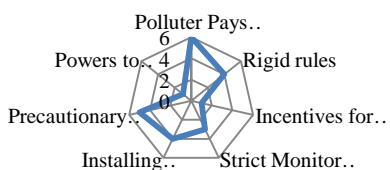


Fig.14 Measures to control water pollution

From the below Fig 15 it is inferred that although the state has laws on controlling pollution, there is still improvement needed in monitoring, evaluation and assessing water pollution at various levels from the Government side.

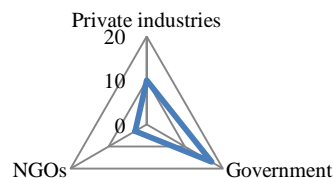


Fig.15 Lack of improvement in sectors

On the whole, this survey analysis says that the government needs to be upgraded in the view of industrial compliances keeping national development is in par with the environment. Local authority showed be vested with the power to participate in the decision-making process.

This voice needs to be heard before the Government gives its concern for the start of any industry. Now-a-days it is very much important to include NGOs as prime stakeholders. Having studied the different perceptions of the stakeholders, lacunae existing in the Water Pollution Laws are as follows:

E. Rationalist Model

Experts believe that there is a set of systematic procedures or policy analysis methods that can be used to attack contemporary policy problems and also there is a subset of these methods that are basic methods, yielding quick results and serving as theoretically sound aids for making good policy decisions. On the contradictory, few comments arrived saying that variety of public policy problems is so great that no one set of systematic procedures could be developed for dealing with all of them and also the geographic and political contexts for these problems are so far-ranging that they do not have much in common, thus defying any standard approach.

Yet a process for approaching these problems has evolved and has been applied called the rationalist model. For the quick and basic analysis, having practical goals according to the loopholes, classical rational models are helpful. The rational model is worked out based on the need of the identified problem that is the impact the people of SIPCOT are facing due to effluents from the industries.

The process starts with pollution assessment. The assessment is done to check the quantity of the impact of the water pollution. The basic principles of the flow chart are the source of information, information collection system, and information processing system and information users.

TABLE I GAPS IDENTIFIED

Sl.No.	Law	Section of the law	Gap Existence in the law
1	The Water (Prevention and Control of Pollution) Act, 1974	Section (16) sub section (1) says, "the main function is to promote cleanliness of streams..."	The effectiveness of the existing maintenance works is not sufficient enough to control water pollution. E.g.: One can see the gap of the law by seeing the Adyar or Coovum river.
2		Section (16) sub section (2), clause (b), "...Co-ordinate the activities of the state board and resolve dispute among themselves..."	Identification of those disputes itself considered as a milestone here.
3		Section (17) sub section (1) clause (g) says that, "...lay down, modify or annual effluent standards for the sewage and trade effluents..."	There is a lag of periodic revival of standards.
4		Section (17) sub section (1) clause (l), "...to make, vary or revoke any order..." to prevent pollution of wells	There is no revival of orders.
5		Section (22) sub section (5) says that, "...Any cost incurred in getting a sample..."	Cost on basis of what parameter shows an ambiguous statement.
6		Section (25) sub section (1) clause (b) says that, "...bring into use a new or altered outlet for the discharge of sewage..."	In this pre-analysis of the altered ways, have not considered scientifically.
7		Section (32) consists of "...Emergency measures in case of pollution of streams or well..."	It says emergency measures should be taken after pollution or during pollution not in a proactive manner. It also includes that pre-analysis of the possibilities in getting a water body polluted under specified circumstances
8		Section (41) sub section (2), "...with an additional fine which may extend to five thousand rupees for every day..."	There is no classification regarding small, medium and large-scale industries or based on its turn over or intensity of pollution (say red, green or orange category industries). For an industry of having 50 crores turnover, 5000 /- It is a big deal.
9		Under section 7, 8 and 9	The act denotes board members which need to say who are all the designated people to be included to be a part of the team.
10	The Water (Prevention and Control of Pollution) Cess Act, 1977	Section (4), "Affixing of meters",	Ensuring device installation is agreed, but when it comes to monitoring such devices, it is not at the satisfactory level by the board authorities. The illegal extraction of groundwater by the industries is not yet been questioned immediately.
11	The Water (Prevention and Control of Pollution) Cess Act, 1977	Section (4) sub section (2) says, "...the notes says the specification of water meters were given in the Water Cess Rules 1978, under section (3)	There are different kinds of water metering devices are present. Here there is no specification on device model to be used for specific purpose.
12		Section (6) sub section (4) says, "... collect the cess from the person or local authority liable to pay..."	Collecting cess amount is accepted, giving it to the central government is not advisable because water is a state. So, giving cess for the state under "Green Fund" will be sufficient for the water bodies' maintenance.
13		Section (7), "Rebate"	Cess is an amount paid for what we have used. There should be no need of rebate that too of 25%. Complimenting them in public gatherings will be sufficient.
14		Industry apart from those 16 listed in Schedule 1 of Water Cess Act 1977, what to do with industries which does not come under those 16 or comes under 2 or more categories. The Act hasn't declared in the following amendment too.	

15	The Water (Prevention and Control of Pollution)Cess Rules, 1978	Section (5) sub section (2) says, "... cess ... shall be remitted to the Central Government..."	The cess amount should be drafted to the Ministry of Works and Housing, New Delhi; Decentralization is lacking.
16		Section (5) sub section(3) says, "...relevant major head..."	Clear listing of official's positions regarding their responsibility is lagging.
17		Again, Section (6) says, "Rebate"	The rebate is given on the 16 th day of successful commissioning of the treatment plant. Examining with the monitoring committee is lagging. Giving concession on the 16 th day is very soon.

