

Addis Ababa University
School of Law and Governance studies
LLM Program in Public International law

The Need for Environmental Pollution Tax in Ethiopia

By: Birtukan Mitiku

December 26, 2020

Addis Ababa, Ethiopia

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Declaration

I, Birtukan mitiku, declare that this thesis entitled “**The need for Environmental pollution Tax in Ethiopia**” is outcome of my own effort except those which are duly cited and quoted. This study has not been submitted for any degree in this University or any other University. It is offered for the partial fulfilment of degree of masters of public international law.

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Place and date of submission: Addis Ababa University December 2020

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Thanks All!!!

Abstract

This study assessed whether Ethiopia need to introduce environment pollution tax or maintains the current mechanism of environment protections including environment-related tax.

As such, this paper focuses on the need for environmental pollution tax in Ethiopia and introducing such tax in a comprehensive and structured manner to ensure pollution reduction. It also looks into the practical significance of introducing environmental taxation for the prevention of environmental pollution and tax policy combinations for the environment protections.

The qualitative research methodology was used in assessing the need for environment taxation in Ethiopia by applying in-depth interviews, focus group discussions and structured document review analysis of existing literatures for data collection. The comparative analysis of the countries like Vietnam, Uganda, and Norway with well-developed environmental pollution tax implementation was conducted during the assessment.

The findings of the research showed as the Environment pollution tax is not yet introduced in Ethiopia except certain environment related taxes. On the other hand, there are various activities in Ethiopia in which environmental pollution taxes could be introduced. Moreover, the result identifies the contribution of the tax as a source of finance for environmental friendly projects.

Finally, the writer recommends the existence of an administrative mechanisms in place and their implementation accordingly in order to ensure the introduction of Environmental pollution tax in Ethiopia.

Lists of Acronyms

Art.--Article

ed.--Edition

FDRE- Federal Democratic Republic of Ethiopia

IBFD – International Bureau of Fiscal Documentation

IMF – International Monetary Fund

ERCA –Ethiopia Revenue and Customs Authority

No. - Number

OECD – Organization for Economic Cooperation and Development

P. –Page

pp. - Pages

VAT- Value Added Tax

Vol. - Volume

MoF- Ministry of Finance

E.C – Ethiopia Calendar

NBER--- National bureau of Economics Research

UCLA -- University of California, Los Angeles

NO₂..... Nitrogen Dioxide

CO₂----- Carbon dioxide

SO₂----- Sulfur dioxide

List of Annexes

- Annex 1 – Letter written from the MoF on 15/5/2011 E.C letter no. letter $\sigma\eta\chi$ / 30/7/20, 15/5/2011.
- Annex 2 – Letter written from the MOF (former MOFEC) on 2/4/96 E.C letter No. λ . $\sigma\sigma$ /16/28/50

Table of Contents

Declaration.....	i
Acknowledgment	ii
Abstract.....	iii
Lists of Acronyms.....	iv
List of Annexes	v
Chapter one	1
1.1 Introduction.....	1
1.2 Statement of the problem	3
1.3 Research objective	4
1.4 Research questions.....	4
1.5 Significance of studies	4
1.6 Methodology	5
1.7 Data analysis	5
1.9 Limitation of study.....	8
1.10 Organization of study.....	8
1.11 Scope of paper.....	9
Chapter Two.....	9
Theory of environment taxation.....	9
2.1 Nature, source, base, role of environment taxation.....	9
2.2 The theoretical basis of Environment tax	11
2.3 Role of Environment tax	11
2.4 Environment taxes as part of the border tax system	12
2.5 Environmental tax versus other environmental protection policy	13
2.6 Type of Environment tax	14
2.6.1 Energy Taxes	14
2.6.2 Transport tax	14
2.6.3 Tax on pollution.....	15
2.6.4 Resource taxes:	15
2.7 The disadvantage and advantage of the environment tax	16

2.7.1 Advantage of environment tax:-	16
2.7.2 Disadvantage of environment pollution tax	18
2.8 Are environmental taxes effective?.....	20
2.9 Challenges to introduce environment tax:-	21
2.10 Designing environment tax	22
2.11 Environmental taxation practice in different Countries	23
2.11.1 Vietnam.....	23
2.11.2 Uganda	24
2.11.3 Norway.....	25
Chapter Three.....	27
The Need for Environmental pollution Tax in Ethiopia	27
3.1 The Major Environmental Issues in Ethiopia.....	27
3.1.1 Industry:-.....	28
3.1.2 Plastic waste:-	29
3.1.3 Energy:-.....	29
3.1.4 Agriculture:-.....	29
3.1.5 Road and building sector	30
3.2 A key source of environmental pollution:-	30
3.2.1 Air pollution.....	31
3.2.2 Water Pollution	32
3.2.3 Biodiversity loses.....	32
3.3 Does Ethiopia have an environmental tax?.....	33
3.4 The need for environmental pollution tax for Ethiopia.....	34
3.5 Environmental tax is effective over other means of environmental protections.....	37
3.6 Challenges to introducing environment tax In Ethiopia.	37
3.6.1 Policy, Legislation and implementation constraint.....	37
3.6.2 Policy Constraint.....	38
3.6.3 Awareness Constraint	39
3.6.4 Competitiveness	39
3.6.5 Institutional Constraint.....	39
3.7 Environment Tax provision in other tax law in Ethiopia.	40
3.7.1 Value add tax	40

3.7.2 Excise Tax.....	40
3.7.3 Custom duty	41
3.8 Constitutional base of environmental pollution tax in Ethiopia.....	42
3.9 Lesson for Ethiopia from OCED country experience	42
3.10 What is the financial source for the environmental project in Ethiopia?	44
Chapter Four	45
Conclusion and recommendation.....	45
4.1 Conclusion	45
4.2 Recommendation	46
BIBLIOGRAPHY	48

Chapter one

1.1 Introduction

Global environmental issues such as global warming, greenhouse gas emission, and trans-boundary movement of hazardous wastes are becoming a concern for the world. Because the consequence of such pollution has been following by a natural disaster, health problems, and death in humankind. All these matters make environmental issues a center much of attention. To prevent these dangers countries work in environmental protection trough different mechanisms including taxation on polluting activity and applying environmentally friendly projects that help to treat the environment and stop or reduce pollution.¹

By definition, Environment pollution is "the contamination of the physical and biological components of the earth/atmosphere system to such an extent that normal environmental processes are adversely affected. Any additional use of the substance on the environment beyond the nature capacity result in pollution."²

Environment tax is a tax whose tax base is a physical unit or a proxy of it (substitute or input of pollutant product) of something that has been a proven, specific negative impact on the environment.³ This definition of environment tax infers two things, one, a tax on pollution emissions, and the other it shows the corrective role of environmental pollution. The use of taxation is to correct negative externality on the environment like pollution. With its externality may occur during production and consumption of the goods. Environmental taxes have been proposed as one

¹. Pasquale Pistone and Marta Villar Ezcurra, **Energy Taxation, Environmental Protection, and State Aids**, June 2016, p.43

². Iyyanki V. Muralikrishna, Valli Manickam, **Industrial Management – Environmental aspects Environmental Management**, (ed), Oxford Butterworth-Heinemann, 2017, p. 3

³ OECD Environmental Outlook to 2050: **The consequence of in action**, (OECD Publishing OECD (2012), Paris, 2012, p. 13 Available at: - <https://doi.org/10.1787/9789264122246-> (last visited February 2020)

of the main instrument for the mitigation of environmental problems. As such environment pollution taxes are levied on activities that have negative externality on environment.⁴

There are other alternative policies other than environmental pollution tax, which is used to reduce pollution like tradable permits, technology or emissions standards, and subsidies. The environmental pollution tax-efficient over that alternative environment protection because environment pollution tax has the advantage to generate revenue and protect the environment, flexibility (allow the polluter to limit the level of damage) and gives incentives for environmental-related activity.⁵

Ethiopia is known for its wealth of environment and water supply even though it has polluted as a result of less environmental protection (contamination, and unsafe water supply, solid wastes, plastic bags, industrial wastes, and traffic pollution including high way road emission, emission of hazardous substances to the environment from cement, leather, textile factories, flower farms and aluminum constructed building effect) tax.⁶

It is mandatory to discourage these activities for environmental protection. As a result, Ethiopia needs a means for better protection of the environment. Currently, Ethiopia has command and control environment protection and some environment-related taxes that have some environmental protection incentives. However, those mechanisms didn't tackle environmental problem.⁷

Therefore, this paper has been assessing whether Ethiopia needs an environmental pollution tax to sufficiently protect environmental pollution. Also, discuss the meaning and nature of an environmental tax, different arguments for and against the environmental tax, type of Environment tax, and area in which environmental tax could be introduced. Additionally, the writer uses the key words environment tax and environment pollution tax interchangeably, taxation, pollution, and environmental law and policy.

⁴ . Sudhakara Redd, "Climate change – a developing country perspective," **Journal of current Science**, vol.9, No.1, July 2009, p.51

⁵ · Lulu melesese, **Environmental taxation practice and revenue performance in Ethiopia**, Presented in Partial Fulfilment of the Requirements for the Degree of Masters of Science in Accounting and Finance ,Addis Ababa University, June 2013, p.2 available on :- <http://localhost/xmlui/handle/123456789/3935> (last visited on January 2020)

⁶ P. Pistone and Marta V.Ezcurra, **Energy Taxation, Environmental Protection, and State Aids**, (1st ed,) IBFD, June 2016)

⁷ L. melese cited above at note 5, p.37

1.2 Statement of the problem

People all over the world suffer from different dangers among such dangers, environmental pollution is the main one because the consequence of environmental pollution leads to loss of human life, health problem (cancer, respiratory body problem), and natural disaster (creates insufficient water and resource supply). The world society gives responses to control such danger by enacting different policies, laws, and regulations, by signing different agreements and conventions for the protection of the environment by controlling emission and polluting activity.⁸

Irrespective of these efforts, pollution continued unabated. For that matter, nowadays many countries look for different ways of pollution control mechanism among them environmental pollution tax propose as one of the main instruments for the mitigation of environmental pollution.⁹

However, in Ethiopia numerous air, water supply, soil, and biodiversity pollution still surrounded the environment such difficulty aggravated by poor environment sanitation, less awareness of society and concerned authorities about environment issue, weak in conducting an impact assessment, non- efficient regulatory framework and implementation of environmental law and standards and there are uncovered area of pollution in environmental policies such as high way road emission, flower farm, and construction building.¹⁰ Despite, this difficulty Ethiopia has not developed environmental pollution tax except for some environmental-related tax those not enacted based on the polluter behavior and not financing the environment project like excise tax and custom duty.¹¹ This makes the country lose the way to sufficiently control pollutant behavior and to get extra revenue to remedy environmental damage.¹²

In summary, the country needs to deter environmental pollution in the way considering environment policy with other policies like tax policy by enacting separate and distinct

⁸ D. Heine, J. Norregaard, and Ian W.H. Parry, **Principles from Theory and Practice to Date**, IMF, Fiscal Affairs Department, July 2012. p.18

⁹ M. Berliant, Pollution: Agglomeration and Welfare Consequences, Washington University in St. Louis,2011,p.17 available at <https://as.vanderbilt.edu/> (lasted accessed December 2019)

¹⁰ S. Addisu, Ethiopian summer temperature from the global circulation model output data and its outlooks, **journal of environment system research**, vol.1,2016,p.8

¹¹ L.melese cited above at note 5, p. 39

¹² Rapanos, V.T.; Polemis, M.L. **Energy demand and environmental taxes: The case of Greece**. Energy Policy 2005, P.33, Available at www.elsevier.com/locate/ (last visited January 2020)

environment tax. As such, this paper focuses on the need for environmental pollution tax in Ethiopia and introducing such tax in a comprehensive and structured manner to ensure pollution reduction.

1.3 Research objective

General objective

The main objective of this paper is to investigate the practical significance of introducing environmental taxation for the prevention of environmental pollution in Ethiopia.

