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# Beyond the frame; adopting the polluter pays principle to regulate the e-waste in Sri Lanka, nation secured from e-waste.

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**Abstract**—Development of technology paves way to a drastic usage of e-waste in day to day lives of the human beings worldwide. Thereby it gradually becomes an issue of growing concern worldwide about how to dispose this e-waste. It is important to pay special attention on this regard since improper ways of disposing e-waste able to cause a drastic impact to the public health and to the environment. In this backdrop Sri Lanka which nourishes from biodiversity treating to the e-waste under the category of solid waste and uses it for landfilling or to incinerate. This improper treatment of e-waste is a huge threat to the countries' biodiversity and to the public health in next decade. Most of the developed countries overcome this issue by establishing recycling plants, thus Sri Lankan economic context is not in a possession to facilitate e-waste recycling plants due to its high amount of constructing and maintaining costs. Pathetically Sri Lankan legal context is still in a primitive stage in this regard. National policy in this regard is still in drafting process and currently addressing this issue based on the Basel Convention. In such a circumstances objective of this research is to evaluate the importance of adopting the polluter pay principle to facilitate the optimal responsibility between the e-waste consumer and the retailer about the usage and disposal of e-waste and put forward recommendations for further development of law in this field in the light of relevant international standards. Research question is, how to apply the polluter pays principle to regulate the e-waste accumulation in Sri Lanka. Research will be qualitative based on the books with critical analysis, journal articles, conventions, statutes, case law and data collected from policy making authority. Underline principle of the polluter pay principle is those who pollutes must bear the cost of it. In this backdrop this paper suggests to regulate the e-waste in the country by adopting the polluter pays principle by imposing liability to the e-consumer. Through that it promotes the reuse of electronic and electrical equipments which come under 3R principle on waste prevention approach. This study concludes an essentiality of a legal framework based on this principle and it highlights how this process minimize the amount of accumulate e-waste directly to the environment, further it will affect positively to create a nation secured from e-

waste and ultimately it grants an ecofriendly environment to every Sri Lankan.

**Keywords**— Polluter pays principle, e – waste, reuse, liability

### I. INTRODUCTION

Development of technology and globalization human beings tend to use different types of electronic equipments and electronic devises for their smooth functioning of lives, which ultimately becomes e-waste issue at the end of its duration. According to the report of global e-waste monitor, e- waste in 2014 compromised;

- 12.8 million tonnes of small equipment (such as vacuum cleaners, microwaves, toasters, electric shavers and video cameras);
- 11.8 million tonnes of large equipment (including washing machines, clothes dryers, dishwashers, electric stoves, and photovoltaic panels);
- 7.0 million tonnes of temperature-exchange (cooling and freezing equipment);
- 6.3 million tonnes of screens;
- 3.0 million tonnes of small ICT equipment; and
- million tonne of lamps.

Perusal of the above statistics clearly emphasises the amount of e-waste accumulate to the world within a year. When e-waste is not properly discharged and dumped in open yards, hazardous substances of it released to the environment and lead, brominated dioxin, beryllium cadmium, and mercury and other toxic metals are leached into the ground water and gets contaminated and toxic. They get deposited in rivers and other water sources through rain and acidify soil, fish and flora (Sangal P, 2010). As a result of that it causes health issues. Compared to municipal solid waste e-waste can cause a great threat to our lives due to hazardous substances of it. In proof of that the research conducted by the Centre for Children's Health and the Environment at the University of Queensland, Australia collaboration with the World Health Organization pointed out that exposure to the e-waste cause thyroid

dysfunction, adverse birth outcomes, behavioural changes, decreased lung function, and adverse changes of human beings and there will be a huge probability to subject to cancer. But, broadly speaking based on these adverse impacts human beings are not in a possession to prevent the e-equipments since they are now adhered to the high technique equipments. On the other hand countries like Belgium, China, Germany, Japan and Singapore are best examples for countries which have faced to this issue successfully and earn economically highlight profits on e-waste. In addition to those countries like Brazil, China and USA have created huge job opportunities in this field. Thus, considering the status of developing countries mitigate e-waste in a critical situation since they do not have infrastructure and high capital to facilitate e-waste recycling plants. It is important to note that workers in an improper recycling plants suffer high incidences of birth defects, infant mortality, tuberculosis, blood diseases, anomalies in the immune system, malfunctioning of the kidneys and respiratory system, lung cancer, underdevelopment of the brain in children and damage to the nervous and blood systems. Further improper treatments of e-waste cause an adverse environmental impact -to food-chain contamination, as contaminants may accumulate in agricultural lands and be available for uptake by grazing livestock.

