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EDITORIAL

The Editorial Board of the Environmental Law and Practice Review (ELPR) takes great pleasure in bringing forth Volume IV of ELPR. This issue has submissions from students as well as contribution from scholars and professionals on invitation and solicitation. Keeping up with the tradition of ELPR the editorial team is happy to bring out an issue that discusses extensive issues across various jurisdictions. The journal seeks to initiate discourse surrounding pressing issues assuming primacy in the environmental jurisprudence and form a platform for encouraging scholarship in this nuanced field.

Beginning from a cross-jurisdictional analysis, Dr. Aine Ryall's paper on "Realizing Environmental Information Rights: The impact of the Aarhus convention in Ireland" discusses the environmental information regime in Ireland against the benchmarks set by the United Nations Economic Commission for Europe (UN ECE) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters 1998. It has a lot to offer to environmental law jurisprudence in India where the ideas of access and transparency with regards to environmental governance and information are yet to evolve.

Moving along the lines of such international law-centric academic discussion, Abu Saleh in his paper titled, "The WTO jurisprudence and the protection of the environment: A new paradigm of progress and reconciliation" critically analyses the development and progress of the International trade law jurisprudence in protecting the environment. The author surveys case laws decided by the WTO dispute settlement body to argue how the WTO regime has aided in reconciling concerns of trade and the environment.

Recognizing the ecological impact of economic growth, Dr. Aruna Venkat continues the deliberation on a similar theme in her note titled, "Global Warming and refugees of climate change" discussing a very immediate problem of environmental refugees and how international environmental law and refugee law needs to adapt itself to account for climate change and the refugees it is leaving behind.

Subsequently, Ananya Kulkarni has written on "The role of economics, valuation and environmental ethics in global conservation regimes" dealing with various factors, which are conflicting like economics, valuation of the resources and environmental ethics going into the process of conservation of natural resources. The author uses the case study of commercial

ban on whaling to study how different perspectives of looking on issues of conservation clash. She tries to resolve the various perspectives and offer an alternate policy approach towards conservation of natural resources.

Endorsing a domestic perspective, Dr. Madhu Verma's paper on, "Economic value of forest diversion in India and its distribution across spatial scale", looks at the various factors that can go into ascertaining the economic value of forests. The study further provides us with the methodology used for estimating Net Present Value (NPV), provides disaggregated NPV across various spatial scales to highlight the need for compensating local losses and suggests a few policy changes which should be made to compensate for the loss of forest cover in India.

Engaging the readers on pertinent questions plaguing the domestic jurisprudence, Shibani Ghosh in her paper titled, "The liability regime on air pollution in India" argues that the liability regime on air pollution as it exists in India at present is not capable of addressing the issue of air pollution. She argues for stricter penalty to be imposed on defaulting parties and empowerment of the State Pollution Control Boards (SPCB) to enforce various kinds of penalties, which imbibe in them the concept of polluter pays as well. The author however gives us a caveat to ensure that the powers of the SPCB are curtailed and mechanisms exist to ensure transparency in their functioning.

Ultimately, this year's edition ends with Martyn Day, Kate Gonzalez and Oliver Holland's comment on the Niger Delta Oil Spill issue wherein they enabled the Bodo Community to get an award of 55 million pounds as settlement. In the comment, the authors provide an in-depth theoretical and professional analysis of the 55 million pounds settlement reached between Shell and the Bodo community in Niger Delta after an oil spill in the delta left the community desolate.

The board of editors would like to thank the Chief Patron, Advisory Board and the designer of the journal for their valuable contribution to the publication of this volume. The board would also like to extend their gratitude to the peer reviewer panel comprising of Avani Bansal, Vyoma Jha, Alok Prasanna Kumar, Meyyappan Nagappan, Dr. N. Vasanthi, Dr. Yvonne Scanell, Malak Bhatt and Krishna Deo Singh Chauhan for their support to ELPR.

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REALISING ENVIRONMENTAL INFORMATION RIGHTS: THE IMPACT OF THE AARHUS CONVENTION IN IRELAND

- ***Áine Ryall****

ABSTRACT

Timely access to accurate, user-friendly information is vital to enable the public to participate in environmental decision-making processes and to take steps to enforce the law where necessary. It also serves to raise awareness of environmental issues and encourages informed discussion around (often controversial) policy choices. The right of access to environmental information held by public authorities is guaranteed under international, European Union (EU) and national law. While it is relatively straightforward to articulate this right in a legal instrument, giving effect to it in practice is challenging. There are a number of reasons behind the implementation gap including: lack of awareness of information rights and their potential to improve environmental governance; a failure on the part of public authorities to appreciate that there is a presumption of disclosure and that information may only be withheld in very limited circumstances; inadequate resources and expertise in public authorities to support the smooth operation of the right of access; weak enforcement mechanisms and lack of effective sanctions in the case of non-compliance; and an overarching policy failure to prioritise and promote environmental rights, including the right to information.

This article examines the environmental information regime in Ireland against the benchmarks set by the United Nations Economic Commission for Europe (UN ECE) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters 1998 (the Aarhus Convention).[1] *It opens with an account of the general framework governing access to environmental information set down in the Convention and Directive 2003/4/EC on public access to environmental information*[2] *(Part 1). This is followed by an overview of the main elements of the environmental information regime in Ireland (Part 2). The Convention and Directive 2003/4/EC have had a significant*

* Dr. Aine Ryall is a Senior Lecturer at the School of Law, University College Cork, Ireland. This article draws on research undertaken for the project *Access to Environmental Information: Old Challenges, New Opportunities* funded by an Irish Research Council *New Foundations* grant 2014. See www.environmentaljustice.ie. The author would like to thank the anonymous reviewers for their helpful comments on an earlier draft of this article.

[1] The Convention text is available at: http://www.unece.org/env/pp/treatytext.html.

[2] Directive 2003/4/EC on public access to environmental information and repealing Council Directive 90/313/EEC [2003] OJ L 41/26.

positive impact on Irish information law and practice. However, there are significant problems with implementation which continue to undermine the value of the right of access. Notwithstanding important recent developments, including clarification from the Supreme Court on matters of interpretation and a significant reduction in the fees payable to appeal decisions refusing access, Irish law and practice still fall short of the standards set in the Aarhus Convention. Part 3 provides an account of AIE in practice. It highlights issues that prevent the right of access from operating effectively and suggests steps that could be taken to improve the current position.

The article concludes that the environmental information regime in Ireland is responding gradually to the demands of the Aarhus Convention and EU law, but the road to an Aarhus-compliant system is proving to be long and arduous. The Convention raised expectations among the public of greater transparency in environmental governance and proactive dissemination of information. These expectations have not been fulfilled adequately in Ireland to date. The current regime can best be described as being in a state of transition towards an Aarhus-compliant system.

I. ENVIRONMENTAL INFORMATION RIGHTS FRAMEWORK UNDER THE AARHUS CONVENTION & EU LAW

I.I. Aarhus Convention

The Aarhus Convention is an international Treaty that guarantees three closely connected rights concerning information, participation in decision-making and access to justice in environmental matters. This trio of rights underpins the right of every person of present and future generations to live in an environment adequate for their health and well-being. The EU and the 28 Member States are among the Parties to the Convention. Article 3 of the Convention sets down important general provisions that require Parties: to take the necessary legislative, regulatory and other measures (including enforcement measures), to establish and maintain a clear, transparent and consistent framework to implement Convention provisions; and to endeavour to ensure that public authorities assist the public in exercising their rights.

It also demands that Parties promote environmental education and awareness among the public, especially on how to use the Convention rights. The rules governing the right of access to information on the environment are set down in Articles 4 and 5 and the related

access to justice provisions are found in Article 9(1), (4) and (5). The Convention acknowledges at the outset that public authorities hold environmental information "in the public interest".[3] It obliges authorities to make environmental information available, on request and as soon as possible, subject to limited exceptions.[4] In most cases, it should not be necessary to make a formal request for access; environmental information should be freely available to the public, ideally in electronic form.

