EMISSION TRADING: AN UNEXPECTED CHALLENGE TO THE ENVIRONMENT

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INTRODUCTION

Environment is interlinked life-chain which enables human being to live in the earth. It is believed that human being is the creature dominating and controlling the other living being on the earth. On the other hand, it is a well proven fact that human being not only for the survival on the earth destroy the existence of other living being on the earth but for a luxurious and comfortable living. Environment is degraded by the human being in many ways. The emission of carbon is one such activity which is a dangerous human –induced interference with climate system. One of the important objective of United Nations Framework Convention on Climate Change, 1992 is to stabilize GHG concentrations in the atmosphere at a level that would reduce and prevent the GHG released by the human activity that interfere with the climate system. In the first instance it is the Paris Agreement in 2015 which made all efforts to bring world nations into a common cause to agree upon the ambitious efforts to combat climate change and adapt to its effects.

In between these two Agreements it is the Kyoto Protocol, 1997 the world's first GHG emission reduction treaty, which was considered as a greatest achievement and a milestone in the history of Environmental protection conventions. The Marrakesh Accords, 2001 is the result seventh conference of the Parties which formed as a basis of ratification of Kyoto Protocol and thus become a formalize agreement on operational rules for International Carbon Emission Trading and paved way for various emission reduction mechanisms for this new trade. As a result, in 2005 the European Emission Trading Scheme was launched which is the first and largest emission trading scheme in the world.

The COP 21- the historic Paris agreement, about 168 member States as on 5th October 2016 have ratified it to unleash actions and investments toward a low carbon, resilient and sustainable future. Subsequently it was believed that the world nations are striving to regulate the carbon emission. This new trade found to be a control mechanism which is criticized as it is a permit or licence to pollute. Eva Filzmoser, a programme director of CDM Watch, a Brussels based watch dog organization has criticized CDM is basically a farce.[1] The Wiki leaks Cable from 2008 has revealed that a number of CDM projects are ineligible to regulate the carbon emission .Further in countries like India, the *off-set* projects failed to meet the

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[1] *Carbon-Credits System Tarnished by WikiLeaks Revelation*, Available at: https://www.scientificamerican.com/article/carbon-credits-system-tarnished-wikileaks/> Accessed on: 21 Sept. 2017

CDM requirements set by the UNFCCC and the Kyoto Protocol[2]. Aditya Gosh, Center for Science and Environment who is a senior coordinator agrees that the people manipulate CDM projects for their own personal benefit. Therefore it can be said that the as assessed by the historical Climate change conventions the solutions are now resulting for the mushrooming issues like double counting of carbon credits and doubts arise regarding these CDM projects are actually have sustainable development benefits.

INTERNATIONAL SCENARIO ON CARBON TRADING

For tackling climate change Carbon trading has become one of the policy framework of various governments worldwide. Carbon trading is also one of the key element of UNFCCC's Kyoto Protocol[3]. Still it is a debatable and highly controversial as it is being considered as a false solution for confronting climate change. The subject is pigeonholed by mathematical formula, technical particularities, abstract concepts and jargon. For a simple understanding carbon trading is a process of buying and selling quotas that allows the quota holder to emit the equivalent of one tonne of CO_2 (CO_2 equivalents/ CO_2e). Subsequently, if a country or a company's carbon emissions is lesser than its permitted quota, the surplus can be sold. On the other hand, if it exceeds, the country is permitted to buy additional quota on the market.

Carbon trading can be understood in two aspects

i. Emission Trading –cap and trade

ii. Trading in carbon credits from "*offset"* or "carbon-saving" projects.

CARBON CREDITS[4]

It is undeniable fact that carbon credit is definitely a very lucrative proposition for the countries involved both in buying and selling. In this process it is the environment which pays the unrecoverable price and put into question due to the GHG emitting countries causing environmental degradation by polluting and damaging the environment. In 2002, India signed and ratified Kyoto Protocol. The Kyoto Protocol has recognized the developing countries that are chiefly responsible for the GHG emission at a highest rate in the atmosphere which is the result of more than 15 decades of industrial activities by these countries. The Kyoto Protocol under the principle of "common but differentiated responsibilities" have imposed a heavier burden on the developed nation. The Kyoto Protocol has formulated three market based