Therefore, as this paper suggests to overcome this issue it is essential to think “beyond the frame”. It is important to facilitate a process which will mitigate the use of e-waste accumulation in the country. Hence this paper suggests to adopt the polluter pays principle and imposing liability to the e-consumer.

## II. E-WASTE AND THE SRI LANKAN LEGAL CONTEXT

As mentioned in the above chapter Sri Lanka is also not in a position to facilitate a e-waste plant. Presently e-waste treats under the category of solid waste and use it for landfilling or to incinerate. This improper way of e-waste treatment able to cause an adverse impact to the eco system and to the public health as well as it affects to the climate change of the country. In this backdrop it is essential to note that existing legal frame work in this regard is not in a satisfactory level.

Umbrella legislation for the Environment in Sri Lanka is the National Environment Act No 47 of 1980 amended by Act No 56 of 1988 and No 53 of 2000. Thus this Act did not specifically deals with e-waste. Thus Part IV of the Act deals with the environment management. Under that Section 17 discusses about the protection of natural resources. Thus,

this improper way of e-waste treatment is able to make a huge threat to the natural resources in the country due to the toxic hazardous include in the e-waste. Further, Section 22 and 23 of the Act deal with the soil conservation. As mentioned above when e-waste used as a landfilling gradually it releases it toxic hazardous to the soil and it will cause an impact to the livestock and to the food circle. However, this clearly shows the existing legal protection given by the law has many conflicts.

Moreover, looking at the International context with regard to the existing domestic law, Sri Lanka follows the principles which are mentioned in the Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and Their Disposal. Under that frame work Central Environmental Authority deals with the importing of hazardous waste to the country. Basel convention designs to reduce the movements of hazardous waste between nations and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs). Further, this convention is also intended to minimize the amount of toxic wastes generated, to ensure their environmentally sound management as closely as possible to the source of generation, and to assist LDCs in environmentally sound management of the hazardous and other wastes they generate.

Furthermore, National Environmental (Protection and Quality) Regulations, No. 1 of 2008 deals with the management of waste thus, it does not define e-waste. It is important to note that one of the major reasons for lack of legal protection for e-waste is due to its difficulty to give a proper definition what would apply to the category of e-waste.

## III. POLLUTER PAYS PRINCIPLE

In 1972 Organization for Economic Co-operation and Development articulated the polluter pays principle as an economic principle but gradually it developed and presently it includes in international as well as in national legal regimes as an environmental policy. As it denotes underline purpose of the polluter pays principle is that the polluter must recover the damage he or she caused to the environment. Here polluter can be an individual, organization or a company. For an example if the e-equipments repair company releases the waste in the industry to a river then it will cause an adverse impact to the human beings who use the water in the river as well as it affects to the fisheries in the water also. In such a situation polluter pays principle believes such a damage cause to the environment due to the polluter. Therefore he

is liable to the damage. Hence e-waste equipment Repair Company has to compensate to the affected people.

Basically this principle elaborates three questions as what would be the pollution, secondly who is the polluter and how much has to be paid? In relation to the above example pollution will be the damage cause to the river. For the next question polluter will be the e-equipments repair company and finally due to the damage he causes to the river he has to compensate to the users of the river. Through this procedure it encourages the polluters about finding more efficient ways of using resources while restricting to the damage they caused to the environment. In developed countries like America facilitate this principle in broader manner to prevent the agricultural practises which affect to the environment. As well as in European community they have facilitated this principle to fisheries sector for an optimal usage of fishes. In such a situation this paper suggests adopting this principle to manage the e-waste would be a fruitful option.