To this end, the Convention obliges public authorities to be proactive in collecting and disseminating up to date environmental information.[5] In order to ensure that the information rights guaranteed under the Convention are meaningful in practice, timely and affordable review procedures must be available.[6] Where a Party provides for review by a court, it must also ensure that the public has access to an expeditious procedure established by law which is free of charge or inexpensive and provides for review by either a public authority or an independent and impartial body other than a court.[7]

Since October 2002, the Aarhus Convention Compliance Committee oversees how Parties implement their obligations.[8] The Committee is comprised of experts in environmental law, including practitioners and academic lawyers. It is not a court. The Committee operates on a "non-confrontational, non-judicial and consultative" basis and its primary objective is to assist the Parties to comply with their Convention obligations.[9] The Committee reports to the Meeting of the Parties, which may, following consideration of the Committee's findings and recommendations in a particular case, decide on appropriate measures to bring about full compliance, including by providing advice and assistance to the Party concerned and/or making specific recommendations.

A member of the public can engage the compliance mechanism by making a "communication" to the Committee alleging breach of Convention obligations. This process is free of charge, remarkably transparent and does not involve any onerous formal requirements. The Committee has made findings of non-compliance with regard to

[3] Aarhus Convention, recital 17.
[4] Aarhus Convention, Article 4(1)-(7).
[5] Aarhus Convention, Article 5.
[6] Aarhus Convention, Article 9(1), (4) and (5).
[7] Aarhus Convention, Article 9(1).
[8] Aarhus Convention, Article 15 and Decision I/7 *Review of Compliance* adopted by the Meeting of the Parties, Lucca, Italy, 21-23 October 2002, text available at: http://www.unece.org/fileadmin/DAM/env/pp/documents/mop1/ece.mp.pp.2.add.8.e.pdf.
[9] Ibid.

implementation of the information rights in Articles 4, 5 and the related access to justice obligations in Article 9(1), (4) and (5) of the Convention in a number of cases.[10] It generally adopts a robust approach when reviewing compliance so as to ensure that the Convention rights are meaningful in practice. The Committee's findings also provide authoritative (although not binding), guidance on how Convention provisions should be interpreted and applied in practice. Although they are not legally binding, the Committee's findings and recommendations have considerable impact and are generally taken very seriously by the Parties.

Although Ireland signed the Convention in 1998, it did not ratify it until June 2012. Ireland has been a Party to the Convention since September 2012 and has been subject to the Compliance Committee's jurisdiction since September 2013. There are currently four communications concerning Ireland pending before the Compliance Committee and two of these involve information rights. One communication alleges breach of Article 3 and Articles 4 to 9 of the Convention in the specific context of the implementation of the EU's renewable energy action plan in Ireland.[11] The other communication alleges inter alia that the review procedure available to challenge a decision refusing access to information does not comply with Article 9(1) and (4).[12] It remains to be seen how the Committee will deal with these cases and what impact these communications will have on law and practice in Ireland.

I.II. EU law obligations

Because of Ireland's particular constitutional arrangements, the impact of the Aarhus Convention in the Irish legal order to date has come about primarily due to Ireland's obligations as a Member State of the EU. Ireland has a dualist legal system which means that international agreements, such as the Aarhus Convention, do not automatically become part of domestic law on ratification.[13] Although Ireland has enacted a range of legislative measures to transpose specific aspects of the Convention, the Convention itself is not part of

[10] For an overview of the Compliance Committee's findings and recommendations as regards the right of access to environmental information, and the related access to justice obligations, see *The Aarhus Convention: An Implementation Guide* (2nd ed) (UN ECE, 2014) in particular, pp75-117 and pp187-207, text available at: http://www.unece.org/fileadmin/DAM/env/pp/Publications/Aarhus_Implementation_Guide_interactive_eng.pdf.

[11] ACCC/C/2014/112 Ireland.

[12] PRE/ACCC/C/2015/129 Ireland. According to the Compliance Committee website, a determination on preliminary admissibility is pending at the time of writing (August 2015).

[13] Article 26.9 of *Bunreacht na hÉireann* (Constitution of Ireland) provides that "[n]o international agreement shall be part of the domestic law of the State save as may be determined by the Oireachtas [Parliament]."

domestic law and may not be invoked directly before the courts.[14] This is because the *Oireachtas* (Parliament) has not passed legislation making the Convention part of domestic law. The courts are required, however, to interpret national law in light of Ireland's international law obligations, at least in so far as this is possible.[15]

The EU has been a Party to the Aarhus Convention since May 2005 and the Court of Justice of the EU (CJEU) has confirmed that the Convention is an integral part of the EU legal order.[16] As a Member State of the EU, Ireland is obliged to comply with EU law, which includes the Aarhus Convention. It follows that the Convention may be invoked in Ireland, but only *indirectly* by reference to Ireland's obligations under EU law. So, in an appropriate case, the courts are obliged to give effect to the terms of the Convention as part of Ireland's wider EU law obligations.[17] More specifically, Ireland is required to implement Directive 2003/4/EC on public access to environmental information which is the EU directive designed to give effect to the Aarhus information rights in the Member States.[18]

As is well known, EU directives are binding on Member States and the EU Commission may bring infringement proceedings in the Court of Justice of the EU (CJEU) to enforce compliance. In addition to centralised enforcement by the Commission, national courts are obliged to provide effective judicial protection for EU rights.[19] The result is that the Aarhus information rights have penetrated the legal orders of the Member States, including Ireland, primarily by virtue of binding EU law obligations which are judicially enforceable by the CJEU and the national courts.

I.III. Directive 2003/4/EC on public access to environmental information

Directive 2003/4/EC on public access to environmental information is one of a number of measures adopted by the EU in response to obligations arising under the Aarhus Convention. Directive 2003/4/EC repealed and replaced Directive 90/313/EEC[20] which was

[14] *McCoy v Shillelagh Quarries Ltd* [2015] IECA 28 para 12 per Hogan J.
[15] *Sweeney v Governor of Loughan House Open Centre* [2014] IESC 42 per Clarke J at para 2.6 of his judgment (cited in *McCoy v Shillelagh Quarries Ltd* [2015] IECA 28 para 17).
[16] Case C-240/09 *Lesoochranárske zoskupenie VLK v Ministerstvo životného prostredia Slovenskej republiky* EU:C:2011:125.
[17] *McCoy v Shillelagh Quarries Ltd* [2015] IECA 28 para 14.
[18] Note that a separate measure, Regulation 1367/2006 [2006] OJ L 264/13, aims to implement Aarhus obligations as regards the EU institutions.
[19] Case 222/84 *Johnston v Chief Constable of the Royal Ulster Constabulary* EU:C:1986:206, Article 19(1) Treaty on the Functioning of the EU and Article 47 of the Charter of Fundamental Rights of the EU.
[20] Directive 90/313/EEC on the freedom of access to information on the environment [1990] OJ L 158/56.

the original - and much weaker - directive on freedom of access to environmental information. The new directive, which is modelled closely on the Aarhus Convention, strengthened environmental information rights significantly. It aims to guarantee the right of access to environmental information held by, or for, public authorities and to ensure the availability and dissemination of such information to the widest extent possible.[21] Member States must provide for the right of access, on request, and as soon as possible, subject to a number of exceptions.[22] Public authorities may charge for supplying environmental information, but any charge cannot exceed "a reasonable amount".[23]

The key definitions of "public authority" and "environmental information" are drafted in broad terms and reflect the Convention text.[24] Member States must put specific systems and practical arrangements in place to deliver the right to information effectively in practice.[25] The directive is unambiguous in demanding that public authorities play a proactive role in delivering the right of access and in supporting the public when the right is invoked.