Specific objectives

- To assess the reason why Ethiopia needs to have the environment taxation and to explore the advantages and disadvantages of introducing environmental taxation to the Ethiopian environment protection;
- To evaluate the existing practices regarding environment-related taxes and their effectiveness for controlling environmental pollution;
- To assess the area of activities where environmental taxes could be covered when environmental tax introduced.
- To explore the practical correspondence between the environment policy and tax policy for the protection of environmental pollution in Ethiopia

1.4 Research questions

- What are the significances of introducing the environmental pollution tax in Ethiopia?
- Which area of activities where environmental taxes could be covered when environmental tax introduced?
- What is the practical correspondence between the environment policy and tax policy for the protection of environmental pollution?
- Is there any tax base that supports pollution control and environmental protection?

1.5 Significance of studies

The need for environmental taxation is not adequately studied. Accordingly, this paper is designed to contribute the knowledge on the reason that concern Ethiopia to have environmental taxation, the practical scenario concerning environmental tax and activities where to be environmental taxes need could be introduced. The study identify the problem that may arise because of non-

introduction of environment pollution tax to control the current environmental pollution in Ethiopia. As such the study leads to the action toward the protection of the environment by using environment taxation as an instrument.

1.6 Methodology

The qualitative approach used in assessing the need for environment taxation for Ethiopia using in-depth interviews and focus group discussions as the research approach and structured document review analysis (existing data). Vietnam, Uganda, and Norway used for comparative analysis since these countries have well-developed environmental pollution tax implementation. To do so, reflection was made on the experiences of countries like Norway, Uganda, and Vietnam with a good environmental taxes and environmental protection. As a developing country would be a good lesson for Ethiopia in the way how to manage investment attraction and environmental tax. As well Norway also a country with a long history and well-developed environment tax.

The interview was held with face to face interview process to add with the questions that seem necessary or happen in the process of interviewing. The primary source collected from the interview, it anticipates that participants will talk about a variety of issues relating to environmental pollution tax and also secondary information gathers from books, journals, and thesis and internet source related topics. It was undertaken with 8 key interviews and all interviews was note taking and sound record later deducted to the memorandum and expected to take 20 min each. The interview used informal and open-ended and carried out a conversation style in selected organizations. The focused group discussion was held with 2 groups consist of 5 peoples. The selection of responsible organs (Environment, Forest and Climate Change Commission, Ethiopian Biodiversity Institute, Environment, Climate Change, Ethiopian environment and forest research institute, and Ministry of revenue and ministry of finance) are appropriate for this study because this organization to be studying is typically and in one way or another the organization involved in environment and taxation issue.

1.7 Data analysis

Qualitative data has be analyzed thematically by manual means. Each step followed by preliminary analysis. The collected data analyzed and presented descriptively and in qualitative form based on research questions and objectives. Raw data obtained by interview and group discussion,

structured, systematically organized, interpreted and analyzed. Interview questions structured in qualitative approach. Key informant interview responses was examined and analyzed.

1.8 Literature review: -

This paper reviewed both published and unpublished literatures. The goal of the literature review is to assert the need for environmental taxation in polluter activities so as to discourage the behavior of pollutants and make them financially accountable for their contribution towards environmental pollution.

Several, environmental protection agreements were signed for pollution reduction and environmental management. Also, at international level, a lot has been written on the carbon tax and green tax, and more specifically, on environmental-related taxes. Some studies indicated that environmental taxation has a disadvantage for environmental protection because the connection with the environmental damage is weak. Besides, it is less to influence the polluters' attitude and leads the polluter to move pollution from one environment element to another. It also induces substitute activities when new tax introduces the social and economic impact which affects the investment decisions of international competitiveness. It has a high administrative cost than collected income.¹³

Most of the studies put environment tax as an instrument to reach the highest level pollution reduction by lowest cost. This is attributed to tendency the tax that can incite the polluter to use the technology effectively and technology expectations of regulations. In addition, the rate of tax restricts the emission from above the cost of reductions.¹⁴

In Ethiopia, though the recent studies in attempts to deal with relation to environmental taxation came with the assessment of the advantage of environmental tax and identify challenges like the environment issue is given less concern, the awareness for benefit of environmental taxation is less even in the tax authority.¹⁵ This is widely observed during the designing policies like

¹³. Wire, M. "Are Co2 taxes regressive? Evidence from Danish experience", **Journal of Ecological Economics** 2005, V, 52 p. 239 -251.

¹⁴. Z. Nagy, **The role of Environment Taxation In Environmental policy**, Center of Excellence of Sustainable Resource Management at the University of Miskolc, v.60, 2013, p.512

¹⁵. L.melese cited above at note 5, p. 39

investment policy since the level of damage in our environment is believed to be at infant stage because Ethiopia is among the less industrialized countries.¹⁶

As the author argued, even though Ethiopia has less industrial and technological development ; that doesn't mean there is no environmental pollution from different sources like a dry waste, mining, traffic pollution, and others. In line with this; there are some literatures which indirectly attempts to deal with environment pollution tax as an issue like on "Air pollution in Ethiopia" and discusses particularly about indoor air and traffic pollutions.¹⁷ The paper entitled, "Practice of Waste Payment Collection from Public and the Improving of Its Challenges in Ethiopia", discusses issues which relate to municipal solid waste tariff strategy to provide a framework and guidance for municipalities in setting solid waste tariffs which aligns with the intentions of the National Waste Management Strategy.¹⁸ In addition, the importance of environmental factors and natural resources for the Ethiopian economy is assessed in the research under the topic of "Environment issue in Ethiopia and links to the Ethiopian economy"¹⁹.

The authors discussed on the necessity of environment protection by using different regulatory system such as charge and fee for pollution, and the role of the environment protection with due emphasis to industrial waste and emission. Further, the overall sources of pollution that affect environment in Ethiopia were not considered rather focused only on the industrial source of pollution. Moreover, the role of tax to control such pollution was less sighted. Thus, this paper focus on the need for environmental pollution tax in Ethiopia. Accordingly, economic elements of controlling mechanism to reduce environmental pollution will be explored. This will be by

¹⁶. Mebrahtom Fitiwi, "The Need for Environmental Tax in Ethiopia: Economic Analysis of Law", **Mekelle University, Journal of law**, Vol.2 No, 1, 2013

¹⁷. Abera kumie, "**Air pollution in Ethiopia**", **Indoor Air Pollution in a rural Butajira and Traffic Air Pollution in Addis Ababa**, PhD Thesis Dissertation, Addis Ababa University, School of Graduate Studies, June 2009,available at <http://etd.aau.edu.et/bitstream/> (last visited in May 2020)

¹⁸. M.Assnakew, Practice of Payment collection from public, **Journal of Waste recycling**, Vol.3 No.2, 2012 p.10

¹⁹. Dr bely Delay, **Environmental Issues in Ethiopia and Links to the Ethiopian Economy**, Evidence on Demand, UK, Department for International Development (DFID), September, 2015, p.33 Available at <https://assets.publishing.service.gov.uk/media/> (last visited in January 2020)

showing the significance of environmental pollution tax over other means of pollution control mechanisms.

Most of the past studies only focused on the industrial emission and fair weight was not given to other types of polluting activities which will have added values for introduction of environmental tax in the context Ethiopia whereby environment-related tax and environment tax terminologies are mixed up. This limits the capacity to show the significance of the environment tax differently from the environmental-related tax.

The quantitative research methodology was applied in most of the literatures and not elucidated the need for environment pollution tax. Hence, detailed accounts are not collected to assess the due understanding of human behavior which inquires the reasons and analyzes factors that govern such pollutant behavior.

There is no adequate study done to assess the need for environmental tax in Ethiopia. On the other hand, the conducted studies on environment pollution often lacks in-depth discussion on environmental pollution tax component. Thus, the present research focused on environmental pollution tax. Consequently, it contributed to existence of additional literature with the aspect of economic means of pollution control mechanism in this field of study. Moreover, the present work tried to contribute its share which can bridge the gap in previous literatures on the environmental pollution with due focus on the need for environment pollution tax in Ethiopia.

1.9 Limitation of study

The researcher encountered several limitations. Among them; international books dealing with this topic are e-books which makes it hard to access due to the recurrent connectivity challenges in Ethiopia and restricted access to the sources. It was challenging for the writer to see the theoretical framework, policy, and practice due to lack of adequate studies conducted on environmental taxation and absence of environmental taxation system in Ethiopia. The maximum effort was made to deal with the limitations in order to address the need for environmental taxation in Ethiopia.

1.10 Organization of study

The study consists of four chapters divided to subtopics. The first chapter deals with the proposal of study, literature review on the general overview of environment pollution taxation, theory of environment taxation, Advantage and dis advantage of environment, countries experiences and effectiveness of environment related tax are covered in the second chapter. Whereas, reasons for

needs of environment taxation in Ethiopia, major environmental concern at Ethiopia level and challenge and opportunities for introducing environment tax in Ethiopia were assessed in Chapter three. The final chapter contains recommendations and conclusions.

1.11 Scope of paper

It has been found as wider to focus on all environmental protection mechanisms and environmental pollution. Hence, the researcher preferred to deal with the environmental pollution taxation necessity on outdoor pollution in Ethiopia. Accordingly, the paper brought into focus the environmental taxation necessity mainly related to polluters' behavior control and financing outdoor environment pollution damage in Ethiopia. Additionally, the assessment of the loss posed by less applicability of environment taxation was specified whereby the ultimate benefit of environment protection when directly related protection of citizen life and health was also highlighted in the research. Overall, the thesis point out the importance of introducing environmental pollution tax for Ethiopia.

Chapter Two

Theory of environment taxation

2.1 Nature, source, base, role of environment taxation

A pollution is a substance that is present in concentrations that may harm organisms (humans, plants and animals) or exceed an environmental quality standard. Which poses or cause harm in human health, harm living resource and ecosystem.²⁰

The source of environment tax depends on principle of legality it means taxation must have legal basis and this is recognized as a constitutional perception in the most legal system since environment tax is part of a tax system when environment tax is enacted need to consider the

²⁰. Organization for Economic Co-operation and Development (OECD). **Environmental Taxation**, a Guide for Policy Makers; OECD Publishing: Paris, France, 2011.p. 30 Available online: <https://www.oecd.org/env/toolsevaluation/> (Last visited on May 2020)

principle of legality in the context of rule of law as such the source of environment taxes is subject to the principle of legality.²¹

Environment tax bases are targeted to the polluter activity and its proxies. Environmental tax should levy as directly as possible on the pollutant activity unless the available pollutant activity tends to be untaxed. If tax levied on proxies rather on polluting activity itself, it provides no incentives to deploy reduction behavior. However, the tax levy on the close proxy for polluting activity can provide a good tax base. For example, tax directly on the emission from motor vehicles is difficult because of the administrative cost is high. So tax on motor vehicle fuels is efficient proxies for emissions from the car.²²

Environment tax is an indirect tax by its nature.²³ It is primarily designing to promote environmentally positive behavior, reduce damaging effects on the environment, and generate revenue that can potentially have been using to promote environmental protection.²⁴ It imposes on product or activity that is environmentally damaging in combination with the relative price elasticity.²⁵

²¹. Taddese Lencho, **The Ethiopian tax system: Excesses and gaps**, Mich. State International. Law Review, Vol.20, 2013, Available online: - <https://digitalcommons.law.msu.edu/ilr> (last visited May 2020)

²². N. Jacobs, A .Ruud, the irrelevance of tax distortions for the second-best Pigouvian tax, **Journal of Environmental Economics and Management**, vol. 71, 2015 p.93 Available at, www.elsevier.com/locate/jeem (last visited on May 2020)

²³. Commission of the European Communities. **Environmental Taxes and Charges in the Single Market**; Office for Official Publications of the European Communities: Luxembourg, 1997; ISBN 92-78-15312-5. P.10 Available online: aei.pitt.edu/4785 (last visited on May 2020)

²⁴. W. Roberton C, **Environmental Taxation**, Resources for the Future, National Bureau of Economic Research Working Paper Series No. Cambridge ,June 2016, Available at :- <http://www.Nber.org> (last accessed at February 2020)

²⁵. Ibid cited above note 20

The use of taxation is to correct negative externality on the environment, such as pollution.²⁶ This externality may occur during the production and consumption of goods. However, such a correction process is challenging.²⁷

2.2 The theoretical basis of Environment tax

Environment pollution creates costs for a society like health impacts, water scarcity, and climate change.²⁸ Environmental tax measures can internalize these external costs and include some or all of them in the price of pollution, generating welfare gains, improving environmental quality, and reducing inefficiencies in the economy. By increasing the cost of polluting activity while reducing the use of polluting products, resources, goods or services or if the environmental tax measures set at an appropriate level, the price signal influences the behavior of economic actors, whether businesses or individuals and changes in behavior result in the form of energy efficiency improvements that reduce pollution.²⁹ But if the economy does not internalize these so-called ‘external costs’ or operate inefficiently rather than environmental protection, market distortions, and inefficient economic decision-making will result.