As mentioned above this principle has recognized in several national and international environmental policies, in Kyoto Protocol parties must responsible for their greenhouse gas emission and they must bear the cost of such pollute emission under the polluter pays principle. As well as this appears in Rio Declaration in 1992 as 16<sup>th</sup> principle which states that national authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, 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. Apart from international environmental policies Article L 110 of the French Legislation in the French Environmental Code states that the polluter pays principle according to which the cost of measures carried out to prevent, reduce, and control pollution have to be borne by the polluter.

Broadly speaking Sri Lankan legal system does not collaborate adopting the polluter pay principle in an eminent manner. In *Bulankulama V The Secretary, Minister of Industrial Development and Others* is a significant case where the Sri Lankan judiciary deals with the application of polluter pays principle. There Justice Amarasinghe observed that “the economist no longer able to externalize the polluter pays principle merely because they find it too difficult to include it to human activities”. He further pointed out that the cost of damage caused to the environment must pay the party that cause such damage to the environment and it must not put on the general public

by way of taxation”. When considering the states of polluter pays principle in Sri Lankan legal structure, even though judiciary is not regularly adopting this principle judiciary have characterized important qualities of it. Because there justice Amarasinghe stressed that liability caused by the polluter must not put to the general public as a tax. In such a situation adopting this principle to manipulate the e-waste in country will be a successful option and it must be done in a public friendly manner. In the next chapter of this paper discusses about the adoption of this principle in Sri Lankan context.

#### IV. APPLICATION OF POLLUTER PAYS PRINCIPLE TO MANGE THE E-WASTE IN SRI LANKA.

As mentioned in the previous chapters developed countries use polluter pays principle to facilitate agriculture with the minimal use of chemical products which harms to the human beings. Simultaneously the main purpose of this paper is to facilitate a procedure where people are familiar with the reusing of electronic products in accordance to the polluter pays principle. Further facilitate a reward system to persuade e-consumers to reuse their electronic products.

Application of polluter pays principle deals with the industries which only cause an adverse impact to the environment. When applying this principle the polluter might be the individual user or the company who does not produce e-waste. Therefore this principle will affect to both large scale companies and the individual consumer who use electronic devises without reusing them. According to the principle also there’s no proper definition that the polluter always must be an industry. It can be an individual, organization or it might be a company. Moreover when applying this principle government also has a role to play by persuading companies to establish e-waste collecting centres by giving them tax holidays. Further, this paper in the point of view that the government must promote the reusing of electronic devises to e-consumers by encouraging them and at the same time imposing liability to the e-consumers and retailers for not reuse them.

When applying polluter pays principle government must establish electronic devises repairing centres. When the consumer find some error in their electronic device this repairing centres must do their repairs. At the same time when the consumer uses the electronic devises by repairing it then there will be a reward system which appreciates his attempt to reuse the electronic equipment. Hence in a particular time when the electronic device come to a situation where it cannot repair more, based on the rewards obtain by the consumer by repairing the electronic

device then the consumer will obtain a relief of price to the electronic device which he is going to buy newly. In other words, when the buyer buys new equipment then the exact amount of it reduces as a result of the credits he or she earned from reusing their previous e-equipment. On the other hand consumer who throws away the electronic devices without repairing it or due to the new arrival of a new model of device must not be able to obtain such relief and they have to pay fine to the government as a cost of their previous electronic devices recycling cost. Through that process once again the polluter who does not reuse his electronic equipment and use a new device must pay the cost of the recycling of it under the polluter pays principle. This will become a good solution to manipulate the e-waste because more often people tend to change their mobile phones with the arrival of new model and there's no error in the existing phone.

Apart from above solution government must facilitate policies that retailer receives used e-waste from the consumer and retailer can submit them to the particular company. Then company can recycle it and sell again to a lower price.