As regards the scope of the right of access, there is a strong presumption in favour of disclosure, but the right is not absolute.[26] The directive provides for a number of exceptions to cover specific situations where a public authority can demonstrate a legitimate reason to withhold the information requested.[27] A request may be refused where disclosure would "adversely affect" a range of specific interests including: the confidentiality of a public authority's proceedings; the course of justice; commercial or industrial confidentiality; intellectual property rights; and the confidentiality of personal data etc.[28] However, all exceptions must be interpreted restrictively, taking account of the public interest served by disclosure. In each case, the public interest in disclosure must be weighed against the interest served by withholding the information at issue. In the case of information concerning emissions into the environment, there is very limited scope for a public authority to refuse access.

[21] Directive 2003/4/EC, Article 1.
[22] Directive 2003/4/EC, Article 3(1) and (2) and Article 4.
[23] Directive 2003/4/EC, Article 5(2).
[24] Directive 2003/4/EC, Article 2(1) and (2).
[25] Directive 2003/4/EC, Article 3(5).
[26] Directive 2003/4/EC, recital 16.
[27] Directive 2003/4/EC, Article 4.
[28] Directive 2003/4/EC, Article 4(2).

Where an applicant considers that their request has not been dealt with in accordance with the directive, Member States must provide access to a review procedure.[29] Following the Aarhus Convention, two levels of review are required: the first level involves internal review, or external review by another public authority, or an administrative review by "an independent and impartial body established by law".

This first level review must be "expeditious and either free of charge or inexpensive". The next level of review must be before a court or "another independent and impartial body established by law" whose decisions are binding. Although it is not stated expressly in the directive, as per Article 9(4) of the Aarhus Convention, these review procedures must be "fair, equitable, timely and not prohibitively expensive" and must deliver "adequate and effective" remedies. Beyond the right to request specific environmental information, the directive demands that Member States take measures to ensure the proactive dissemination of information and, "so far as within their power", ensure that information compiled by them (or for them) is up to date, accurate and complete.[30]

Member States were required to implement Directive 2003/4/EC by 14 February 2005. Since its adoption, disputes have arisen over the correct meaning to be assigned to key provisions in the directive and on how the general access obligations interact with sector specific EU legislation. The scope for disagreement is reflected in the fact that the CJEU has delivered a series of important preliminary rulings concerning the right of access to environmental information. The Court has confirmed that Directive 2003/4/EC must be interpreted in light of the wording and purpose of the Aarhus Convention which it is designed to implement.[31]

As expected, the CJEU has interpreted the definitions of "public authority" and "environmental information" expansively and has taken a narrow approach to Member State discretion, especially as regards the exceptions to the right of access, so as to ensure the effectiveness of the directive in practice.[32] The Court's *Fish Legal* ruling in 2013, which

[29] Directive 2003/4/EC, Article 6.
[30] Directive 2003/4/EC, Articles 7 and 8.
[31] Case C-279/12 *Fish Legal, Emily Shirley v The Information Commissioner, United Utilities, Yorkshire Water and Southern Water* EU:C:2013:853.
[32] Case C-266/09 *Stichting Natuur en Milieu and Others v College voor de toelating van gewasbeschermingsmiddelen en biociden* EU:C:2010:779; Case C-204/09 *Flachglas Torgau GmbH v Germany* EU:C:2012:71; Case C-515/11 *Deutsche Umwelthilfe eV v Germany* EU:C:2013:523; and Case C-279/12 *Fish*

provided long-awaited guidance on the definition of "public authority", is especially significant and has already had a major impact at national level.[33] The essential issue in the *Fish Legal* litigation was whether certain privatised water companies in the United Kingdom were public authorities and therefore subject to the obligation to disclose environmental information. Privatisation of the delivery of public services, such as water, gas, electricity, rail and telecommunications, has blurred the traditionally sharp divide between public and private functions and generated new complications regarding disclosure obligations. Applying the principles set down by the CJEU in *Fish Legal*, the UK Upper Tribunal found that the water companies in this case were indeed public authorities due to the fact that they were vested with special powers beyond those governing the relations between private parties.[34]

The expansive approach to the concept of a "public authority" mandated by the Aarhus Convention, and confirmed by the CJEU, has potentially very significant implications for other private organisations delivering public services who may well find themselves subject to the obligation to disclose environmental information.[35] It will be interesting to see how this area develops into the future at national level. As will be explained in section 3, below, the scope of the definition of "public authority" has also proved controversial in Ireland and the Supreme Court has recently been called on to apply the *Fish Legal* principles. Another important reference for a preliminary ruling, concerning the scope of a public authority's discretion to charge for supplying information, is currently pending before the CJEU.[36] Overall, the Court has adopted its characteristic purposeful approach to Directive 2003/4/EC, with a keen eye to the effective delivery of the right of access at national level.

II. ENVIRONMENTAL INFORMATION RIGHTS REGIME IN IRELAND

Ireland was over two years late in transposing Directive 2003/4/EC via the European Communities (Access to Information on the Environment) Regulations 2007 which came into

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Legal, Emily Shirley v The Information Commissioner, United Utilities, Yorkshire Water and Southern Water, EU:C:2013:853.

[33] Case C-279/12 *Fish Legal, Emily Shirley v The Information Commissioner, United Utilities, Yorkshire Water and Southern Water*, EU:C:2013:853.

[34] *Fish Legal v Information Commissioner* [2015] UKUT 52 (UT (AAC)), 19 February 2015.

[35] See also: *The Aarhus Convention: An Implementation Guide* (2nd ed) (UN ECE, 2014) pp 46-48.

[36] Case C-71/14 *East Sussex County Council v Information Commissioner, Property Search Group and Local Government Association* [2014] OJ C 102/25. Opinion of Advocate General Sharpston, 16 April 2015, EU:C:2015:234.

force on 1 May 2007.[37] Shortly thereafter the CJEU confirmed that Ireland had breached EU law by failing to transpose the directive by the 14 February 2005 deadline.[38] The original regulations introduced in 2007 were amended in 2011,[39] and again in 2014,[40] with a view to aligning Irish law more faithfully with the directive's requirements. The current provisions are found in the European Communities (Access to Information on the Environment) Regulations 2007 to 2014 (the AIE regulations). Apart from the AIE regulations, planning and environmental legislation provides for extensive rights of access to information in specific areas including, for example, applications for development consent, environmental impact statements, decisions on applications for development consent etc.

The Freedom of Information Act 2014 (FOI Act) and the AIE regulations provide two separate but overlapping mechanisms for access to information.[41] The AIE regulations are therefore part of a wider framework of rules governing access to information, although they are, of course, modelled closely on Directive 2003/4/EC and are tailored specifically for environmental information requests. There are important differences between FOI and AIE. The AIE regime generally covers a wider range of public authorities, there is a stronger presumption of disclosure and there is less scope for authorities to rely on exceptions to the right of access, especially in the case of emissions into the environment.

One of the most significant innovations introduced under the AIE regulations was the establishment of the Office of the Commissioner for Environmental Information on 1 May 2007. This office is held by the person who holds the office of Information Commissioner under the FOI legislation, although both roles are legally separate. The role assigned to the Commissioner for Environmental Information is to review decisions of public authorities on appeal by applicants who are not satisfied with the outcome of their request for access to environmental information following an internal review.

The Commissioner enjoys considerable powers, including the power to require a public authority to make information available to the Commissioner and to examine and take copies of any environmental information held by a public authority and retain it for a

[37] SI No 133 of 2007.
[38] Case C-391/06 *Commission v Ireland* EU:C:2007:265.
[39] SI No 662 of 2011.
[40] SI No 615 of 2014.
[41] Ireland has had FOI legislation since the Freedom of Information Act 1997. The FOI Act 2014 repealed and replaced the 1997 Act and the Freedom of Information (Amendment) Act 2003.

reasonable period of time. The Commissioner also has jurisdiction to refer any point of law arising in an appeal to the High Court for determination, although this power has not been invoked in any appeal to date. The Commissioner's decisions are legally binding and a public authority is obliged to comply within three weeks of receiving a decision. In the event of non-compliance, the Commissioner may apply to the High Court for an order directing compliance.