2.3 Role of Environment tax

Environment tax has double dividend effects.³⁰ The double dividend effect is an environmental tax improvement that reducing the environmental pollution on one side and the other side economic efficiency by reducing the overall economic costs associated with the tax system by using the revenue generated to displace other more distortionary taxes that slow economic growth. The environment tax has the following specific goals.³¹

²⁶. Herman Vollebergh, **Environmental taxes and Green Growth. Exploring possibilities within energy, and climate policy**, Netherlands Environmental Assessment Agency, Hague, 2012, P. 12 available at <https://www.pbl.nl/en/publications/environmental-taxes-and-green-growth>, (last accessed March 2020)

²⁷. D. Fullerton, A. Leicester, S. Smith, **Environmental Taxes**, Working Paper 14197, National Bureau of Economic Research, Massachusetts Avenue Cambridge, July 2008, p. 45 Available at, <http://www.nber.org/papers/> (last accessed at February 2020)

²⁸ Ovenberg, L., and L.H. Goulder, “Optimal Environmental Taxation in the Presence of Other Taxes: General Equilibrium Analyses”, 1996, **The American Economic Journal**, Vol. 86, No. 4, pp. 155-160.

²⁹ Ibid p.445

³⁰ Ibid cited above note 28 p.449

³¹ Ibid cited above note 24

1. promote environmentally positive behavior
2. reduce damaging effects on the environmental
3. Address the failure of market to take environmental impacts by incorporating in to account by incorporating these impact in to prices

2.4 Environment taxes as part of the border tax system

Some types of tax systems including income tax, property tax, and excise tax that potentially can incorporate environmental tax measures and contribute to the protection of the environment. At the same time, the environment tax can help to reduce other taxes, to reduce the budget deficit, to pay for public welfares, and address distributional goals. Generally, the revenue from an environment tax have been using to finance a cut in the tax rate for the other taxes and produces an efficiency gain in addition to supporting the correctives the negative externality.³² The first argument raised on the double dividend effect of environment tax is the addition of a revenue-recycling effect would increase the benefits of environmental tax reform so that the optimal environmental tax would rise above the rate of a negative externality.³³ It means when the environment tax considers the revenue-raising additional to the environment protection, the environment tax goes to a higher rate than the necessary tax rate that needs to protect externality over the environment. So the environment tax needs only focus on environmental protection, not the revenue-raising. The second argument that goes against the environmental tax is that “the gain from environment tax revenue can do little for the reduction of the harm on the environment but the administrative cost to implement environment tax is more feasible than the reducing of damaging. Even if there is a different argument on this use of environment tax as a double dividend. The environment tax has the advantage of correcting negative externality on the environment and raise revenue.³⁴

The double dividend issue can succeed by the environmental tax. That must consider the encouraging sustainable practice, the effects of a tax on competitiveness, tier distributional effect

³² Ibid

³³ Milliman SR, Prince R, Firm Incentives to Promote Technological Change in Pollution Control, **Journal of Environmental Economics and Management**, 1989, vol. 17 pp. 247–265.

³⁴ William K. Jaeger, Handbook of research on environmental taxation, **the double dividend debate** 2013, p. 211, <https://www.researchgate.net/publication> last accessed February 2020

on household and their public acceptability must consider being successful in both environmental gain and revenue gain.³⁵

Environment tax only covers the pollution production but income tax and another tax cover all production. Thus, the environment tax is narrower than the other tax. However, some recent literature concludes that tax other than environment tax base have tax deduction, credits its and exemptions narrow the tax base but environment tax more efficient in this means so can raising revenue than the income tax. On the other hand, the works of literature argue that even the real world environment tax also includes inefficient deductions or exemptions. As a result, literature has not come to a clear conclusion about the interaction of the broader tax system and environment tax.³⁶

2.5 Environmental tax versus other environmental protection policy

There are command control environmental protection policies and economic instrument mechanisms like a tax, tradable permits, technology or emissions standards, and subsidies those use to reduce emissions. The question is how environmental pollution tax is more efficient over such command control policies?

Environment tax leaves consumers and businesses full flexibility to decide how to change their behavior and reduce harmful activity. However, other environmental protection policies like technology standards didn't have much flexibility. Technology standards allow for emission control based on some standards but provide a little reduction beyond that standard. The environment protection policies other than tax also reduce pollution only to the limit fixed based on standards not encourage to reduce below such limitations that raise from standards and regulatory system that require subsidizing a less pollutant activity also focus only on the specific sector not address broad.³⁷ Generally, command control system follow remedial policies rather than more comprehensive prevention techniques and that spends resources but generates little

³⁵. Jaume Freire-González, **Environmental taxation and the double dividend hypothesis in CGE modelling literature**: A critical review, Department of Economics, Harvard University, Cambridge, MA 02138, United States , 2017, pp.210, Available online <https://www.sciencedirect.com> last accessed February 2020

³⁶. Ibid, cited above note 34 p.219

³⁷. J.Cottrell, K. Schlegelmilch, M. Runkel and A. Mahler, **Environmental tax reform in developing, emerging and transition economies**, German development institute, ,2016, pp.11 available at <http://dnb.d-nb.de/>(last accessed January 2020)

revenue, it means the cost of compliance is perceived to be high, which can result in costs that are higher than the sanctions for non-compliance. Environmental tax create different and new protection of environment means in less cost and flexible method that make more effective over the other polices.³⁸

2.6 Type of Environment tax

There are different type of environment tax based on the countries environment policy but as main type of the environment tax that designed by OECD and European countries classify based on their operation that apply in OECD Countries as energy, transport, pollution and resource tax.

In this context, environmental taxes include taxes on energy, transport, pollution and resources;

2.6.1 Energy Taxes: - Include taxes on energy products used for both transport and combustion processes (so-called stationary purposes). The most necessary energy products for transport purposes are petrol and diesel. Energy products for stationary use include fuel oils, natural gas, coal, and electricity. Energy tax and road transport tax have not influenced by the behavioral response because their need is inelastic (inelastic refers to the no change in demand when there is a change in another factor, such as price or income) especially, in long term.³⁹

2.6.2 Transport tax: - Transport taxes (excluding fuels) mainly consist of taxes relating to the ownership, registration, and use of motor vehicles. They also include taxes on other means of transport (For example, aircraft) and related transport services (for example, taxes on charter flights or passengers' fees) when these taxes are being deemed to comply with the general definition of environmental taxes.⁴⁰ Transport taxes may be applied either on a "once-off" basis, For example, on vehicle imports or sales, or may be "recurrent" taxes, such as an annual road tax.

³⁸. Goulder, L., Parry, I. **Instrument Choice in Environmental Policy**, Review of Environmental Economics and Policy, Stanford University, 2008, p.20, Available at <https://web.stanford.edu/> (last accessed January 2020)

³⁹ M. Muro, "Carbon Tax Dreams: **What about Clean tech Deployment?**" Washington: Brookings Institution, 2012, p.7 available at <https://environs.law.ucdavis.edu> (last accessed march 2020)

⁴⁰ S. Frank G, O. Les and F. Koli, "Reducing Carbon Emissions? The Relative Effectiveness of Different Types of Environmental Tax: The Case of New Zealand" ,**Environmental Modelling and Software**, 2004, p.5, volume 20 Issue 11, Available at, <https://scholarsarchive.byu.edu/> (last accessed march 2020)

Excise duties on gasoline, diesel, and other fuels used for transportation are included here; these duties are among taxes on energy products. Generally, Transport taxes include taxes on motor vehicles, road use, congestion taxes, flights, use of motor vehicles, and other means of transport.⁴¹

2.6.3 Tax on pollution: - pollution is the introduction of a substance directly or indirectly to the environment or interference with other users of the environment or exceeding the assimilative capacity of the environment resulting in danger human health, harm living resource and ecosystem.⁴² Pollution taxes concern the air and climate protection sector and include taxes on pollutants emissions (either measured or estimated) in the air, water, soil, and the management of solid waste and taxes for the abatement of noise and vibrations. Taxes on CO₂ emissions, already included among energy taxes as such pollution taxes include taxes for emissions in the air (NO, SO₂ contents), for ozone-depleting substances, for Effluents to water, water pollution, Non-point sources of water pollution, Pesticides (based on chemical content, price or volume), Artificial fertilizers (based on e.g. phosphorus or nitrogen content or price), Waste management, Individual products (For example. packaging, beverage containers, batteries, lubricants) and noise).⁴³

2.6.4 Resource taxes: -. The first group of resource tax levied on natural resources such as water, forest, Wild flora, and fauna. The second group, resource taxes, includes taxes associated with the extraction or use of a natural resource. Therefore, hunting, fishing, and similar activities are classifying as activities that lead to a reduction in natural resources payment on such activities consider as the resource tax. It is to being noted that taxes on the extraction of oil or gas is no longer classifying as resource taxes, in line with the European statistical guideline 2001 where excludes all taxes on the extraction of oil and gas from the definition of environmental

⁴¹. Ibid cited above note 26

⁴². **Environmental taxes - a statistical guideline**" by European Commission, 2001, methodology note page 3, European Commission. Environmental Taxes: A Statistical Guide; Publications Office of the European Union: Luxembourg, 2013, Available online: <http://ec.europa.eu/eurostat/documents>, (last accessed on June 2020)

⁴³. R.Reddy, Environmental Pollution Causes and Consequences, **North Asian International Research Journal of Social Science & Humanities**, ISSN: 2454-9827, Vol. 3, Issue 8, 2017,p, 152

taxes.⁴⁴ Taxes designed to capture the resource rent from the extract of natural resources may be excluding all taxes on land.

2.7 The disadvantage and advantage of the environment tax

2.7.1 Advantage of environment tax:-

Environment tax put environmental negative effects activity in an economic context. Tax should promote a change in behavior polluting practice also encourage firms to use new technology to reduce pollution, generate revenue, broad tax bases, and give flexibility to consumers and firms their environmental pollution. Environment tax may be challenging to implement policies that balance the needs of the environment with the budget of the average household unless strict rules are part of the Idea to target produce as much as the consumer.⁴⁵ The environment tax, emissions trading, and other economic instrument use partly driven by correcting the limitation of command control environmental protection. By enacting environmental policy can make a serious impact on pollution that cause major environmental problems. However, such policy cannot be approached purely as a technical issue, to be resolved merely by requiring the use of specified abatement technologies and setting emissions limits on large firms. Extensive and far-reaching changes to the existing pattern and consumption will be needed, and these changes will inevitably entail substantial economic costs. The search for instruments that can be minimizing these costs, and achieving behavioral changes across all sectors, has led policy-makers to pay much closer attention to the potential incentive-based environment protection mechanisms. Economic instrument mechanisms have such incentive-based protection mechanisms. Environment tax use to reduce the cost of environment cleaning also use to regulate processes by giving information that can reduce administrative expenses.⁴⁶

- Environment tax promotes a change in behaviors and encouraging the use of the less polluting practice. By bringing the costs of pollution and other costs of using the environment into the prices of the goods and services produced by economic activity,

⁴⁴. R.Broadway and M.Keen, **Theoretical Perspective on resource tax design**, , Department of Economics, Queen's University, Kingston, 2009, p. 18, <https://www.researchgate.net/publication/46455855> (last visited on February 2020)

⁴⁵. Ibid cited above note 28 p.430,

⁴⁶. European Environment Agency, Environment Taxes Implementation and Environmental Effectiveness, **Environment Issues Series No.1**, Luxembourg, 1996, p.31

Unless such activity cover by the cost of pollution, it may create incorrect market signals and encouraging the production of goods in the pollutant sector beyond the level of economic efficiency for the economy as a whole. For example, the full costs of using a car, which include the use of land, air pollution, noise, accidents and congestion are 'external' to the car driver and not fully included in the price of cars or fuel.⁴⁷

- **Flexibility Incentive effect:** -Environment tax by influence the production of good and service imposed the obligation on polluter to analyze the cost occurs because of the tax load for pollution. Additionally, the higher cost of the polluting activity that results from the environmental tax makes the activities less attractive to consumers and businesses. Environmental pricing through taxation leaves consumers and businesses the flexibility to determine how best to reduce their pollution.⁴⁸
- **Diversifying tax base:-**

Environment tax use as a reform that aims to shift the tax burden away from the current source as part of broadening the tax base, additionally the revenue is used to reducing distorting taxes such as labor tax.⁴⁹

- **Society Acceptance**

Environment tax is less affected by taxpayer behavior response except for some inelastic good. Because of behavioral response, it may tax revenue reduces during the time of introducing some new taxes but in case of environmental tax this situation is less because the environment tax based on the elastics goods like energy consumption.⁵⁰

- **Minimizing pollution control costs:-.** Environment tax-efficiently allocates emission reduction levels between polluters, rather than regulating without considering their emission, usually what expects in command control mechanism all polluter to reduce their pollution by the same extent, irrespective of their pollution reduction. An environmental tax allows each polluter to decide whether it's cheaper to pay the tax or reduce pollution.