Moreover to obtain successful outcome from this procedure government must prevent importing low quality e-equipments to the country. For an example there are several types of batteries used for e-equipments, which consist with different life times. Type A battery has one year life time and type B battery has two year life time. According to the example ecofriendly battery type will be type B battery, since without replacing the battery it can use for two years. But broadly speaking with regard to the economic level of the general public in the country, practically they tend to use the type A battery due to its low cost compared to the battery B. But this paper suggests if the consumer acts according to the polluter pays principle as mentioned in this paper then he might have obtained rewards by repairing other electronic devices previously. Therefore consumer can use that reward to buy the battery B. One might argue that it cannot work practically because then there will be a gap occurs to the actual price of the battery B and Sri Lanka being a third world country government cannot bear that much of cost. Thus this paper points out that the gap occurred between the actual price and the reduced amount can be covered by the consumers who used the battery A.

Further, this paper suggests government can create a process of collecting e-waste and they can export them to the countries which have proper recycling plants.

Through that process government can earn foreign remittance and can reduce the unemployment since before we export them we have to process them properly.

#### V. OTHER RECOMMENDATIONS.

Apart from above suggestion further, this paper suggests it is essential to give a proper definition what comprises e-waste. Even though it is a common issue in the area of e-waste compared to other countries our country's legislations does not address it properly. Hence, before adopting such principle it is essential to have a proper definition of e-waste. Not only that but also government must create e-waste collecting centres with the proper legal framework. According to the National Environmental Management Waste Bill (2007) in South Africa industries that are identified as large waste generators will be required to develop and implement waste management plans. Other industries will be encouraged to develop plans on a voluntary basis. Thereby Sri Lankan legal context must include this type of regulations.

Furthermore, in Eppawala phosphate case Justice Amarasinghe observed that we have to treat this principle in an environmental sustainable manner rather than an economic theory. Therefore government must have a responsibility to promote ecofriendly products as well as government must grant tax incentives to the green products and persuade those manufacturers by granting tax incentives to create electronic device with the long term duration and using of ecofriendly parts to the equipment.

Finally this suggests government must encourage to conduct research and scientific experiments about e-waste, other measures of controlling the e-waste in the country apart from recycling. Or another way to facilitate recycle plants with a low cost by using solar energy. As well as it is important to acknowledge general public about the gravity of the damages which can cause to the eco system and to the human beings due to the e-waste.

#### VI. CONCLUSION

Perusal of this paper shows how E-waste would become a challenging issue for Sri Lanka in near future and the lack of legal protection to this issue. Existing methods of disposing e-waste through incineration or as a landfilling will cause an adverse impact to the country's biodiversity and to the public health. Since Sri Lanka is an island where improper ways of disposal of e-waste able to cause an impact to the climate change also. Unfortunately most of the general public and the government offices do not have an idea

about this critical situation as well as majority of the people do not know what e-waste is. If we do not take necessary steps e-waste would become a silent killer in near decade. Because the e-waste use for landfills release their hazardous toxics to the soil very slowly. Therefore the negative impacts of this come to the stage after few decades.

It is important to note that even though developed countries overcome this by facilitating e-waste recycling plants. But broadly speaking our country does not have a high infrastructure and capital to facilitate e-waste recycling plant. In this backdrop this paper suggests to overcome this silent killer by adopting the polluter pays principle and regulate the e-waste accumulation in Sri Lanka by persuading general public to reuse the e-equipment rather than disposing them directly to the environment.

Therefore as argued throughout this paper best solution to regulate the e-waste accumulation in the country is adopting polluter pays principle which imposes liability on the-consumer and to the retailer. Polluter pays principle is not a novel concept to the Sri Lankan Judiciary. It has practiced in the Epavala case. This paper suggests Sri Lanka legislative system can take the optimal usage of this principle. Further, some countries like America facilitate this principle in broader manner to prevent the agricultural practises which affect to the environment. As well as in European community they have facilitated this principle to fisheries sector for an optimal usage of fishes. Thereby considering all these it is clear enough the best solution to manipulate the e-waste is adopting the polluter pays principle which ultimately paves way to facilitate a nature secured from e-waste.

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