Where a party to an appeal, or any person affected, disagrees with the Commissioner's ruling, the AIE regulations provide for an appeal to the High Court, but on a point of law only. The Commissioner's decisions may also be challenged by way of judicial review proceedings. While most disputes are resolved before the Commissioner, certain cases, usually involving important points of interpretation of legal principles, proceed to litigation. This raises the question of access to the courts and the adequacy of the arrangements in place to ensure access to effective judicial protection for Aarhus and EU law rights. One of the main issues here is the generally high cost of engaging in litigation in Ireland.

With a view to aligning Irish law with the obligation in Article 9(4) of the Aarhus Convention that review procedures must not be "prohibitively expensive", Ireland introduced a special costs rule for certain categories of environmental litigation, including proceedings concerning the AIE regulations.[42] The general position in Irish law is that costs follow the event or, in other words, the "loser pays" principle applies. Legal costs in Ireland are high and the operation of the "loser pays" principle creates a significant barrier to access to justice. However, in cases where the special costs rule applies, the default position is that each party bears its own costs, and the court has discretion to award costs in favour of the applicant where a legal challenge is successful. There is no doubt that the special costs rule has improved access to environmental justice by removing the risk of potential liability for an opponent's legal costs in the event of an unsuccessful challenge.

However, the high cost of legal services, together with the very limited availability of civil legal aid, means that it is very difficult for individuals and non-governmental organisations (NGOs) with limited resources to secure the necessary legal and scientific/technical advice. This state of affairs creates a situation where meritorious

[42] Environment (Miscellaneous Provisions) Act 2011, Part 2.

challenges may not be brought due to the inability to secure suitable expert representation. The special costs rule does not address this fundamental problem, thereby perpetuating a situation which arguably leaves Ireland in breach of the ban on prohibitive costs guaranteed under the Aarhus Convention and EU law. This problem arises in environmental litigation generally in Ireland, and is not limited to litigation involving information rights. An Aarhus Bill is anticipated for autumn 2015 in which it is expected that the Government will introduce new provisions designed to improve Irish transposition and implementation of the Aarhus and EU access to justice provisions. It remains to be seen to what extent any new measures will improve on the current unsatisfactory situation.

Prior to the establishment of the Office of the Commissioner for Environmental Information, the only remedy available in the majority of cases where access to information was delayed or denied was judicial review in the High Court. Such proceedings were generally too expensive and too slow to provide an effective remedy. The fact that there is now a dedicated, accessible, non-judicial forum to determine environmental information disputes is a very significant development. However, as explained below, due to limited resources and the complexity of the legal issues that arise for consideration, there are long delays in processing appeals in the Commissioner's office. This state of affairs undermines the effectiveness of the appeal mechanism in practice.

Apart from problems with the appeals system, over ten years after the deadline for transposition of Directive 2003/4/EC, it is disappointing to find that a number of aspects of the AIE regulations are not compatible with the directive and the Aarhus Convention. These include: the express requirement that a request for access must be made in writing or electronic format; the highly misleading references to "mandatory" exceptions to the right of access; the fact that the AIE regulations do not apply to information that is available under any other statutory provision (i.e. the right of access under a different statutory regime may be less favourable than that set down in Directive 2003/4/EC); and the failure to transpose the obligation to provide a "timely" remedy to enforce the right of access.

In addition to these transposition issues, the Commissioner has highlighted problems with the exception that protects the confidentiality of the proceedings of public authorities.[43]

[43] Commissioner for Environmental Information, *Annual Report 2014* (Dublin, 2015) p83.

The concept of "proceedings" has not been defined clearly as required by the CJEU.[44] Furthermore, the fact that this particular exception incorporates FOI exemptions into the AIE regulations means that it is very difficult to apply in practice. Another controversial aspect of the AIE regulations is the fact that a fee is payable to lodge an appeal with the Commissioner for Environmental Information. The standard appeal fee is €50 (reduced from €150 in December 2014).[45]

Notwithstanding the significant recent reduction in the fee, NGOs maintain that the €50 fee is still a barrier to initiating an appeal. There are no equivalent appeal fees in England and Wales, Northern Ireland or in Scotland. It is disappointing to find that shortcomings in transposition and practical problems regarding the manner in which certain exceptions are drafted remain to be addressed over ten years after the deadline for transposition of Directive 2003/4/EC.

III. ENVIRONMENTAL INFORMATION RIGHTS IN PRACTICE

Beyond the legal provisions in place at national level to transpose Directive 2003/4/EC and the Aarhus Convention, it is the application of the law by public authorities that determines whether or not information rights are meaningful in practice. It is also vital that the appeals mechanism works effectively and that the public has confidence in the administrative and judicial review procedures put in place to enforce the right of access. This section provides an account of environmental information rights in action and highlights problematic aspects of the AIE regime. It must be noted at the outset that there is no reliable official data available on levels of AIE activity and how public authorities deal with requests.[46]

Anecdotal evidence suggests that there is still limited awareness of AIE among public authorities, that requests are not dealt with promptly and that authorities lack AIE expertise and struggle with the complex legal issues that frequently arise in dealing with requests. It is

[44] Case C-204/09 *Flachglas Torgau GmbH v Germany* EU:C:2012:71.

[45] A reduced appeal fee of €15 applies in certain circumstances, but there is no fee concession for NGOs.

[46] In 2014, the Department of Environment, Community and Local Government published some raw data on AIE requests made to Government Departments (and the public authorities under their aegis) during 2013. This data indicated that 244 requests for environmental information were made to these public authorities during 2013. Of the 244 requests, 111 were granted in full, 40 were granted in part, while 74 were refused. A further three requests were transferred to another public authority and 13 were withdrawn. Figures for 2014 were not available at the time of writing (August 2015). See further: http://www.environ.ie/en/Publications/StatisticsandRegularPublications/AccesstoInformationontheEnvironment/ .

unfortunate that data is not available to facilitate more detailed analysis of AIE in action, in particular around such issues as: who is using AIE; which public authorities are asked for information most frequently; timeframes for decision-making; the grounds on which requests are refused, the success rate on internal review; and the proportion of refusals that are appealed to the Commissioner.

III.I. Insights from the Commissioner's decisions

In the absence of reliable contemporary data, a study of the appeal decisions published by the Commissioner for Environmental Information provides valuable insights into how AIE is operating in practice. In the period between its establishment on 1 May 2007 and 1 August 2015, the Commissioner's Office published 34 decisions on its website.[47] The number of decisions made during this period appears remarkably low, which may be explained by the fact that up to 14 December 2014 a standard appeal fee of €150 applied which likely deterred individuals and NGOs with limited resources from pursuing an appeal. Moreover, as discussed below, there are long delays in the Commissioner's office due to scarce resources and this is obviously a factor that discourages appeals, especially when the information requested is time sensitive.

A review of the published decisions indicates a disappointing picture of implementation. The decisions include cases where public authorities failed to comply with their AIE obligations by for example: failing to respond to requests for access (or requests for internal review) within the prescribed time;[48] misapplying exceptions and/or failing to apply the public interest test; [49] failing to inform applicants of their right to appeal;[50] and levying unlawful charges.[51] The fact that the Commissioner addressed these failures confirms the importance of an independent and accessible appeals mechanism where unlawful behaviour by public authorities can be challenged and remedied.

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[47] The Commissioner's website is at: www.ocei.gov.ie.

[48] CEI/08/0005 *Peter Sweetman and Courts Service* (5 December 2008); CEI/08/0001 *Hill of Allen Action Group and Kildare County Council* (22 September 2008); CEI/09/0014 *Tony Lowes/Friends of the Irish Environment Ltd and Office of the Attorney General* (3 May 2012); and CEI/11/0009 *Rita Canney and Waterford City Council* (7 June 2012).

[49] CEI/08/0001 *Hill of Allen Action Group and Kildare County Council* (22 September 2008) and CEI/08/0012 *Cullen and Department of Environment, Heritage and Local Government* (27 October 2009).

[50] CEI/12/0005 *Pat Swords and Department of Environment, Community and Local Government* (20 September 2013).