⁴⁷. C. Adam, The Efficiency Benefits of "Green Taxes", **UCLA Journal of Environmental Law and Policy, Volume 11, Issue 1**, 1992, Available at: <https://escholarship.org/uc/item/718827> (last visited December 2019)

⁴⁸ Ibid

⁴⁹ Ibid cited above note 46

⁵⁰ Ibid cited above note 28, p. 437

Those polluters who face the highest costs of pollution reduction will tend to pay more tax while those facing low reduction costs will reduce pollution instead. The costs of achieving any given level of overall pollution reduction with a tax will therefore be cheaper than with a regulatory system.⁵¹

- **Encourage Innovation;** - The Environment tax encourages innovation in the alternative sector because using advanced technology that can help to minimize pollution, in the end, avoid paying for the expensive environmental tax, which, makes polluters work on reduction of emission because the tax applies to each emission or pollution. As such, polluters focus on the reduction of emission in different mechanisms like using the latest technology.⁵²
- **Revenue potential;-**

The environmental tax level on each estimated unit of residual emissions that make the benefit from revenue gain is high. Even if there is debate about the double dividend of environment tax, it is one advantage of environment tax. However, the behavioral response of polluters affected tax though environment tax is less affected by the behavioral response as it is based on elastic demanded commodities such as energy rather than other taxes.⁵³

2.7.2 Disadvantage of environment pollution tax

- **Geographical validation**

The environment tax sometimes leads to the movement of pollutant substances to another area that has less tax per pollution. As result, the pollution damage varies with the source of emissions.⁵⁴ Environment tax levy by each territory authority, there is no internationally harmonized environment tax system as such firm move their pollutant product to a jurisdiction with the low environment tax rate. Even if, the pollutant product produces in a different country the effect will be in other countries. For instance, used computers and refrigerators. This problem is more

⁵¹. Ibid cited above note 31

⁵². Taxation, Innovation and the Environment summary , OECD 2010, <https://www.oecd-ilibrary.org/> (lasted visited December 2019)

⁵³. Ibid p.24

⁵⁴. Ibid cited above note 14, p.520

challenging for developing countries because of their environmental tax rate reduction for investment attraction.

- **Distributional effect**

Environmental tax may apply at the same rate to all polluters. it is regressive, it means when the income decrease the tax increase it means the tax most of the time imposed on the low-level income household more create burden because such households income more spent on the transport, fuel and the other hand on the high-level income household not create burden because of the ability to pay to proportion it. This disproportion correct by including a reduction in personal tax and tax exemptions.⁵⁵

- **Competitiveness**

Tax can increase the cost of output product as such one country impose a tax on the environmental hazardous goods the cost of these goods increase unless the tax in international goods makes similar to the domestic one, domestic one becomes less competitive that means the cost of the tax is less than the cost of pollution reduction. As a result, polluter does simply pay tax and pollute rather than reduce the waste and pollution.⁵⁶

- **Damaging avoidance activities**

Environment tax may encourage the illegal dumping and removal of wastes rather than legally remove the wastes and pay tax. Especially in a developing country because government control are less. Moreover, developed countries are also exporting their wastes to developing countries in the form of dumping that causing serious environmental damage. For example, Millions of ton of old electronic goods illegally exported to developing countries, as people dump luxury items.⁵⁷

⁵⁵ Jacobsen, Henrik Klinge, "Distributional Implications of Environmental Taxation in Denmark." **Journal of Fiscal Studies**, vol. 24, no. 4, 2003, pp. 477–499, Available at :- www.jstor.org/stable/ (last accessed on January 2020)

⁵⁶ Ibid p.518

⁵⁷ L.bovenberg, **Environment Taxation and Regulation**, Hand book of public Economics, Vol. 3, 2005, p. 147

2.8 Are environmental taxes effective?

At different times in different countries, the environmental-related tax has been applying. Among the first countries, that started the environment-related tax the Nordic countries are mentioned at first.⁵⁸

The environmental-related tax is one of the market-based instruments that dealing with some environmental problems. The most known environmental related tax are tax on the use of fossil fuel such as petrol and diesel with the aim raising revenue rather than reduce the use of pollutant input. Using the recent trend show some country try to leave high tax for environmental reason but the other countries give subsidies for pollutant input like fossil fuel and coal, even in some countries it exempted from any tax. Even though such a tax was not originally established as an environmental policy instrument. The environment-related tax could perform well, and it is, therefore, essential to determine the extent of such environmental-related tax performance because which are not the only environmental instrument used and not always the most efficient one.⁵⁹

Environment-related tax is high and sustainable in revenue-generating but less in the consistency of environment damage control. Taxes explicitly created for environmental protection purposes are less in revenue generation but high in environmental protection. Most environmental-related taxes introducing to increase revenue rather than reduce pollutant goods consumption or improve environmental protection while most of the countries' environmental revenues from environmental-related tax come from energy and fossil fuel uses.⁶⁰

On the other hand, the OECD defines the environment tax as “any compulsory, unrequited payment to general government levied on tax-bases deemed to be of particular environmental relevance. Based on the taxes are unrequited in the sense that benefits provided by the government to taxpayers are not normally in proportion to their payments.”⁶¹

⁵⁸ Sebastián J. M. Mauricio, A. Vela **Are Environmentally Related Taxes Effective?** Inter-American Development Bank, IDB Working Paper Series 467,2013,p.21, Available at, <http://www.iadb.org> (last visited in May 2020)

⁵⁹. Ibid p. 22

⁶⁰ J. Teusch, N. Axel Braathen, **ARE ENVIRONMENTAL TAX POLICIES BENEFICIAL?** Environment Working Paper of Organization for Economic Co-operation and Development, 2019, p.21, Available at, <http://www.oecd.org/environment/workingpapers.htm>. (last visited on December 2019)

⁶¹ Ibid

There are reasons need to put the environment tax primarily for environmental purposes. The first reason environmentally-related taxes increase the cost of polluting products or activities, which discourage their consumption and production regardless of whether the intended purpose of the tax or not, Environmentally related taxes are put by the OECD as every payment to the general government levied on the basis that has any environmental relevance. However, most of the time, the revenue from environment-related tax does not finance the environmentally friendly project as such, the definition of environment tax by OECD implies that not every environmental-related tax was implemented with a specific environmental goal but didn't have at least theoretically had a positive impact on the environment as such to get the practical impact of an environmental tax on polluting product need to enact environmental tax with a specific environmental purpose that can be financed environmental damage.⁶²

The second reason is an environmental tax may not give efficient raise of revenue. Even if it has a double dividend effect for cleaning environment tax and distort other tax like labor tax and investment. However, the second dividend may not always work because the environment tax increase the cost of production in the meantime the price-output increase, it may affect other tax systems, it implies that the environment tax must be the primary focus on the environmental gain.⁶³

2.9 Challenges to introduce environment tax:-

The Fundamental Challenge of environmental tax reforms is especially when the initial incentive for their introduction was to fulfill a budgetary need rather than an environmental purpose. Therefore, considerable transparency is needed to gain public support and fundamentally ensure that the tax is successful.⁶⁴

- **Environment tax base erosion**

The aim to shift taxation from labor tax to environmental pollution tax maybe end with the reality of green results but not raising green revenue. Environmental taxes create an incentive for citizens and firms to reduce their environmental impact. This green result may be eroding as the result of the environment tax. Because the production of taxed emissions or production and sales of taxed

⁶² Ibid cited above note 58

⁶³ Ibid cited above note 46, page 12

⁶⁴ Ibid cited above note 28, p.464

products that directly or indirectly cause emissions will decrease. This decrease is desirable if it leads to actual emission reduction.⁶⁵

- **The small industry vulnerable to tax competition**

The energy-intensive small industry become more vulnerable to an increase of energy tax base and likely affected by international tax completion.⁶⁶

- **Taxes that are good for the environment are not always easy to implement**

There is a tension between simplicity and effective implementation of taxes aimed at achieving environmental goals. Ideally, each type of emission would have its tax. However, such specific charges are likely to have high collection and compliance costs. Particularly, if they are new taxes. Potential tax evasion, (waste) dumping and fraud with invoices and emission accounts will make implementation very difficult.⁶⁷

2.10 Designing environment tax

In the time of enacting of environment tax, different consideration needs as provided by OECD among them the administrative cost is the first one. Environment tax on pollution imposes on the estimated or measured emission. As such, the tax authority needs to record nevertheless, the emission is the most self-reported so, and it makes difficult an administrative issue.

Regarding the tax rate, we need to consider the rate based on the estimated emission level and damage or measured one, However, some scholar suggests designing the environment tax based on the sale of polluting goods and production inputs rather impose environment tax on direct or estimated emission because it helps to reduce administrative cost. The other problem that may need administrative focus when environment tax enacted is the attitude of an individual that may affect the environment in negative and positive way.⁶⁸ The environmental tax base should be

⁶⁵ Andrew, J. L., Kaidonis, M. A. & Andrew, B. H, Carbon tax: challenging neoliberal solutions to climate change. **Journal of Critical Perspectives on Accounting**, volume 21, 2010, pp.611-618.