[2] *Wiki leaks : How India is Manipulating Carbon Credits*; Available at: <http://www.firstpost.com/politics/wikileaks-how-india-is-manipulating-carbon-credits-94984.html> Accessed on: 21 Sept 2017

[3] An international agreement standing on its own, and requiring separate ratification by governments, but linked to the UNFCCC, The Kyoto Protocol, among other things, sets binding targets for the reduction of greenhouse gas emissions by industrialized countries. Glossary of Climate Change Acronyms, UNFCCC; Available at: <http://unfccc.int/essential_background/glossary/items/3666.php#E> Accessed on: 21 Sept. 2017

[4] Carbon credits are also commonly referred to as "emissions certificates" or "emissions allowances", as each unit allows a person to emit one metric tonne of carbon dioxide (CO_2) or carbon dioxide equivalent (CO2e).

mechanisms. The Protocol has also imposed the countries to meet out their targets to control GHG through national a measure which includes:

i. International Emission Trading
ii. Clean Development Mechanism (CDM)
iii. Joint Implementation (JI)

Article 17 of the Kyoto Protocol, permits states that have emission units to spare the permitted emission granted to them which is in excess. Thus allows these types of countries sell excess credits to the countries that are in need and are over their target.

CLEAN DEVELOPMENT MECHANISM

The Clean Development Mechanism is considered as a trailblazer. CDM is one of the first global environmental investment and credit scheme. It further provides a standardized emission offset instrument, CERs.[5] Article 12 of the Kyoto Protocol defines the Clean Development Mechanisms. It permits a state for an emission –reduction or emission-limitation commitment which is formulated under the Protocol (Annexure B Party) to execute a project on emission-reduction in a developing country. They can gain marketable credits by acquiring Certified Emission Reduction (CER)[6]. Each credit is equivalent to one tonne of CO2 and it should be counted towards the requirements structured by Kyoto targets. Further CDM meets the expectations of the international community, as it stimulates sustainable development and emission reduction.

In India, the National Clean Development Mechanism Authority (NCDMA) is functioning under the Ministry of Environment and Forests (MoEF). Its chief role is to approve national level CDM Projects. The approved status of CDM projects until 2012 March was 2,195. Approximately Rs. 10,000 Crores and is a conventional assessment of the total returns gained through carbon credits sale.

The Delhi Metro Rail Corporation (DMRC) is the first project where the railway is using generative braking system is its rolling stock which will reduce 30% electricity consumption. India has been noted in the international arena for having highest number of Certified Emission Reduction units and hence is a strong supplier of Carbon Credits.

THE PROCEDURE FOLLOWED BY CDM

[5] Available at: <http://unfccc.int/essential_background/glossary/items/3666.php#E> Accessed on: 08 Oct. 2017
[6] A type of carbon offset credit specifically under the Kyoto Protocol, equal to 1 metric tonne of carbon dioxide equivalent. CERs are issued for emission reductions from projects under the Clean Development Mechanism. Two special types of CERs are called temporary certified emission reduction (tCERs) and long-term certified emission reductions (ICERs) are issued for emission removals from afforestation and reforestation CDM projects. Available at: <http://unfccc.int/essential_background/glossary/items/3666.php#E> Accessed on: 08 Oct. 2017

One must understand the basic procedure how the CDM projects proposed by the CDM[7]

i. The project must provide details of emission reductions that are additional / surplus to what would otherwise have occurred. It must meet the criteria through a rigorous and public registration and issuance process.
ii. The process of approval is given by Designated National authority.[8]
iii. The Executive Board of the CDM supervises the mechanisms and ultimately is accountable towards national which ratified Kyoto Protocol.

Since 2006 the CDM became operational. Regarding the stand of India, being a developing country it has a forward move encouraging CDM projects. At times India has showcased that Indian companies like ITC, Reliance, Bajaj involved in CDM, thus got a better trading arena and price for CERs generated.