[51] CEI/07/0006 *Open Focus and Sligo County Council* (26 May 2008) and CEI/12/0005 *Pat Swords v Department of Environment, Community and Local Government* (20 February 2013).

The Commissioner has made a number of decisions concerning the key definitions of "environmental information" and "public authority". There is a series of cases where the Commissioner found that public authorities were not entitled to refuse requests on the ground that the information sought did not fall within the definition of "environmental information" (for example, information relating to judicial review proceedings concerning regulation of a quarry[52] and an asset purchase agreement providing for the transfer of a local authority's waste collection service to a private operator[53]). As regards the definition of a "public authority", the Commissioner decided five appeals where the organisations from whom information was requested denied they were "public authorities". In four of these cases, the Commissioner ruled against the public authorities and determined that *Raidio Teilifís Éireann* (the national public service broadcaster)[54], Anglo Irish Bank,[55] the National Assets Management Agency (NAMA)[56] and *Bord na Móna*[57] (a semi-state company) were public authorities. In the fifth case, the Commissioner ruled that the Courts Service of Ireland was excluded from the definition because it was acting in a judicial capacity.[58]

Both NAMA and Anglo Irish Bank appealed to the High Court against the Commissioner's ruling. The High Court upheld the Commissioner's determination[59] and NAMA appealed to the Supreme Court. In *National Asset Management Agency v Commissioner for Environmental Information,*[60] the Supreme Court concluded that NAMA was indeed a public authority (although it found that the Commissioner's line of reasoning in reaching her conclusion on the "public authority" point was flawed and could not be

[52] Case CEI/08/0001 *Hill of Allen Action Group and Kildare County Council* (22 September 2008).
[53] Case CEI/12/0004 *Gavin Sheridan and Dublin City Council* (20 December 2013).
[54] Case CEI/09/0015 *Pat Swords and Raidio Teilifís Éireann* (10 May 2010).
[55] Case CEI/10/0007 *Gavin Sheridan and Anglo Irish Bank* (1 September, 2011). Anglo Irish Bank was nationalised in January 2009 under the Anglo Irish Bank Corporation Act 2009, with the result that all of its shares were held by, or on behalf of, the Minister for Finance. It subsequently merged with the Irish Nationwide Building Society in July 2011 to form the Irish Bank Resolution Corporation.
[56] Case CEI/10/0005 *Gavin Sheridan and National Asset Management Agency* (13 September 2011). NAMA was established in December 2009 as one of a number of responses by the Irish Government to try to address the problems which arose in the Irish banking sector due to excessive lending for purpose of purchasing property during the so-called "Celtic Tiger" years.
[57] Case CEI/12/0003 *Andrew Jackson and Bord na Móna* (23 September 2013). *Bord na Móna* is a semi-State company created under the Turf Development Act 1946 to develop Ireland's peat resources in the national interest. *Bord na Móna* brought an appeal to the High Court challenging the Commissioner's decision, but it subsequently withdrew this appeal following the CJEU ruling on the definition of "public authority" in Case C-279/12 *Fish Legal, Emily Shirley v The Information Commissioner, United Utilities, Yorkshire Water and Southern Water* EU:C:2013:853.
[58] CEI/08/0005 *Peter Sweetman and Courts Service* (5 December 2008).
[59] *National Asset Management Agency v Commissioner for Environmental Information* [2013] IEHC 86. See also *National Asset Management Agency v Commissioner for Environmental Information* [2013] IEHC 166.
[60] [2015] IESC 51.

supported). Relying on the CJEU's "authoritative interpretation" of the directive in *Fish Legal*,[61] O'Donnell J determined that it was "clear" that NAMA, a body established under statute, was a public authority exercising public administrative functions.[62] As per *Fish Legal*, the fact that NAMA was vested with special powers beyond those assigned to persons governed by private law was determinative.[63]

Throughout his judgment in *NAMA*, O'Donnell J emphasised that the AIE regulations had to be examined in their international and EU context and fell to be interpreted in light of the scope and meaning of the relevant provisions of Directive 2003/4/EC and the Aarhus Convention.[64] The influence of O'Donnell J's guidance on the contextual, teleological approach to be adopted when interpreting the AIE regulations is already apparent in the reasoning adopted by the Commissioner in his most recent decision concerning the interpretation and application of the exceptions for material in the course of completion and the internal communications of public authorities.

In *Tony Lowes, Friends of the Irish Environment and Department of Agriculture, Food and the Marine*,[65] the Commissioner, relying on *NAMA*, rejected a literal interpretation of the AIE regulations and drew on the directive and the Aarhus Convention to support a purposive interpretation. This approach led the Commissioner to direct the release of reports and other information concerning a serious environmental incident at a fish farm which the public authority had sought to withhold. *Lowes* confirms the strong public interest in openness and accountability in relation to how public authorities carry out their oversight and enforcement functions under the legislation governing the aquaculture industry. The Commissioner took the opportunity to stress that the AIE regime:

> *"[R]ecognises a very strong public interest in maximising openness in relation to environmental matters so that an informed public can participate more effectively in environmental decision-making."*

[61] Case C-279/12 *Fish Legal, Emily Shirley v The Information Commissioner, United Utilities, Yorkshire Water and Southern Water* EU:C:2013:853.
[62] [2015] IESC 51 para 50.
[63] Ibid.
[64] Ibid, paras 1, 10-11, 43 and 46.
[65] CEI/14/0007 *Tony Lowes, Friends of the Irish Environment and Department of Agriculture, Food and the Marine* (13 July 2015).

The Commissioner has also been proactive as regards the charges public authorities may levy for making environmental information available to an applicant. In a significant decision, *Pat Swords and Department of Environment, Community and Local Government*,[66] the Commissioner interpreted the AIE regulations in light of Directive 2003/4/EC and determined that public authorities were not entitled to charge the applicant a search and retrieval fee to cover the staff costs involved in locating, identifying and retrieving the information requested. The directive is open to interpretation on this point, however, and this issue is currently pending before the CJEU following a reference from the First-Tier Tribunal (Information Rights) in the United Kingdom.[67]

It is clear from experience to date that the Commissioner model of dispute resolution has considerable potential to deliver an effective remedy in environmental information disputes and, even more significantly, to exert a positive influence on how public authorities carry out their AIE responsibilities in future cases. The Commissioner has developed a significant body of case law addressing key elements of the right of access. Taken in conjunction with the Supreme Court's *NAMA* ruling, the case law underpins the right of access and provides authoritative guidance for public authorities on how the AIE regulations are to be interpreted and applied in practice.

III.II. Deficiencies in the AIE regime

A number of problems have emerged in the AIE regime that undermine its effectiveness, including issues that restrict the potential for the Commissioner to play an effective oversight and enforcement role to support the right of access to information. First, there continues to be limited awareness of the AIE regime among the public generally and in certain public authorities. In many respects, AIE is the "poor relation" of the FOI regime. It lacks the overarching infrastructure that is in place for FOI which includes FOI networks, training for decision-makers, as well as specific supports and resources such as manuals, guidance notes and a dedicated FOI website.[68]

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[66] CEI/12/0005 *Pat Swords and Department of Environment, Community and Local Government* (20 September 2013).

[67] Case C-71/14 *East Sussex County Council v Information Commissioner, Property Search Group and Local Government Association* [2014] OJ C 102/25. Opinion of Advocate General Sharpston, 16 April 2015, EU:C:2015:234.

[68] See: http://foi.gov.ie/.

Even more significantly, the Central Policy Unit at the Department of Public Expenditure and Reform plays a vital leadership role in the development of FOI policy and implementation more generally. There is no equivalent body to promote awareness of AIE and to develop good practice in public authorities or to monitor and report on AIE activity. The lack of an effective support structure is a serious shortcoming in the implementation of AIE.