⁶⁶. E. Aldy and N. Stavins, The Promise and Problems of Pricing Carbon: Theory and Experience, **Journal of Environment & Development**, SEGA Publications Reprints and permission, ,2012, p.20 Available at:- <http://jed.sagepub.com> (last visited march 2020)

⁶⁷ Ibid

⁶⁸ F. Vanistendael, **Legal Framework for Taxation**, Tax Law Design and Drafting; International Monetary Fund, volume 1,1996, p.26

targeted to pollutant or polluting behavior with few exceptions, that on intermediate goods. The scope of the environmental tax should ideally be as broad as the scope of the environmental damage, the tax rate should be commensurate with the environmental damage, the tax must be credible and rate predictable and distributional impact can and generally should be addressed through other policy instruments.⁶⁹

2.11 Environmental taxation practice in different Countries

2.11.1 Vietnam

Vietnam was introduced most comprehensive environmental taxes with the 2012, with the explicit aim of introducing an environmental tax. The Environment protection Law 57/2010 / QH12 is often hailed as an example of international best practice in Environment tax in industrializing countries. Even before the introduction of the 2012 Environmental Protection Tax, Vietnam had a range of environmental related taxes and levies with environmental relevance, including natural resource taxes and fees on oil refining, coal, land use, waste water discharge, forests and mineral extraction. In general, however, these taxes lack a coherent legal basis and in most cases, environmental benefits arise as unintentional side effects. While these environmental related tax do yield state revenues failed in the past to influence the behavior of economic actors to a significant extent, due to too low rates, too many exemptions, and poor monitoring and enforcement.⁷⁰

Environment tax introduction impact on the revenues are quite significant, generating about 2-3% of the total government budget in Vietnam. As a result of the introduction of the Environment Protection tax, government revenues increased by 1.6% in 2012 and 1.2% in 2013. When the EPT was implemented in 2012, the gasoline surcharge regulation was abolished at the same time, which prevented an overall increase in transport fuel prices. This served to keep opposition to a minimum and protected vulnerable households (and businesses) from the impact of energy price rises. While such measures facilitated the implementation of the Environment protection tax. Political

⁶⁹ Scott Jackson, **Environmental Taxes: Feasibility Investigation**, European environment agency, **2016**, p.11-12 available at www.eea.europa.eu (last visited on June 2020)

⁷⁰. Mehling, M. (2008). Interim Report: **Environmental priorities for Vietnam and assessment of current environmental levies in Vietnam**. Hanoi, Vietnam: European Technical Assistance Program for Vietnam, Available at <http://files.foes.de/de/downloads/links/ETV2%20%20ISTE1b%20C1> , (last visited in October 2020)

feasibility on the other. Vietnam's single-party state implemented a broad Environmental Tax within just a few years, in part as a result of not having only government role, but nonetheless, it can be seen that the process of designing and implementing the tax were strongly influenced by public acceptance concerns and political feasibility.⁷¹

2.11.2 Uganda

The Uganda tax system is so dynamic, and flexible. Environment taxes in Uganda are largely based on market goods that are related to emissions as opposed to direct measured taxation of emissions.⁷²

Uganda is presidential republic. The proposed law are known as bills, subsequently known as act when assented by the president. The environment protection policy of Uganda is the current finance Act 2009 and the National Environment Act 2019. These Acts contain typical taxation provision in three sections. The first one impose tax on motor vehicle which are eight years old and above. The second section of the acts provided that importation of used Refrigerators, freezers prohibited also the third section prohibit the importation of plastic bag. The responsible body on Violation of such provision is Environmental Compliance and Enforcement and Judicial body (courts).⁷³

Uganda is using tax system to positively affect environment protection. In Uganda environment tax rather than primary role of control environment policy also use for the enlarge tax base and also can help guide that structural change towards environmental sustainability. Uganda faces different challenge to implement environment tax, the first Challenge is investment and industrialization competitiveness from foreign products that not subject to environment. The second challenge corruption and tax avoidance Environment tax for its efficiency need to be less avoidance and evaded but for Uganda that was the difficult task because Uganda has been implicated by number of report of being the most corrupt nation. The third one, the environment tax needs legal and institution structure but country like Uganda because of corruption and legality

⁷¹. B. Hayton, **Environmental taxation in Vietnam: Tackling both environmental problems and state deficits with economic instruments**, Yale University Press, 2011, Available at <http://www.greenfiscalspolicy.org/>, (last visited in October 2020)

⁷². World Intellectual Property Organization, **Uganda National Environment Act**, June 2014, Available at: <http://www.wipo.int/> (last visited on May 2020)

⁷³ ibid

it was difficult in implementation of environment tax. The fourth one as one of environment tax disadvantage the lower income household in Uganda also affected by the increase of cost especially on energy product. The fifth one the economic war by relocating environmental harmful substance affect the economy competition and attraction of investment.⁷⁴

Especially, the African countries has the high competition to attract investment as such put one more criteria for may lead far from the chance of getting the investor to invest on their country. This challenge also similarly was faced for Uganda. Uganda solve the problems by establish the a semi-autonomous authority responsible for collecting tax revenue to take over from the Ministry of Finance It was hoped that an independent revenue authority would limit political interference in the tax assessment and collection process and by rationalize and harmonize the tax rates. This was help to attract and promote investment in Uganda, increase revenue yields, and simplify tax administration.⁷⁵

2.11.3 Norway

Norway was the first country in the world to introduce a green tax (in 1970 mineral oil tax) and the second country to introduce a CO₂ tax. To be successful, carbon pricing policies has to be well aligned with the broader policy context in a country.⁷⁶

Norway's experience with carbon pricing is just an example because Norway supports the promotion of carbon pricing through initiatives such as the Carbon Partnership Leadership Coalition (CPLC), through tax advantages and other user incentives Norway provides strong incentives for zero and low emission transport and the purchase of electric vehicles.⁷⁷

Norway has a comprehensive suite of national laws that protect various elements of the right to a healthy environment as well as sector specific laws that regulate activities with potentially negative environmental consequences. Among the most important of these laws are the Pollution Control Act, Nature Diversity Act, Planning and Building Act, Climate Change Act, and Marine Resources

⁷⁴ John .M, Uncovering Uganda's Environmental Taxation, **Occasional Paper Series** ,Vol. 1 p.5, available at: <http://ssrn.com/> (last visited on January 2020)

⁷⁵ Neil Bruce And Gregory M. Ellis, **Environmental Taxes and Policies for Developing Countries** ,Policy Research Department, The World Bank, 1993, p.23, <http://documents1.worldbank.org/curated/en/>, (last visited on June 2020)

⁷⁶ Ibid

⁷⁷ Norway's International Climate and Forests Initiative: Lessons Learned and Recommendations, 2017, <https://sequestration.mit.edu/tools/projects/sleipner.html>, (last visited on march 2020)

Act. The Supreme Court of Norway has issued a series of important decisions related to sentences for environmental violations, relying on both the increased maximum penalties and Article 112 of the Constitution to justify higher fines and significant terms of imprisonment.⁷⁸

Norway has also ratified all of the major international environmental treaties and was among the States that led the recent and successful effort to strengthen the Basel Convention to address exports of mixed plastic waste.⁷⁹

Norway move from environmental related tax as put by the European states and then shift to environment tax of Norway. Norway environment tax has no category of resource tax and environment tax from purchase of vehicles and use of energy cover largest portion.⁸⁰ As experience from Norway will be tax on electricity consumption. However, there is challenge for Norway environment tax, those are, The increase in the revenue from environment tax stay only for some years it go to decline because of the behavioral response and pollution tax especially in the introduction of final treatment of final waste, beverage packing is revenue is less from other. To solve the challenge the whole picture of environment tax Norway assessed. Exemptions, bilateral agreement held with different countries and those exempt also the further categorized by the environment tax on production and on product to address each pollution and this used to extract data for national account statics.⁸¹

Summary

The major environmental problem occurs because of pollution. To control such pollution the different mechanisms are available to apply like control command and economic instruments. Economic instruments use incentive-based pollution reduction with such an instruments environment tax mentioned. It aims primarily to achieving environmental benefits that can reduce

⁷⁸ Saelen, H. Kallbekken, A choice experiment on fuel taxation and earmarking in Norway, **Journal of Ecological Economics**, volume 70, 2011

⁷⁹ Supreme Court of Norway decisions, **Decision on the pollution and illegal hunting**, Report human rights and the environment Special, volume 65, 2012.

⁸⁰ T. Smith and E. Nass working paper on “**Norwegian environmental taxes**”, Forth coming in Economic Survey, 2009, p.70 <https://circabc.europa.eu/sd/> (last accessed on January 2020)

⁸¹ F. Brunz, **future challenge for Norway ,indicator for sustainable development**, 2006 p.3 Available, <https://www.ssb.no/en/> (last visited on June 2020)

a negative impact on it and promote positive behavioral response. To do so it should be designed toward Environmental targets. Environment tax has the advantage of increasing revenue, diversifying tax base, and flexibility of consumer decision to their pollution reduction. It has the efficiency to allocate emissions reductions between polluters rather than type equal pollution reduction rule where frequently results from conventions command and control regulation. Even though, in long term, in terms of revenue, the revenue becomes lower than its introduction also there are some challenges to introducing an environmental tax that may be policy constrain, legal constrain, and institutional challenges.

Norway, Uganda, and Vietnam are countries that have good experience with environmental tax. As a developing country would be a good lesson for Ethiopia to look experience of these countries. Particularly in the way how to manage investment attraction and environmental tax. As well Norway also a country with a long history and well-developed environment tax.

Chapter Three

The Need for Environmental pollution Tax in Ethiopia

3.1 The Major Environmental Issues in Ethiopia

The economic growth has resulted in increased pollution, especially if the concern for the environment is less. The high concentration of pollution in cities and agriculture, industry (textile, beverage, and leather), plastic waste, road, and the number of privately owned vehicles are among other factors that have traveled their role on pollution of water, air, and soil. Consequently have effects on the people's quality of life and health.⁸²

In Ethiopia, excise and customs duty tax have some environmental incentive. Still, the revenue from such tax is earmarked for purposes other than Environmental damages.⁸³ The tax concept by itself infer tax impose on activity that generates revenue from that activities so even excise and customs duty have environmental incentive doesn't make them Environmental tax.

Environment tax provides incentives to less the environmental burden and preserves the environment by internalizing Environmental costs. The activity that supports the preservation of

⁸² Pierre .F - Patrick. K , Wondwosen Seide, **Assessment of the Environment Pollution and its impact on Economic Cooperation and Integration Initiatives of the IGAD Region**, 2016 ,Ethiopia Country Report, p.39

⁸³ Ibid, cited above note 19, p.30

the environment will get a tax break and activities that were hazardous to the environment discouraged by putting a high tax rate for this purpose, it needs to select the sector that is more pollutants.⁸⁴

In Ethiopia, based on the substance use for production and their waste, there are some sectors activities are more pollutant. The leather industries the water and smell, textile industries affect air pollution and the beverage industries also affect the water.⁸⁵ While the government tries to cover such sectors and activities by different taxes (even if they have not environmental purpose) and by categorized industries that subject to the Industrial Pollutions Prevention. The new excise tax (proclamation number 1186/2020) is the one that tries to put a tax range by 1 kg plastic waste 40 birrs also on the old vehicles based on their years of service proposes to impose tax starting from 30% -- 500% excise tax rate. On petroleum, the excise tax exists but the purpose is only to increase the revenue, not an environmental one. Rather than these steps, there is no tax levy on the pollutant sector and activities. In Ethiopia currently, there is no energy tax and transport tax.⁸⁶

3.1.1 Industry:-

The current Ethiopian industries are at a low level of industrialization but they are causing pollution of water, soil, and air. Especially, the industry sectors such as textile, cement, flower, plastic, garage, and glass factories are more pollutant, additionally, there is no safe removal of dangerous chemical and waste treatment.⁸⁷

Directive 02/2000 issued to determine the Categories of industrial enterprises subject to the Industrial Pollutions Prevention specify textile, leather, chemical, sugar, cement, metal, and food and beverage industries are under pollution control based on their impact on the environment.