CARBON OFFSET

Perhaps no element of recent cap-and-trade proposals has been as controversial as provisions for offset credits, under which sources whose emissions are limited may increase their emissions in exchange for reducing emissions from an unregulated source outside the cap. At the heart of nearly all offset programs is the requirement of "additionality"- offset credits should only be given for emissions reductions that would not have happened in the absence of the offset program.[9] To sell an offset project it has to prove "additionality" which is one of the key designs of the CDM Additionally is a key in crediting schemes for two separate but related reasons. Carbon crediting schemes have as a stated goal the certification of emission reductions from a baseline. If these emission reductions would have occurred anyway, their certification and later use as offsets that is, compensating for somebody else's emissions, causes a net increase in emissions. In this situation emission in reality it has not been compensated. Thus, there a direct impact on environmental integrity for such non-additional credits.[10] Carbon offsets is one of the components of carbon trading. China and Russia[11]

CARBON EMISSION AND ENVIRONMENTAL DEGRADATION

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[7] Available at: <http://cdm.unfccc.int/index.html> Accessed on: 11 Oct. 2017

[8] Designated National Authorities (DNAs)- An office, ministry, or other official entity appointed by a Party to the Kyoto Protocol to review and give national approval to project proposed under the Clean Development Mechanism. The major task of DNA is to asses' potential CDM projects to determine whether they will assist the host country in achieving its sustainable development goals, and to provide a letter of approval to project participants in CDM projects. In India the DNA is Ministry of Environment and Forest and Climate Change. Available at: <http://unfccc.int/essential_background/glossary/items/3666.php#E> Accessed on: 11 Oct. 2017

[9] Leigh Raymond, *Beyond Additionality in Cap-and-Trade Offset Policy.* Issues in Governance Studies, Number 36, July2010. Available at: <https://www.purdue.edu/discovery> Accessed on: 12 Oct. 2017

[10] *Carbon Credits and Additionality. Past, Present and Future. PMR Technical Note.13.* Available at: <http://documents.worldbank.org/curated/en/407021467995626915/pdf/105804-NWP-PUBLIC-PUB-DATE-5-19-2016> Accessed on: 12 Oct. 2017

[11] Lancaster, R., Mitigating Circumstances, *Trading Carbon, December, 2007*, pp.36-37

A recent report by World Bank a greater cooperation among the world nations through carbon trading could reduce the cost of climate mitigation by 32% by 2030. Worldwide environmentalists have expressed and criticized carbon trading as pollution trading. This view has sprouted out when the cap is poorly enforced or when trading companies or States are able to exploit other. The critiques challenged that these policies or projects for reducing carbon emission cannot meet out environmental standards. The atmosphere, terrestrial biosphere, the oceans and the sediments including fossil fuels which are the Earth's four major reservoirs of carbon. The exchange of carbon through a cycle among these reservoirs is called Carbon cycle. The carbon cycle is one of the fundamental prerequisite for the life on earth. Its nearly 50% of the carbon dioxide released into the air by human activity has been absorbed by the land and ocean. Processes, regions or systems that absorb Greenhouse gases are called Carbon Sinks. Carbon sinks are essential sources that influence the total quality of GHS in the atmosphere. Thus any reduction in the capacity of sinks will ensue in increased global warming. It is therefore questionable that the CDM projects are balance this particular requirement of the earth's environment to support life on it. For instance, there are potential risks to the rural poor who are dependent on forest resources for their subsistence and livelihood in terms of labour and food. Due to the entry of many players of carbon market and their entry in forest and utilizing the adjacent natural resources, it put many indigenous community and their livelihoods to risk.

CARBON CREDIT FRAUD AND ENVIRONMENTAL CRIMES

Environmental crimes are mounting at scandalous rate. UN Environment Programme and INTERPOL published a report in June 2016 which says that the value of environmental crime has increased 26% than previous estimates. It was $70-213 in 2014 and in the year 2016 increased to $91-258. Ironically, complication observed in this kind of criminality needs cross-sectorial sector action underpropped via cooperation among the world nations. Thus it also leads to upswing of white collar crime, other dimension of carbon credit fraud that involves money exchange and returns which hooked on millions of dollars.