Second, there are considerable delays in processing appeals. By way of example, of the five appeals determined by the Commissioner during 2013, the average length of time between the lodging of the appeal and the Commissioner's decision was 16 months. One appeal decision was published in 2014 and in that case the decision came 17 months after the appeal was lodged. In the single appeal determined so far in 2015, the timeframe between the appeal being lodged and the Commissioner's decision was 12 months. Significant delays in processing appeals stretch back to the establishment of the Commissioner's office in 2007. The delays are the direct result of serious and persistent under-resourcing of the Commissioner's office and the relatively low level of political interest in promoting AIE and environmental rights more generally.

The current Commissioner (and his predecessor) has highlighted this unacceptable situation persistently and publicly.[69] Even though the Office of the Commissioner for Environmental Information is a legally independent office, it has only recently received a specific funding allocation from the State. Prior to this, the office was forced to rely on whatever resources could be made available to it from the (legally separate) Office of the Information Commissioner. In *Pat Swords and Department of Environment Community and Local Government,*[70] the Commissioner observed that the delays in processing appeals are "arguably not in keeping with the State's obligations under the Aarhus Convention".

In light of the seriousness of this situation, it is heartening to note that two new investigator posts in the Office of the Commissioner for Environmental Information were

[69] Commissioner for Environmental Information, *Annual Report 2013* (Dublin, 2014) pp71-72 and the Commissioner's (undated) submission to the DECLG *Public Consultation – Access to Justice and Implementation of Article 9 of the Aarhus Convention*, text available at: http://environ.ie/en/Environment/AarhusConvention/PublicConsultation/SubmissionsReceived/FileDownLoad,39279,en.pdf. See most recently Commissioner for Environmental, *Annual Report 2014* (Dublin, 2015) pp80-82.

[70] CEI/12/0005 *Pat Swords and Department of Environment, Community and Local Government* (20 September 2013).

sanctioned in December 2014.[71] It is to be hoped that the additional investigators will facilitate the Commissioner's office to deal with the backlog of AIE appeals and to process new appeals more expeditiously than has been the case up to now.

Third, the fact that AIE operates independently of FOI creates considerable confusion in practice. The Commissioner has highlighted this problem and has argued cogently in favour of integrating FOI and AIE.[72] It is disappointing that no consideration was given to this important practical issue when amendments to the FOI regime were being considered prior to the enactment of the FOI Act 2014. One negative consequence of the sharp division between AIE and FOI is that the Commissioner is frequently required to determine preliminary issues of jurisdiction; in other words, whether the AIE regulations apply at all in a particular case – for example, where the body to whom a request is made denies it is a "public authority" or argues that the information requested is not "environmental information".

If the Commissioner determines a preliminary issue in favour of the appellant, the matter is then remitted back to the public authority to enable it to process the request fully in accordance with the AIE regulations. This state of affairs is problematic due to the long delays in processing appeals. And of course further delays can, and do, arise if the matter proceeds to the courts. For example, in the NAMA case, the original AIE request was made in February 2010, but it was June 2015 before the Supreme Court determined that NAMA was indeed a public authority under the AIE regulations. At the time of writing, NAMA is processing the 2010 request and it is likely to argue that the information requested is not "environmental information".

The ongoing NAMA saga demonstrates the complexity inherent in the AIE regime when important matters of law arise for determination. This complexity is not surprising given that AIE is governed by three overlapping sources of legal authority: national law, EU law (Directive 2003/4/EC) and the Aarhus Convention. The NAMA situation also highlights the necessity of a robust and timely dispute resolution mechanism to underpin the right of access.

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[71] Commissioner for Environmental, *Annual Report 2014* (Dublin, 2015) p82.

[72] See, for example: Commissioner for Environmental Information, Lecture to the Irish Environmental Law Association, Dublin, 15 January 2008, text available at: http://www.ocei.gov.ie/en/News/Access-to-Information-on-the-Environment-Regulations-2007-.html.

Fourth, the Commissioner's remit under the AIE regulations is very narrow in that the role is limited to determining appeals. The Commissioner is not vested with any oversight or wider enforcement role concerning the operation of the AIE regulations generally. The Commissioner has highlighted the fact that his office has no enforcement powers in relation to Article 5 of the AIE regulations.[73] This provision, which is based on Articles 7 and 8 of Directive 2003/4/EC and Article 5 of the Aarhus Convention, creates significant obligations for public authorities including: informing the public of their AIE rights and providing guidance on the exercise of those rights; making all reasonable efforts to maintain the environmental information held by or for them in a manner that is readily reproducible and accessible by information technology or other electronic means; ensuring that environmental information is up to date, accurate and comparable; and designating an information officer or providing an information point to give clear guidance as to where such information can be found. As the Commissioner has observed, these obligations "are crucial to the effective administration of the AIE regime",[74] yet there is no oversight mechanism in place where it is alleged that a public authority has failed to comply with Article 5 of the AIE regulations. Furthermore, the Commissioner does not have jurisdiction to investigate complaints of bad practice by public authorities outside of the formal appeals process. Although this level of oversight is not required expressly under Directive 2003/4/EC or the Aarhus Convention, it is essential if public authorities are to take their AIE obligations seriously.

Fifth, a High Court ruling delivered in June 2010 severely limited the scope of the Commissioner's jurisdiction to enforce EU environmental law, including Directive 2003/4/EC. In *An Taoiseach [the Prime Minister] v Commissioner for Environmental Information*[75], the High Court was required to consider whether the Commissioner had jurisdiction to determine whether the AIE regulations were inconsistent with the directive and, if so, to disapply any conflicting provisions of national law. O'Neill J ruled that only the High Court could disapply provisions of national law and that the Commissioner had acted *ultra vires* in purporting to do so when determining an appeal. It is difficult to reconcile this conclusion with the principle established by the CJEU in its ground-breaking *Costanzo*[76] ruling to the effect that national authorities are under the same obligation as national courts to

[73] Office of the Commissioner for Environmental Information, *Annual Report 2013* (Dublin, 2014) p73.
[74] Ibid.
[75] [2010] IEHC 241.
[76] Case C-103/88 *Fratelli Costanzo SpA v Comune di Milano* EU:C:1989:256.

apply directly effective EU law and to refrain from applying any conflicting provisions of national law. As the law currently stands in Ireland, however, O'Neill J's ruling preludes the Commissioner from determining whether the AIE regulations are compatible with Directive 2003/4/EC. Any potential conflict must be determined by way of High Court proceedings with the attendant disadvantages in terms of cost and further delay.

III.III. Measures to support the right of access

The issues identified above, taken together with the shortcomings in transposition of Directive 2003/4/EC noted earlier in this article, confirm that the AIE regime in Ireland is in need of review and revision. As regards compliance with the Aarhus Convention, the most serious issues are: the lack of awareness of AIE rights among the public and certain public authorities; failure to provide for a timely remedy where a request for access is denied; the absence of an effective legislative framework, as well as an overarching support structure to advance implementation. A strategy to improve the current state of affairs should include both legislative change and targeted policy initiatives to develop the necessary measures to support AIE in practice.

First, the AIE regulations should be revised to address the deficiencies in transposition of Directive 2003/4/EC and the practical and operational issues identified by the Commissioner. Second, and this is a related point, serious consideration needs to be given to the interaction between AIE and FOI. The current situation whereby both regimes essentially operate independently generates considerable confusion for the public and increases the administrative burden for public authorities. The two regimes are integrated in other common law jurisdictions, including England and Wales, and there is no obvious reason why Ireland should not adopt a similar approach. One benefit of integration would be that AIE could avail of the pre-existing FOI infrastructure to encourage and support good AIE practice, including proactive dissemination of information and the collection and publication of data on AIE activity.

Second, the Commissioner's role should be expanded to ensure effective oversight of AIE obligations. Without an effective oversight mechanism, public authorities lack any incentive to take AIE law seriously. Anecdotal evidence suggests a failure by some public authorities to engage sincerely with requesters, and with NGOs in particular, and to deny that the information requested even exists. This disappointing attitude is likely due to fear of

increased public scrutiny of contentious matters, which, as the Commissioner observed recently "is what AIE is intended to achieve under the Directive".[77] As explained above, the Commissioner's role is limited to determining appeals. But a wider remit is called for to support AIE in practice. The Commissioner should be given jurisdiction to investigate complaints of bad AIE practice by public authorities and should have power to enforce the obligations created in Article 5 of the AIE regulations.