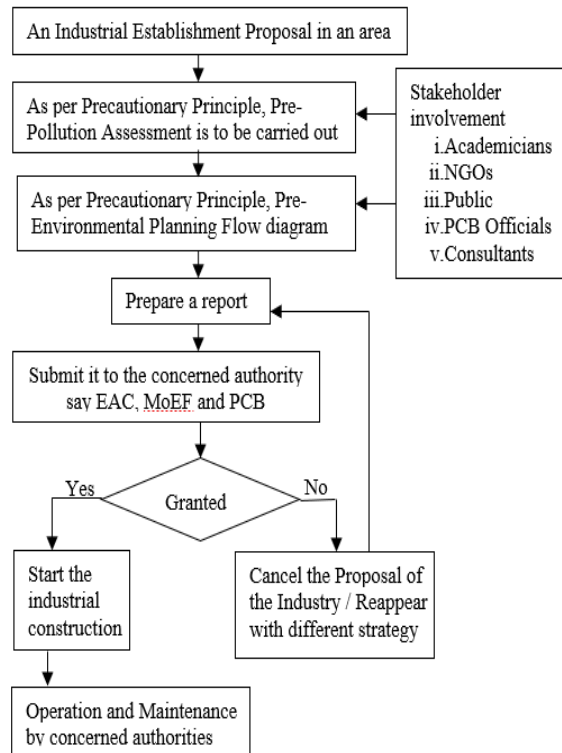


Fig.16 Whole Estate and Also Applies to an Individual industry

V. CONCLUSION

The understandings from the above literature, as well as the stakeholder’s opinion study, reveals that a practical and effective policy would be to involve all stakeholders who are directly or indirectly get benefits from the policy implementation. That is, in practice, neither proposal nor the implementation of water pollution policy alone would constitute an optimal environmental strategy. A holistic approach is in need to control water pollution practically. That is, considering every societal problem is unique. The solution must be framed on viewing the opinions of all stakeholders involved in giving permission to establish a future water polluting industry. In the below Fig 16 it is mention for the whole estate and also applies to an individual industry. So far, there is no involvement of all stakeholders at the very first stage of any industry in getting approval for its establishment. Here, in the flow chart which is below involves the stakeholders at their fullest

participation in approving an industry. The concept of controlling water pollution by the industries to get a complete rationalist model with regard to water pollution laws is as follows.

This model generally will serve as a preventive measure in controlling water polluting industries at the entry level itself. It is always better to evade polluters at the beginning stage itself than letting them to pollute the precious water resource and asking the government or any other agencies to provide a clean environment. Even though there are many methods available to control pollution, it is difficult to control illegal violators and eradicate politicians with lack of will power. Strengthening enforcement and compliance systems will positively ensure the process of polluting any water body to the above normal limit, is a crime against Mother Nature.

REFERENCES

- [1] F.Ahmad, "Origin and Growth of Environmental Law in India", *The Indian Law Institute*, pp.358-387, 2001.
- [2] S. V. Kumar and K. G. Bharat, "Perspectives on a Water Resource Policy in India", *The Energy and Resources Institute, TERI*, No. 1, pp.1-15, 2014.
- [3] C. Arul, "Gaps in Irrigation Laws of Tamil Nadu", A Doctorate of Philosophy thesis, *Centre for Water Resources*, Anna University, Chennai, pp.1-283, 2008.
- [4] M.Karpagam and *et. al.*, "An Appraisal of India's Policy to Control Industrial Waste Water Pollution", *International Journal of Economics and Development*, Vol. 9, No.1, pp.45-61, 2012.
- [5] T. Gonzalez and G. Saarman, "Regulating Pollutants, Negative Externalities and Good Neighbor Agreements: Who Bears the Burden of Protecting Communities", *Ecological Law Quarterly*, Vol. 4, No. 1, pp.37-80, 2014.
- [6] R. J Campos and V.S Pena, "Implementation of Public Policies of Transparency. The Case Study of Coahuila, Mexico", *Revista Venezolana de Gerencia*, Vol. 20. No. 72, pp.612-629, 2015.
- [7] H. Choudhary, " *Interpretation of Polluter Pays Principle*", 2014,
- [8] T. Ramakrishnan, , 'Water Policy to be revised', *The Hindu*, p. 1, February15, 2012, [Online], Available: <https://www.thehindu.com/news/national/tamil-nadu/waterpolicy-to-be-revised/article2893747.ece> [Accessed Mar. 25, 2016]
- [9] P.Gargi, "Water Policy draft favours privatization of services", *The Hindu*, para.3-5, January 21, 2012. [Online] Available: <https://www.thehindu.com/news/national/WaterPolicy-draft-favours-privatisation-of-services/article13375447.ece> [Accessed Mar. 25, 2016]
- [10] SIPCOT Area Community Environmental Monitoring, "CUSECS: Solution or Pollution? An analysis of the quality of effluent discharged by Cuddalore SIPCOT Industries Common Utilities Ltd into the ocean", Cuddalore, 2010, [Online] Available: <https://www.yumpu.com/en/document/read/26837062/cusecs-solution-or-pollution-sipcot-area-community->
- [11] Department for Economic and Social Information and Policy Analysis, *Glossary of Environment Statistics*, Statistics Division. United Nations, New York, 1997.
- [12] Pollution Database for Tamil Nadu, ENVIS Centre, Department of Environment, Government of Tamil Nadu, 2014.