One commonly used "scam" is to frame a project which is proposed to look like an economic loser on its own, but offset in come is factored in it turns as a profitable earner. The International Emission Trading Association (IETA)[12] has stated that proving the intent of developers who apply for the approval of the CDM "is an almost impossible task. It has been opinioned by the Industry representatives that "good storytellers" get their project approved and "bad storytellers" projects which is really additional thus fail.[13] It clearly explains how an internationally framed goal to combat environmental degradation is turned out to be an eye washer for merely mending money. Thus, turns out to be an environmental crime. For instance, the Indian wind developers who failed to explain the CDM on the lucrative tax

[12] Available at: <http://www.ieta.org> Accessed on: 14 Oct 2017

[13] *Emission Trading, Discredited Strategy*, Available at: <https://www.theguardian.com/environment/2008> Accessed on: 14 Oct.2017

credits their projects were earning. [14] Further these activities leads to white color crimes such as tax fraud, money laundering, tax havens, double counting and reclaiming of carbon credits. The carbon trading market at international level is a riddle with fraudulent carbon credits, which are essentially *permission slips* to pollute. The concept of *additionality* which can only be proved theoretically as there is difficulty to prove with certainty what could or would have happened in the absence of a projects implementation.

CONCLUSION

In a report by the UNEP Executive Director Achim Steiner has expressed his opinion on increasing environmental crimes not only leads to destructive results to environment and local thrifts, it also includes persons jeopardized by the criminal organizations. Further World nations must join hands towards curbing and proceed with effective actions both at domestic and international level to eradicate environmental crimes.[15]

As justified by the international community emission trading is not an effective economic instrument to combat the problem more cost-effective as it is structured to allow private sectors for whom change is most difficult to delay investment. Further, such changes of social and technological nature, the government agree needs instead to be undertaken immediately. Thus it is biased toward addressing a different problem or deviates from the track of solving climate change or global warming.it has been opinioned that due to the absence of adequate monitoring equipment to detect pollutants and the measurement on the emission of a particular plant of factories are releasing into the atmosphere. Expressively, there is inadequate explanation to answer or define the concept of additionality. Never has so much been said has much been said about a topic by so many without ever agreeing on a common vocabulary. Additionality has generated endless conflict over its exact meaning and how we should measure it(with even supporters agree that additionality is a difficult standard to test in practice) .[16] Thus the policy framers may consider going beyond *additionality* to focus on other means or factors which paves way for creation of fair, practical, cost effective and environmentally effective and efficient offset credits. Additionality also has the perverse moral implication of favoring offset providers with a poor track record or previous behavior and lack of motivation to address environmental problems.[17]

Finally, Carbon trading not on the whole has imperfections, but with above study it can be opinioned that many individuals are gaming the system which they do not require to execute

[14] Available at: <https://www.theguardian.com/environment/2008/may/21/environment.carbontrading> Accessed on: 14 Oct. 2017

[15] Available at: <www.unep.or> Accessed on: 16 Sept. 2017

[16] M.C.Trexler, D.J.Brockhoff and L.H.Kosloff. *A statistically driven approach to offset-based GHG additionality determination: What can we learn? Sustainable Development Law & Policy.* 2006

[17] Leigh Raymond, *Beyond Additionality in Cap-and-Trade Offset Policy.* Issues in Governance Studies, July 2010. Available at: https://www.purdue.edu/discoverypark/climate/resources/docs/07_additionality_raymond.pdf Last visited on 14 Oct. 2017

the projects and well established ethical distress among commodification of polluting privileges and fly-tippers/emitters “Buying their way out” of an obligation in wipe out the emissions. One has the basis for greater level of moral concern with offsets that are not additional. During negotiations over the CDM, for instance, arguments and discussions over offset credits being “additional” were often linked to concerns about such credits being “supplemental” to emissions reductions under the cap.[18] Supplementary standards continue in many programs, limiting use of offset credits to some fixed percentage of the total emissions reductions required.[19] Offset projects mostly are located in developing states that often cannot meet out the requirements to reduce emissions on their own. With all these glitches in the carbon trading, it is the accepted mechanism which is considered to be a viable solution for controlling carbon emission. Conclusively, greater transparency and more accountability in this *invisible* trade can give a fair result in environmental protection.

[18] Ott, Hermann E. *Climate Change: An Important Foreign Policy Issue.* International Affairs, pp.277-297

[19] As reviewed briefly in Raymond, Leigh, 2010, ‘*The Emerging Revolution in Emissions Trading Policy*.’ In *Greenhouse Governance*, Ed. B. G. Rabe, Washington, DC: Brookings Press