The Commissioner should also be empowered to monitor how public authorities carry out their functions under AIE and to report to the *Oireachtas* [Parliament] on an annual basis on the state of implementation. It is notable that Part 6 of the FOI Act 2014 provides a model in this regard that could also be adopted for AIE purposes. Part 6 empowers the Information Commissioner to review the operation of the FOI Act, to carry out investigations into public authorities' practices and procedures and prepare reports on his findings and to publish commentaries on the practical operation of FOI. The Information Commissioner's Annual Report must be laid before the houses of the *Oireachtas* [Parliament] thereby providing an additional layer of oversight and public scrutiny. Similar measures should be put in place for AIE. Obviously, the office must be provided with adequate resources to fulfil any additional statutory functions conferred on it.

Third, active dissemination of environmental information by public authorities via electronic means could reduce the need for formal AIE requests significantly, thereby saving staff time spent on search and retrieval and compiling responses to specific requests. This point has been highlighted by the Commissioner on a number of occasions and must be seen as a priority if AIE is to deliver greater transparency and an informed, engaged public as intended by Directive 2003/4/EC and the Aarhus Convention.

Fourth, promoting awareness of AIE rights and obligations and encouraging and improving the quality of AIE decision-making at first instance are areas requiring urgent attention. Prominent, user friendly AIE information on public authorities' websites, seminars and workshops for public authority staff, together with detailed guidance documents and other supports (including access to expert advice on contentious AIE matters) are essential in this regard. Investing resources in promoting compliance through capacity building

[77] CEI/14/0007 *Tony Lowes, Friends of the Irish Environment and Department of Agriculture, Food and the Marine* (13 July 2015).

initiatives holds the potential to improve the quality of AIE decision-making and thereby reduce the need for review and appeal. It is heartening to see a commitment from the Department of Environment, Community and Local Government in the *Open Government Ireland: National Action Plan 2014-2016* to develop an AIE training module.[78] This is an important initiative, but the commitment to training must be backed up by the resources to deliver high quality training on a regular basis.

IV. CONCLUSION

The Aarhus Convention and Directive 2003/4/EC have had a significant positive impact on the environmental information regime in Ireland. The directive forced Ireland to introduce new, improved AIE regulations and to provide an accessible, independent mechanism for dealing with disputes. It is of course disappointing that there are still shortcomings in the text of the AIE regulations and that serious problems have emerged in implementation, but integrating international and EU law obligations into national systems is rarely a straightforward exercise. As this study of information rights in Ireland demonstrates, the integration process is influenced heavily by national legal and administrative culture and, of course, by local conditions, including the political, economic and social milieu. It is very significant that the early days of the AIE regulations coincided with an unprecedented economic crisis in Ireland, which effectively pushed environmental matters well down the list of Government priorities. Even more significantly in practical terms, the harsh cutbacks imposed by Government on all public authorities as a result of the dire economic situation obviously impacted severely on how authorities delivered their services, including AIE. It is difficult to overstate the negative impact on AIE implementation of the Commissioner's office being starved of the resources necessary to provide an effective appeals system.

Thankfully, the economic situation and the public sector finances have improved of late, as evidenced by the fact that additional resources have now been assigned to the Commissioner. Intense competition for scarce resources remains the norm, however, and environmental rights must compete with more high profile policy areas including housing, health, education and, of course, infrastructure development (which includes urgently need infrastructure to protect the environment such as waste water treatment plants, renewable energy and waste infrastructure). There is no doubt that it will continue to be difficult for

[78] *Open Government Partnership Ireland: National Action Plan 2014-2016* (July 2014), Action 2.2.2(i).

environmental issues to gain political traction, especially in the run up to the forthcoming General Election in Ireland which is anticipated for spring 2016.

In the absence of sophisticated support mechanisms, including dedicated training, access to expert advice, up to date guidance notes and other resources, smaller public authorities, in particular, will continue to struggle with AIE obligations in this complex and increasingly specialised field. Resources are also required to enable public authorities to fulfil the obligation to disseminate environmental information proactively, including by electronic means. A considerable body of work remains to be done in this area if Ireland is to meet the benchmarks set by the Aarhus Convention, and in particular the obligation to support the public in exercising their environmental rights.

Beyond the resources issue, integrating international and EU obligations into the domestic legal order is usually a gradual process. It is not uncommon to encounter local resistance to external sources of legal authority, especially when international and EU law requirements do not sit comfortably with well-established national rules and procedures. In the specific case of AIE, for example, the Aarhus Convention demands a transformation in administrative culture by forcing public authorities to abandon the tradition of secrecy in favour of transparency. The necessary transformation is unlikely to occur, however, without powerful oversight mechanisms.

One of the most significant aspects of the Aarhus Convention is the emphasis on access to justice to enable individuals and NGOs to enforce their rights, including the right to information. Although seriously hampered by lack of resources since establishment, the Commissioner has, nonetheless, succeeded in enforcing the right to information in a number of cases. Beyond individual cases, the Commissioner continues to play a vital role in interpreting the relevant legal principles and providing guidance to public authorities in future cases. Although the lack of resources in the past led directly to a far slower integration process than would otherwise have been the case, it is hoped that the Commissioner's office will have greater impact into the future.

The recent, unequivocal Supreme Court ruling in *NAMA* is a very significant development in the integration of AIE principles into the national legal and administrative culture. At a more general level, it demonstrates the importance of effective access to the courts to interpret disputed points of law definitively and to facilitate the reception of

international and EU law obligations into the national legal system by way of authoritative statements of principle.

The successful integration and implementation of the Aarhus Convention and EU law governing information rights will require more than simply putting legal principles in place. Sophisticated support structures are required to ensure that public authorities can apply AIE rules correctly and confidently so as to reduce the potential for AIE disputes. Wider measures are also necessary, including a strategy whereby AIE rights, and Aarhus rights more generally, are communicated effectively to the public and achieve the necessary level of visibility to ensure that they are used regularly and accepted as part of the local administrative culture in Ireland. It is interesting to see that, to date, Ireland has not come under external pressure to improve AIE implementation. A detailed complaint submitted to the EU Commission by the NGO Friends of the Irish Environment in October 2012 has not led to any formal infringement proceedings against Ireland.[79] On the Aarhus front, it remains to be seen whether the two communications concerning information rights in Ireland that are currently pending before the Aarhus Convention Compliance Committee will result in any adverse findings against Ireland and specific recommendations for action.

A final point, which has the potential to speed up the transformation in administrative culture necessary to embed AIE principles in the day to day operation of public authorities, is that consideration should be given to introducing appropriate sanctions in cases where AIE rules are breached. A recent amendment to the Environmental Impact Assessment (EIA) directive provides an interesting model that could be adopted for AIE. A new Article 10a was included in the text of the EIA directive under amendments introduced in 2014. Article 10a, which must be implemented at national level by 16 May 2017, requires Member States to "lay down rules on penalties applicable to infringements of the national provisions" adopted to implement the EIA directive and that the penalties provided for must be "effective, proportionate and dissuasive".[80] This provision is clearly designed to improve compliance with EIA law, something which has proven to be extremely challenging since the original EIA directive was adopted in 1985. Including a similar penalty provision in

[79] Text of the Friends of the Irish Environment complaint available at: http://www.friendsoftheirishenvironment.org/cmsfiles/Library/Full-text-of-systemic-complaint-re-access-to-information-in-Ireland---5-October-2012---Final.pdf.

[80] Directive 2014/52/EU amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment [2014] OJ L124/1.

Directive 2003/4/EC, when that directive next comes up for review, could provide the incentive necessary to force public authorities to engage sincerely with AIE obligations.