⁸⁴ Interview with Ato Mesfin Gulelat, Ministry of revenue, research and development directorate, May18, 2020

⁸⁵ Directive 02/2000 issued to determine the Categories of industrial enterprises subject to the Industrial Pollutions Prevention, issued based on Article 9(3) of the Environmental Protection Organs Establishment Proclamation No. 295/2002. **Federal Negarit Gazata** Year 9, No.15

⁸⁶ Interview with Ato Gosa Tefra, Ministry of finance, Tax policy department, Tax policy and research team leader, May 19, 2019

⁸⁷ Interview with DR Yalem saw Adale, Environmental Pollution Management Research Coordinator, Ethiopian environment and forest research institute, May 18, 2020

3.1.2 Plastic waste:-

It is a highly polluting material for the environment, as it is not biodegradable material and simply moving by wind and cover places.⁸⁸ In Ethiopia, there is restriction impose regarding the use of plastic bags in a regulatory mechanism but have no incentive to support less use of the plastic bag. There are some steps, such as, recycling or reuse the plastic bottle, prohibited to use of a neck sleeve on a plastic bottle, and prohibited to use the small size plastics bag((above wall thickness of 0.03 millimeters). In Ethiopia taxes, laws and policies do not sufficiently touch the issues of environmental protection. It creates a problem in the time of implementation of environmental protection. In force, such a dilemma in law attribute to the limitation in correcting or restoring the damage inflicted upon the physical environment.⁸⁹

3.1.3 Energy:-

Construction of fossil fuel and forum regulated industrial processes release sulfur nitrogen compounds violated organic components. The use of non-electrical power for energy makes the country vulnerable to climate change.⁹⁰

The mining sector and cement sector are more pollutants in terms of energy use in Ethiopia. Especially, the Cement sector highly using fossil fuel and coal as input for the production of the cement, which emitted carbon dioxides. Accordingly, subject to a high tax rate at the international level, during the importation, based on the Harmonized system tariff code. Ethiopia also applies this harmonized tariff code but to support sectors for specific goods allow exemptions, by circular letter including fossil fuel and coal even if the consequence on the environment is visible the government gives priority to construction and investment. It is the main challenge for the protection of the environment and implements the international policy and law of environmental protection.⁹¹

3.1.4 Agriculture:-

Agriculture is one of the main sectors for pollution due to the high use of fertilizer and pesticides. It increases the emission of co2. Especially, the content used for Agriculture fertility like pesticide,

⁸⁸ Interview with commissioner Ato Gutema ,Environment protection Authority commissioner, Ethiopia Protection Authority, May 19, 2019

⁸⁹ Ibid

⁹⁰ Interview with Commissioner Ato Gutama, cited above note 88

⁹¹ Interview with Ato Mesifn Gulelat ,cited above note 84

consequently using such substances in extra volume affects the environment because only 0.01 used for the plant to kill pest the extra levels are unnecessary and categorized as pollution. It means, in normal condition, only 0.01% need to protect the plant from pesticide 99% remain in soil and water and result pollution and impact on human health.⁹²

Ethiopia not taxed pesticide but in international level tax levy on pesticide based on the custom tariff code (harmonized system code) and Ethiopia also accept and impose tariff on pesticide as provided on the Harmonized system code 2012-2017 version in tariff number 8418 but in practically country make pesticide-free from custom duty and tax by circular letter.⁹³

3.1.5 Road and building sector

Road traffic is the main pollutant for the urban center by generated nitrogen oxide and carbon monoxide. Road traffic has a high concentration throughout the city and significantly in the adjacent rural area. Ethiopia has no road tax even though in recent times start high way road payment it is good for the development of zero-emission vehicles but still not efficient. In Norway, the increased toll charges allocated for the transport sector, primarily for public transport, the revenue used for supporting the development of zero-emission vehicles, and the revenue should go to environmentally friendly activities.⁹⁴

3.2 A key source of environmental pollution:-

The Key environmental components are represented by air, water, and soil these elements are polluted by different activities. Pollution is the alternation of the natural content of ecosystem of natural resource, for example water contain 1.5 chlorides any additional content of chloride any additional pollution.

In Ethiopia, the main source of pollution emanates from agricultural activities, industrial wastes (liquid and solid), emissions from (fuel, wood, coal, and vehicle gas), and road traffic. To value the level of pollution need assessment besides the side effect on the environment and human health that occur because of pollution are visible. From the people lives around the cement industry they experienced, the dust that covers agricultural plantation, personal materials outside and inside the

⁹² Interview with Ato Gosa Tefera, cited above note 86

⁹³ MOF, letter ፳፻፯/ 30/7/20, 15/5/2011.

⁹⁴ Abera K, K Charles, Y Berehane, A Emmelin and Ali A. Magnitude and variation of traffic air pollution as measured by Carbon Oxide in the City of Addis Ababa, Ethiopia, **Ethiopian Journal of Health Development**, 2010, p.156.

home, coal smoke emitted from cement industry that has the healthy side effect and also the people live in the area of mining factories also face different difficulties including disability problems and water source pollution. The people who live in the area leather industry affect by bad smell and water pollution. All this pollution is an effect that included social cost, not only the effects on the physical environment. Again, such pollution differs from place to place in the industrial zone and other areas, and there is a difference in the level of pollution based on the industry type.⁹⁵ On the other hand, the damage depends on the character of the ecosystem and some ecosystem has more capacity to defend the pollution, so in some instances, it may occur the pollution is high but the damage less and the reverse is coming true. That means in the ecosystem the same pollution may differ on the damage or result because the place they situation from pollution and capacity of an ecosystem to defended the external thing that alerts the pollution.⁹⁶ Even, that is the case the level of pollution is estimated high, so it needs some intervention.⁹⁷ Despite such occurrences, the country has not yet put in place a climate change policy that can help to respond to challenges of climate change and well-matched incidence of pollution and tax systems that offers significant opportunities for the future to protect the environment, it may be by introducing a tax on pollutant activity.⁹⁸

3.2.1 Air pollution

In Ethiopia, Air pollution is the main pollution. Especially, traffic pollution. As Ethiopia road, transport authority report in the 1990- 2002 year, each year the number of vehicles increasing by 60% and 40% most of them are above 30 years used these vehicles produce 5 times more hydrocarbons and four times nitrogen oxide than those new ones.⁹⁹

Ethiopia has no transport-related environmental protection tax law directly and separately. However, recently excise tax proclamation number 1186/2020 try to put control on the importation

⁹⁵ Tsegai Berhane Ghebretkle, **Industrial Pollution Control and Management, University of Warwick** School of Law, June 2015 p.23, <http://go.warwick.ac.uk/wrap> (last viewed on march 2020)

⁹⁶ WHO review of evidence on health aspects of air pollution – carried out at the European Commission’s request 2014, Available at, <http://ec.europa.eu/commission> (last visited on May 2020)

⁹⁷ Interview with Dr yealem saw Adela, cited above note 87

⁹⁸ Ibid

⁹⁹ Ibid cited above note 94 page 159

of the vehicles based on their service year it helps to impose a high tax rate on old cars and to give incentives for the new ones.¹⁰⁰

Air pollution affects the atmosphere, plants, and animals. Plants are more affected than animals because the plants constantly take up polluted air that can be derived from two kinds of sources including wood-burning fires, coal fire, and multiple paints including automobiles and other vehicles and industrial sources.¹⁰¹ Vehicles are the most important source of air pollution as they release carbon oxide.¹⁰²

3.2.2 Water Pollution

Water pollution is the introduction of various substances into the water. The main source of pollution is waste into water sources from industries pollution and waste from home. Such pollution leads to scarcity of water resources because the contamination of water reduce water quality that can be useable. Tax is applied to a set of polluters, with the tax level set high enough to induce aggregate effluent reductions adequate to meet an ambient water quality standard. The tax can simply be iteratively raised (or lowered) until the water quality goal is met. Currently in Ethiopia there is no pollution tax on water pollution unless regulatory mechanisms that apply to control water pollution case by case base.¹⁰³

3.2.3 Biodiversity loses

Biodiversity losses are defined as a reduction in genetic species and ecosystem services such as Genetic Diversity, Species Diversity and Ecological. It turns to affect human health, live hood, and plants.¹⁰⁴ The low-income level people are most dependent on adequate local ecosystem services such as fresh water supply, fuel wood provision, and flood protection so their direct link between biodiversity loss and poverty. Biodiversity-relevant taxes and payments are types the

¹⁰⁰ Interview with Ato Desta Lembebo, Ministry Of Finance, Foreign Tax Team Leader and Chief Negotiator in trade agreements September 20,2020

¹⁰¹ Ibid cited above note 75 p. 82

¹⁰² Interview with DR yealm saw Adela ,cited above note 94

¹⁰³ Abebe MA, Practice of Waste Payment Collection from Public and the Improving of Its Challenges, **Journal of waste recycle**, 2018,Vol.3 No.2:10

¹⁰⁴ Interview with Fikeramariam Gihon, Ethiopia Biodiversity Institutes, senior legal researcher, May 20,2019

Teklu Gebretsadik, **Causes for Biodiversity Loss in Ethiopia: A Review from Conservation Perspective, Journal of Natural Sciences Research**, ISSN 2224-3186, Vol.6, No.11, 2016. P.14

environment tax is the policy instrument that can be used to promote the sustainable use of biodiversity. For Examples include taxes on pesticides, fertilizers and other sources of Nitrogen oxide and Carbon dioxide O2 emissions, natural resource extraction.¹⁰⁵ Currently in Ethiopia tax impose in pesticide and fertilizers in paper or in law but not apply in practice because of exemptions applicable to support the sectors.

3.3 Does Ethiopia have an environmental tax?

Environment tax is payment imposed by the government with the purpose of internalizing environmental externalities and Environment related taxes which aim at collecting revenue disregarding the purpose of reducing externalities are not environmental taxes.¹⁰⁶

In Ethiopia, there is no separate environmental tax except some environment-related tax for those who have an environmental incentive like excise tax and customs duty tax. The reason not to develop an Environmental pollution tax maybe there is less awareness about the importance of environment tax for environment protection and less Awareness for the current environmental damage even in the tax offices and environment protection office. On the other hand, the government policies to support investment policy challenges Environmental protection. In Ethiopia, Investment is at the infant stage accordingly apply such tax consider discourages the investments. Even if this is true, like other countries, we can develop the system called the lump sum and also can apply the incentive, deduction in other tax bases by using the double dividend benefit of the environment tax.¹⁰⁷

Generally, the nonexistence of environment tax up to now in Ethiopia reasoned by, high intervention from investment policy as the country is developing country the government gives priority for the investment, Less coordination and organization between concerned bodies, Less awareness about the advantage of environment tax, Less standard apply for environment protection and Consumer less awareness to deselect the products that production system is a pollutant or the product effect on the environment or not..¹⁰⁸ Even if there is the duty to coordinate between

¹⁰⁵ The OECD database on Policy Instruments for the Environment (PINE) provides an inventory of biodiversity-relevant taxes, 2017, Available at <http://www.oecd.org/environment> , (last visited February 2020)

¹⁰⁶ Ibid cited above note 5

¹⁰⁷ Ibid cited above note 107

¹⁰⁸ Interview Mesifn Gulelat, Cited above note 84

organizations have power and duties to work in the Federal Government. According to Article 10 (1, d) of the Ethiopian proclamation for the Definition of power and duties of executive organs of the federal democratic republic of Ethiopia proclamation Number No. 1097/2018. There is less coordination between the tax office and the environmental protection office to implement the policy and law that concern Environmental protection. For example, proclamation Number 1097/2018 article 16(1(a) gives the power to enact tax policy for the ministry of finance. On the other hand, the document Ethiopian environment policy Section 4.6 (1) provided to identify the appropriate target groups and assess and provide subsidies, taxes, or tax concessions to achieve the sustainability of the use of natural resources and the environment.¹⁰⁹ This point with an additional reading of proclamation 300/2002 article 10 required the serious coordination and working together between environment protection and tax office because subsidies or exemption any activity that relate to environment may end with protection or damage of environment.

3.4 The need for environmental pollution tax for Ethiopia

All instruments must be used as pro-active, not after damage, so stay until the damage got worst is lead to unnecessary environmental injury. As such, the control mechanism to pollution must apply before the environmental case gets worst in Ethiopia since even in the thing say non-problematic there are some problems. Ethiopia applies industrialization without full implementation control of mechanisms of industrial impact so need limitation by different policy and law like environment tax.¹¹⁰

In Ethiopia, there are pollutions from (textile, cement, leather) industries, road and traffic pollution, wastes of (plastic bags, industrial dust, liquid wastes), agriculture fertilizer, pesticide and importation, and local production of coal and fossil fuel. This pollution resulted in physical environment alternation in a water source, the effect on human health like Akaki river pollution cause skin disease on society live in around the river and mineral factories of zeway, Flower plantation of sebata and industrial dust from the Dira dawa cement factories. The government use

¹⁰⁹ Environmental Pollution Control Proclamation, Proclamation No. 300/2002, **Federal Negarit Gazeta**, year 9, Number 12, 2002

Definition of power and duties of executive organs of federal democratic republic of Ethiopia,, proclamation Number 1097/2018, **Federal Negarit Gazeta**, year 25 number 8,2018

¹¹⁰ Interview with commissioner Gutema, cited above note 88

control and command policy to control such environmental pollution but not economic instruments like environment tax except few taxes (Excise, fuel tax, and customs duty tax), that aim for revenue but have some environmental importance.¹¹¹

The protection of the environment generally requires collective action led by the government.¹¹²

In Ethiopia, still commands and control regulation used, this method highly focuses on banning and limiting particular activity or require certain industries to use specific technology but this mechanism for a country like Ethiopia is difficult because the ending of the regulatory mechanism is terminating industries licenses. So before such a level, an instrument like an environment tax uses it to bring a win-win solution. Because banning industries have an impact on the economy and contradict to government policy that provided in the way to support the investment and develop industries even by giving different incentive.¹¹³

Environment tax increases the price of good or activity that have impact on environment and address market failure but it is not the burden of the taxpayer because it cut some of the existing tax and focus on the consumer of pollutant goods. The regulatory system requires organized information about ever-changing conditions so it needs institutional structure and environmental experts according to our country context. It is difficult and results in higher costs.¹¹⁴

The regulatory system decides by the government to change the behavior of pollutants but in the tax system polluter by itself decide how to change behavior because the higher cost of polluting activity makes the activities less attractive. Regulatory systems have no continuous incentives after a specific limit met but environment tax continuous of incentive after met the target.

¹¹¹ Ibid cited above note 5

¹¹² Ian Bailey, European environmental taxes and charges: economic theory and policy practice, Department of Geographical Sciences, **Journal Applied Geography**, University of Plymouth, volume 22, UK,29 June 2001; p. 17

¹¹³ Interview with Balachew Alamu, Environment forest and climate change commission, policy and law coordination department, legal and policy expert, May 19, 2020

¹¹⁴ D.Heine, J.Norregaard, and I.W.H. Parry, **Environmental Tax Reform**: Principles from Theory and Practice to Date, **IMF working paper**, WP/12/180, P. 39.

A strong incentive for innovation lower cost of society addressing environmental challenges in long run tax put important incentives for this and environmental tax system have transparency because what is taxed, what polluter exempt, and what the cost to a polluter is known.¹¹⁵

There is two tax base that may support the environment tax.¹¹⁶ Excise tax and custom duty on selected goods but these two tax base environmental effectiveness never measure and even they are effective, they are not financing the environmental damage.¹¹⁷ Excise tax including the new proclamation number 1186/2020 proposed high tax range is discouraged environmental hazardous activity in one way or another. Because excise tax leaves on the hazardous things for human health, environment, and others. Specifically, on plastic bag, tire, motorcycle, old vehicles, textile and mineral fuel oil and their product, the tobacco tax and beverage factory are also taxed. It helps the environment protection by reducing the consumption level.¹¹⁸ The customs duty impose on some products like a refrigerator because there is a refrigerators contain C.F.C (chlorofluorocarbon). Such refrigerator taxed by 30% but those free from C.F.C are taxed 10%, so such incentive gives some role in the protection of the environment. The excise tax (proclamation number 1186/2020) will be more important because it shifts the tax base from the production cost to factory price it has it is own role to reduce pollution by reducing production not only consumption, especially in beverage, food and textile factories. Additionally levy tax on the old vehicles based on their years of service contributes more to environmental protection because the old vehicles release nitrogen oxide and carbon monoxide into the air.¹¹⁹

Ethiopia needs to use environment tax because tax can directly address a failure of the market by incorporate environmental impact into the price, environment tax is flexible for the consumer to decide their cost that incurs because of their activity that has an impact on the environment, economic efficiency, the ability to raise public revenue, and transparency. Also, environmental

¹¹⁵ J. Greene , **Taxation, Innovation and the Environment**, Environmental Taxation A Guide for Policy Makers, 2012, Available at www.oecd.org/env/taxes/innovation_p.12 (last visited march 2020)

¹¹⁶ Merhatbeb Teklemedhn Gebregiorgs, **Towards Sustainable Waste Management through Cautious Design of Environmental Taxes: The Case of Ethiopia**, Tilburg University, volume 10, p. 23

¹¹⁷ Interview with Gosa Tefera, Cited above note 86

¹¹⁸ Interview with Mesifn Gulelat, cited above note 84

¹¹⁹ . Ibid cited above note 118

taxes have been successfully used to address a wide range of issues including waste disposal, water pollution and air emissions.

As such Ethiopia needs an environment tax to address environmental problems both environmentally effective and economically efficient to control the ongoing pollution and to compensate the damage already occurred.

3.5 Environmental tax is effective over other means of environmental protections.

Environment tax provides that combination of incentives with flexibility.¹²⁰ The argument against this is the other policies are easy to monitoring and enforcement. For instance, if it is much easier to check whether a particular technology is in place rather than monitoring the emission level and consider price over on over emission. The other argument against environment tax is the less informed polluter may not choose the low cost option.¹²¹ Tax and fee when it is a fee the payer get something from the government but in case of tax it is not possible.

The argument for environment tax is tax subsidies and other economic instruments that can influence the behavior of producers and consumers they can be an effective and cost efficient way to achieve environmental goals such as fighting air pollution and climate change and protect biodiversity.¹²² Environment tax can cover the cost for monitoring and mitigation of environmental resources that contribute to the cost of monitoring or mitigation and revenue-raising tax to the purpose of revenue which may contribute towards overall public finance and reductions on employment or product tax.¹²³

3.6 Challenges to introducing environment tax In Ethiopia.

3.6.1 Policy, Legislation and implementation constraint

Even if there are some policies and strategies with proper implementation, there is also a lot of environment protection policy with but a gap on implementation. So, it is also expected the less

¹²⁰. Margarita Kalamov, Environmental Policy Flexibility, Search and Innovation, **Journal of Economics and Finance**, volume 59, 2009,

¹²¹. Ibid, cited above note 116

¹²². Ibid cited above note 37

¹²³. Interview with Ato Balachew Alemu, Cited above note 115

implementation policy and legislation become constrain for the introduction of environment tax.¹²⁴ The distributional effect on low-level income households also another obstacle to introducing the environment tax. Solutions for obstacles when environment tax introduced are reduction for other taxes like income tax it means offsetting (progressive adjustments to border fiscal system), Subsidies alternative household energy or environment-related material to support low-income level people that suffer from environment tax.¹²⁵

3.6.2 Policy Constraint

In Ethiopia policy and strategies already implemented are weakness interims of updating themselves with the new technology and means of pollution. It means even the way of pollution changed because of technology and other factors the law and standards are oldest this creates problem interims of implementation. There is a shift of industries (relocation) by investors from the place the regulatory system is more serious to less serious. As a developing country, Ethiopia does not have the tools required to evaluate the impact on the sustainability of potential policy instruments over pollution.¹²⁶ It mean Ethiopia as developing country has different institutional barrier to monitoring efficiency of the new enacted policies.

Ethiopia as developing country need to attract investments to do so need easy investment policy that can be make competitive from other developing country. Taxes on industrial inputs increase the costs of production. That makes environment tax less attractive for investment.¹²⁷ In our country investment is at the infant stage so applying such tax consider discourage the investments this make but like other countries, the government policy to support investment policy challenges environmental protection. Here it can be possible to apply the incentive that give deduction in other tax bases by using the double dividend benefit of the environment tax.

¹²⁴ Ibid cited above note 124

¹²⁵ Mohammed Seid, The Veer from Frontier Economics to Eco-development Paradigm: Approaches, Policies and Strategies of Sustainable Development - The Case of Environmental Governance in Ethiopia, **Journal of Energy, Environmental & Chemical Engineering**, Vol. 4, No. 2, 2019, pp. 31-35.

¹²⁶ Ibid

¹²⁷ Ibid interview with Ato desta lembebo, cited above 102

In FDRE Constitution the drafting power of the environment taxation is undefined or not given to anybody. So, unless there is no responsible body to manage such tax; it may be difficult to apply environment taxation.

3.6.3 Awareness Constraint

The public awareness toward environment tax depend on economic social class. Low income households not support the tax on fuel and other energy product and high income level people not support tax on consumption. The public have no awareness for government revenue for environment taxes may end up being used for varieties of purpose to reduce other taxes. Again the society not understand how incentives for behavioral change created through taxes. The uncertainty that tax revenue will be properly managed because of less confidence in the authority and lack of awareness the benefit of the tax for the environment not clear. Sometime society expect the personal benefit from revenue of tax.¹²⁸

3.6.4 Competitiveness

The policy strategies to environmental tax need to consider the competitiveness between foreign firms to a domestic one. If the environment tax on the type of pollution only impose on the local firm and the foreign firm does not incur a similar environment tax for a given product or activity. It creates reallocation of the industry to low tax jurisdiction and results in the economic impact.¹²⁹

3.6.5 Institutional Constraint

Institution dealing with environmental protection and tax has frequently been restructured and this undermines a sense of ownership by program staff, resulting in high staff turnover wastes institutional capacity and cause discontinuity of activities and initiatives and loss of institutional memory. For example, the environment commission move from ministry to commission.¹³⁰

Environment protection is by it self-complex, again the effectiveness of environment depend on other policy like economic and political policy so balance such situation and continue on the protection of environment need more focus from the government but currently, the government focus is less on the allocation of budget for the environment protection, serious implementation of

¹²⁸ Ibid cited above note 46

¹²⁹ Mikael Skouanderen, Competiveness effects of environment tax, university of Aarhus, p. 2007, <https://pure.au.dk/portal/>, (last visited may 2020)

¹³⁰ Abate, Asferachew, Bekhechi Mohammed, **Ethiopia's Green Transformation: Country Environmental Analysis, Environment and Natural Resources Global Practice**. Washington, DC: World Bank Report, 2017, p.61-64, <https://efdinitiative.org/>, (last visited may 2020)

environmental policy and law and there is no coordination system in implementation in the protection of environment.¹³¹

3.7 Environment Tax provision in other tax law in Ethiopia.

3.7.1 Value add tax

VAT tax can't be environment tax in all means because it is levied on all products and deductible to many producer but not household because of this it does not influence relative prices in the same way that other taxes on environment tax base do. In Ethiopia context, VAT proclamation number 285/2002 article 7(2) have zero rate and Article 8 exemptions are mentioned.

According to proclamation 285/2002, Article 7 and article 6 (2) and (3) are among the possible provision Article 7 Value Added Tax at the rate of 15 % is imposed on taxable transaction. The rate of 15 % is applicable for all taxable transactions without having special treatment for the environmental purpose. Article 6 of the proclamation defines taxable transaction to be a regular and perpetual intended in whole or partial supply of goods or provision of service. The meaning given to taxable transaction under Article 6 of proclamation 285/2002 and the Article 2(3) of Amendment Proclamation No. 609/2008 do not again show any special treatment for environmental friendly transactions. Even in exemption provision article 7(1) exempt the kerosene that not environmental friendly good.¹³²

3.7.2 Excise Tax

One of the purpose of excise tax is discourage consumption of hazardous goods on human health and problem to society but not mentioned the hazardous issue on environment. Excise tax proclamation 1186/2012 from it is objective the purpose is to discourage the hazardous goods to human health and social problem, this is good to create healthy environment as mentioned in constitution that any persons have the right to live in a clean and healthy environment. It is right to express in the FDRE constitution (article 44) and other laws of the country like environment proclamation and environment policy, Article 2(3) of environment policy of Ethiopia give the right to live in healthy environment by discourage different commodities like cigarette. On the other

¹³¹ Interview with Ato Tesefaye Abebe, Environment protection Authority, Environment pollution Monitoring one evaluation directorate senior expert, September 18,2020

¹³² Value Added Tax Proclamation, Proclamation No. 285/2002, , **Federal Negarit Gazette**, Year 8, No. 33
Value Added Tax (Amendment) ,Proclamation No. 609/2008, **Federal Negarit Gazette** ,Year 15, No. 6, December, 2008

hand, the same proclamation not mentioned the hazardous thing for environment in its objective and also provisions about the hazardous thing for environment but it's seems some of the rate of the excessive duty that imposed on some goods are reflective of environment damage, For example high tax rate on the old vehicles.¹³³

The new excise tax proclamation 1186/2020 included items that have negative effect on environment like plastic bag, motorcycle, textile, mineral fuel, Asbestos and Asbestos product, old vehicles based on cylinder capacity exceeding 1800 beyond 7 years up to 500 % rate. Still there is some item that must be included like fossil fuel and chemical products.¹³⁴

Ugandan excise tax act 2005 impose excise on the fossil fuel that by far produces a lot of carbon dioxide especially after being burnt and In Norway chemical products subject to excise duties. Ethiopia also need to focus on such substance to discourage by using different tax including excise tax(even if they are not efficient as environment tax by targeting pollutant it have discouraging effect) because they have huge contribution for climate change.¹³⁵

3.7.3 Custom duty

Custom defined to denote the government agency authorized to collect duties and taxes imposed on imported goods and less commonly on exported goods. Custom duty have big role to restrict the importation of hazardous goods for environment. Ethiopia is a member of World custom Organization and apply harmonized tariff system code (Hs code). This tariff code impose high tariff on Environmental unfriend commodity in international level but this give some level of flexibility to countries to modify the rate as such there is some difference between countries for the similar goods. Ethiopia also modify and exempt the rate in some goods like pesticide, imported use by various industries (paper, textile, leather), imported glass manufacturing , imported by tires manufacturer and imported for agricultural flower production purpose are conditional exempted even if high custom duty rate imposed in other countries including Norway.¹³⁶ Exempted all such

¹³³ Excise Tax Proclamation, Proclamation No. 307/2002, **Federal Negarit Gazette**, Year 9 No. 20 December. 2002
Excise tax amendment proclamation no 610/2008, **Federal Negarit Gazeta**, year 15, No 7 December 2008

¹³⁴ The Excise tax proclamation, Proclamation number 1186/2020, **Federal Negarit Gazette**, year 26, number 25 march 2020

¹³⁵ Ibid cited above note 74

¹³⁶ Ethiopian Revenues and Customs Authority, Ethiopia Customs Guide , <http://www.erca.gov.et>, (last accessed on September 2020), p.147, March 2017

product may cause environmental damage by encourage pollution especially need to balance the use of agricultural chemicals against their environmental impacts because agriculture itself is the major contributor to increasing methane and nitrous oxide concentrations in earth's atmosphere especially application of fertilizers that release nitrous oxide Chemical fertilizers and nutrients however run-off from farms and gardens causing building up of toxic algae that make rivers and lakes uninhabitable for the aquatic organism and are also are unpleasant for humans. Some of these chemicals induce genetic changes in living organisms.¹³⁷

3.8 Constitutional base of environmental pollution tax in Ethiopia

Environment tax law is subject to a constitutional base. The fundamental authority to tax is derived from the constitution. The federal and regional legislative organ the power to impose a tax on their respective source article (51,52 and 55) and need to ensure that any tax is related to the source of revenue that given by the FDRE constitution article 96 and 97. The tax not give to state or federal determine by $\frac{3}{4}$ house of the federation, so environment tax yet not introduce in Ethiopia also not give either to federal or state government, it needs to pass through way provided under article 99.¹³⁸ when introducing accordingly, give the power to levy a tax to the federal government is more reasonable because environmental protection needs to be harmonized and similar throughout the country because the regions with the low rate of tax attract pollutant industry and reallocation of the industry will become a headache for the environment protection as the effect of environment not limited by regional boundary it has trans boundary effect.¹³⁹

3.9 Lesson for Ethiopia from OCED country experience

In international tax law system OECD Countries has experienced in the introduction and development of the environment tax referring their system help Ethiopia in the following ways:- The OECD member countries apply environment tax that support to revenue raise revenue in ordered to 2.2 of GDP about 90% of this revenue system from taxes an motor vehicles fuels and motor vehicles where revenue raising is not a prime motivation for many other tax applied.

¹³⁷ Interview with Dr yealem saw Adela, cited above note 7

¹³⁸ Constitution of federal Democratic republic of Ethiopia, **Federal Negarit Gazeta** ,year 1, number 1, August 1995

¹³⁹ Tadesse lenchio, Income tax assignment under the Ethiopian Constitution: **Mizan Law Review**, 2010, vol. 4, no. 1, pp. 43.

In terms of implementation the objective of policy measure should be clearly stated from the outset though analysis of cost and benefit of each approach and assessment of current practice should be carried out in order to evaluate the relative merits of the alternative merit of the alternative measure.¹⁴⁰

The major problem to introduce environment tax is fear of reduce competitiveness and distributional effect but as OECD countries experience reduction of competitiveness and distributional effect but as OCED contribute experience reduction of competitiveness have not been identified as causing significant reduction in competitiveness of sector unless there is exemption for sectors like energy intensive industries.¹⁴¹

In Ethiopia also apply similar exemption in environment related taxes for agriculture sector (pesticide and fertilizer) and cement sector (coal). If similar exemption for sectors will apply during introduction of environment tax may cause reduction of international competitiveness of some industries because the exemption implemented in non- global manner.¹⁴²

Norway as OECD country have exemplary policy in sectorial subsidies and quota systems should be reviewed systematically for their environmental implications. The many exemptions from environmentally related taxes should be readdressed with respect to their economic, social and environmental rationale.¹⁴³

The revenue recycling would reduce global emission reduction and it is good lessons for non-OECD countries that broadest possible tax base to ensure cost efficient emission reductions.

The distributional effect of environment tax has become a serious issue most environment tax especially tax on energy intensive pollution but OECD countries got experience that mitigation practice including exemption or rate reduction is reduce environment tax effectiveness rather countries should seek other mechanisms like revenue recycling or compensation trough social security system.¹⁴⁴

¹⁴⁰ OECD Work on environment, Monitoring and analyzing key environmental challenges, now and in the future, 2019-2020, available at website www.oecd.org/enviroment (last visited on May 2020)

¹⁴¹ Ibid

¹⁴² Environment performance review provide on independent assessment and targeted recommendation aimed at improving police that impact the environment Available at <http://oe.cd/epr>, (last visited March 2020)

¹⁴³ Ibid

¹⁴⁴ Executive Summary, Environmentally related taxes in the OECD countries, available at <http://www.oecd.org/env/policies/database>, (last visited May 2020)

Revenue from introducing environment tax can be used to finance increasing spending or reduce other labor tax by cutting non -wage cost in the form of employer social security contribution this mostly apply in OCED countries.

Administrative costs: - many economic instrument used for environment policy involve special provision that increase the administrative cost. However design on most of OCED countries environment related tax can be designed in way that imply relatively low administrative costs. It is line with high economic efficiency.

Political acceptance is key for successful introduction of environment tax by creating common understanding such common understanding create by providing correct information on the environment tax and involve relevant stake holder in policy formation. In Ethiopia most of polices before formulation bring to discussion with relevant authority as such it will be necessary to apply similar discussion in environmental tax. ¹⁴⁵

3.10 What is the financial source for the environmental project in Ethiopia?

There is no government budget for the environment-related project but there is some Global disclosure project related to carbon pay and planation of forecast aid by the international community. The financial source for the environment-related project was on the industries those pollute environment the government only do regulatory activates. The environment tax can create the permanent financial source with good controlling behavior of pollutants as such to solve such financial constrain Ethiopia need to introduce the environmental tax for sustainable protection of the Environment. ¹⁴⁶

Summary

In Ethiopia, there are different sources of pollution like industrial wastes, band emission plastic wastes, pollution from energy use, and agriculture. Moreover, those key sources of environmental pollution resulted in diverse human health, air, water, and soil pollution that cause an effect on nature or alter the natural capacity. The current, mechanisms neither command control nor did Environmental relate taxes couldn't tackle the Environment problem. As such, Ethiopia needs better environmental protection like environmental pollution tax which, sufficiently incorporating the negative externality of pollution in to cost of a polluter. Environmental tax should levy as

¹⁴⁵ Ibid

¹⁴⁶ Interview with Balachew Alamu, cited above note 115

directly as possible on the pollutant activity unless the available pollutant activity tends to be untaxed. If tax levied on polluting activity itself but rather on proxies. It provides no incentives to deploy reduction behavior. The tax levy on the close proxy for polluting activity can provide a good tax base. In another way, the tax has some side effects like distribution effect and competitions of a firm with some mitigation mechanisms.

In Ethiopia, there is some environment-related tax like excise and customs duty that brings environment protection without intention to do it so to address the environment.

Chapter Four

Conclusion and recommendation

4.1 Conclusion

The research aimed to identify whether the environmental pollution tax is indispensable for Ethiopia. As a means to this end, qualitative research method was applied to explore the environmental pollution control mechanisms in Ethiopia with due emphasis to the environmental tax law.

People all over the world suffer from different environmental dangers of which environmental pollution is the main. Failure to control environmental pollution leads to loss of human life, cause health problem and natural disaster. Countries gives responses to control such danger by employing different policies, enact laws and regulations, signing different agreements and conventions for the protection of the environment to control the emission and polluting activity. Irrespective of these efforts, pollution continued unabated.

In Ethiopia, to control pollution, the government applies command and control mechanisms and environmental-related taxes. The existence of some environmental-related taxes such as excise and customs tax have a good impact in environmental protection. Even though, such tax is a yield to state revenues and is not commensurate to compensate the damages resulted from environmental pollution. Moreover, failed in the past to influence the behavior of polluter to a significant extent due to too (low rates, too many exemptions, and poor monitoring and enforcement). Finally, the practical significance of introducing environmental taxation for the prevention of environmental pollution in Ethiopia was highlighted.

The practical and theoretical frameworks of environmental tax was dealt in the paper. Thus, the concepts of the advantage and disadvantages of environment tax, the effectiveness of environment tax and environmental-related, and the environment tax provision were highlighted. In addition, reflection was made on the experiences of countries like Norway, Uganda, and Vietnam with a good environmental taxes which has the effect of well environmental protection. At the end; some disadvantages of environmental tax like the distributional effect, geographical validation, and competitiveness issue are deliberated though mitigation measures are in place. But still the importance of introducing environmental tax law to deal with the environmental pollution in Ethiopia remains significant.

The none existence of specific and separate tax law which deal with the environmental taxation in connection to water, air, and soil pollutions to discourage pollutants behavior and gain revenue were addressed.

Environmental tax contributes in impacting the decision of consumers and industries toward the contribution to pollution emission. Clear communication and transparency are good to public acceptance and effectiveness of environmental taxation. Furthermore, distributional effect and competitiveness also important factor to consider when introducing environmental pollution control tools.

Finally, Ethiopia needs to introduce specific and separate tax law to deal with water, air and soil pollution and to sufficiently tackle environment problem.

4.2 Recommendation

Administrative

- In the time of introduction start with low initial rate and increase through can bring political and public acceptance and state revenue and maintain environment effectives.
- Applying the exemption during introduction of environment tax may cause reduction of international competitiveness of industries if the exemption apply in non-global manner. If the exemption held without consider global scenario Taxes on emissions will mainly create the competitiveness that affect foreign producers, the local firms not subject to similar polices Again such competitiveness affect the environment If the tax leads to the relocation of production, with its associated environmental impacts, it could just shift the

environmental damage elsewhere. Of course, if the taxed environmental effect is purely local, then the country levying the tax and possibly losing the business through relocation will experience local environmental improvement, and the country to which the activity is relocated may experience environmental deterioration. If the Environmental effect is global then the reallocation of emissions from one country to another may mean that there is no environmental gain from the tax at all.

- Clear communication is important to public acceptance of environment tax. Sometimes the public suspicion that the tax is for revenue than a plan to achieve environmental outcomes. So, the government must communicate about the introduction of environmental tax. How to fund an environment-friendly project, how to support other tax because the business group whose profit might adversely affect by higher tax may lobby hard against such tax. It may be because of the lack of knowledge it creates citizens may doubt the government using funds.
- Environmental tax should be levied directly on pollutants or action causing Environmental damage rather than proxies (substitute or input), however, the efficient or close proxy can provide a good tax base.
- The tax rate need to be higher than cost of pollution reduction. Because As one of disadvantage of the environment tax the polluter may continue polluting even by paying tax unless the tax is higher than cost of polluting reduction.

Legal

- The FDRE constitution article 99 specifies that the undesignated tax does not fall under the power of the federal or regional tax decided by the joint session of HOF and HPR with 2/3 majority vote. In this regard, need to consider our federal system because if the power levy environment tax gives to a regional state, it is difficult for environmental protection because there will be no harmonized system to control the pollution all over the country and also may march to regions with lower taxes and may create unfair competition for investment between regions. Additionally, the pollution effect over the environment does not stay on that regional state it imposes the problem to other regional states so if Ethiopia tries to introduce an environment tax must consider. What is the role of the regional state? That must be to the level of implementation and control level.

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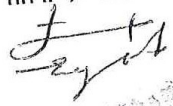

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