In summary, Irish environmental law and policy is in a state of transition at present, as it gradually evolves towards an Aarhus-compliant system. This is not a straightforward process given the onerous nature of the obligations that arise under the Convention, especially as regards access to effective and timely review procedures and the ban on prohibitive costs. Successful integration of Aarhus and EU principles governing information rights depends heavily on effective oversight mechanisms and tailored support structures for public authorities. A series of recent developments, including the a significant reduction in appeal fees, the allocation of additional resources to the Commissioner and the high profile *NAMA* ruling from the Supreme Court, supports a cautiously optimistic view of the future of AIE in Ireland.

THE ROLE OF ECONOMICS, VALUATION AND ENVIRONMENTAL ETHICS IN GLOBAL CONSERVATION REGIMES: A CASE STUDY

- ***Ananya Kulkarni****

ABSTRACT

While most would agree that it is imperative that the environment be protected, it is improbable that there would be consensus with regard to the path to follow. How to further environmental protection comes with its own compounded problems- the fact that it is global in nature is possibly the most significant of these. The diversity of the stakeholders involved, coupled with their own diverse (and often conflicting) perspectives almost always results in a conundrum about which interests to reflect. In my essay, I have highlighted three such perspectives that may be used in global environmental policy decisions- economic perspectives, valuation of natural systems and species, and environmental ethics. I have used a Law and Economics based approach with economic efficiency criterions to make two policy recommendations that incorporate both these perspectives and suggest a shift in the current 'law', or policy as it stands. I have also argued for necessary compliance measures to introduce checks and balances in the current system.

I have placed these efficiency criterions and environmental perspectives within the context of the International Whaling Commission's moratorium on commercial whaling and the resultant dispute between nations like Japan and Australia over the validity of the moratorium. While I myself am a proponent of factoring in only relevant environmental ethics while making such policy decisions, I understand that given the anthropocentric world view (and divergent concerns of the stakeholder nations involved), this may be harder to implement. Therefore, I have argued for an approach that combines the above approaches in a way that may possibly meet everyone's goals-economic and environmental- while resulting in a successful conservation effort for the magnificent cetaceans.

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I. INTRODUCTION

There is a general consensus that the protection of the environment is important.[1] However, the amount of importance placed on the protection of the environment also differs due to different choices and the subjective nature of the parties involved-these competing interests in turn pose as an obstacle in the establishment of a legal framework to help balance them.[2] Different perspectives exist to help stabilise these competing positions.[3] These perspectives have been applied to a contemporary conservation scenario, i.e. the moratorium placed on commercial whaling by the International Whaling Commission against the backdrop of conflicting positions.

II. BACKGROUND OF THE CONFLICT

It is pertinent to provide a brief overview of the current positions with regard to the moratorium. In 1979, the Indian Ocean was declared a whale sanctuary and in 1986 a moratorium on all commercial whaling came into force, owing to an agreement between most anti-whaling nations.[4] In 1994 a 50 million square km Southern Ocean Whale Sanctuary was established, leading to opposing countries like Japan using the "scientific research" exception to continue whaling.[5] The position of the countries in opposition to the moratorium, Japan, for instance (henceforth referred to as Whale Consumers) is that the same rights as are granted to other nations to support their indigenous population are not granted to them with regard to whaling.[6] The second part of the argument pertains to a high demand for whale meat in their food market in general, a right they claim cannot be denied to them. There are also catch limits that are prescribed for aboriginal subsistence whaling in areas like Alaska (even though the United States in general has a very strong Anti-Whaling policy), Greenland, Russia, etc.[7] The arguments by the faction in favour of the moratorium and preservation of the species in general (henceforth referred to as Whale Preservers) pertain to moral and

[1] Stuart Bell & D. McGillivray, Environmental Law (Oxford Univ. Press 2006).
[2] Id.
[3] Id.
[4] World Wildlife Fund, Whaling FAQs, http://m.wwf.org.au/our_work/saving_the_natural_world/wildlife_and_habitats/australian_priority_species/whales/threats_to_whales/whaling/whaling_faqs/
[5] Philippe Sands, Principles of International Environmental Law: Frameworks, Standards and Implementation (Manchester Univ. Press 1995).
[6] Japan Whaling Association, Questions & Answers, http://www.whaling.jp/english/qa.html
[7] International Whaling Commission, Catch Limits & Catches Taken, accessed 22nd February 2015, http://iwc.int/catches#aborig.

ethical grounds.[8] Some of these recognize the intrinsic value of whales others are anthropocentric considerations surrounding the economic benefits of conserving whales to the human race.

III. SCOPE OF THE ESSAY

The objective of the moratorium by the IWC was to help recover the dwindling numbers of the whale populations.[9] That has not been achieved because of provisions within the convention that allow countries to object to a particular regulation and consequently not comply with it.[10] The number of whales hunted from 1990s has actually doubled; a pace that has been considered unsustainable by biologists.[11] In that sense, the moratorium has been ineffective in achieving its aim, i.e. conserving the whale populations.

The gap in the existing literature is the lack of a cohesive approach between different perspectives that go into policy making. Through this essay, I will seek to combine elements of economic and environmental perspectives in a way that can make the moratorium more effective.

Unfortunately, neither purely ethical considerations, nor "human responsibility to the rest of nature as an underlying concern of biotic rights"[12] are taken into account in matters of conservation. This is especially true in the present scenario where the whales' intrinsic right to life is not recognized by Whale Consumers, for whom whales serve purely anthropocentric needs.[13] Even providing for purely ethical considerations in the context of the moratorium is unhelpful due to the existing loopholes like objections and provisions for scientific research, which render it ineffective.[14]

Through my essay, I will integrate economic tools, valuation and ethical considerations, given that our interactions with other natural resources may not transform

[8] Robin Warner, Protecting the Oceans Beyond National Jurisdiction: Strengthening the International Law Framework (Martinus Nijhoff Publishers 2009).
[9] International Whaling Commission, The International Whaling Commission, https://iwc.int/home
[10] International Whaling Commission, Catches Taken: Under Objection or Reservation, http://iwc.int/table_objection
[11] Timothy Taylor, A Market to Save Whales, Conversable Economist (Aug 7, 2013), http://conversableeconomist.blogspot.in/2013/08/a-market-to-save-whales.html
[12] P.K, Rao, International Environmental Law and Economics (Blackwell Publishers 2002).
[13] Japan Whaling Association, Questions & Answers, http://www.whaling.jp/english/qa.html
[14] International Whaling Commission, Whaling, http://iwc.int/whaling

swiftly enough. My aim therefore is to prove that ethical considerations themselves can lead to economically efficient outcomes.

Keeping in mind these factors, my essay will progress as follows: I will first provide a brief overview of the different kinds of perspectives that can be factored in while making decisions about conservation of the environment, or a species. In the second part of the essay, I will suggest a shift in the current terms of the moratorium in the form of 2 policy recommendations. I will do this through an inclusion of additional parameters in a way that incorporates both environmental and economic perspectives. In the third part of the essay, I will establish the necessary compliance measures for the policy recommendations and consequences of failure to do so by the member countries.

Two assumptions will hold for the course of the essay:

1) The majority faction of the Whale Preservers accords an immensely high Existence Value to all whale species with respect to both policy recommendations.
2) Ethical standards (irrespective of the purpose) are standards that ensure that any interaction with the cetaceans will be free from cruelty in any manner, thus ensuring that they do not suffer pain of any form.

The following part of my essay contains the different perspectives that are relevant to the decision making for global environmental policies. These are three in kind-economic tools, valuation and environmental ethics.

IV. RELEVANT ECONOMIC TOOLS IN ATTAINING EFFICIENT OUTCOMES

International environmental law is influenced by various non-legal factors, including economic ones.[15] The use of economic instruments in protecting the environment is based on the premise that the market can be of use in providing incentives to guide human behaviour, by affecting the costs and benefits of alternative actions, and possibly guiding behaviour in a direction favourable to the environment.[16]

Analysing a policy implies attempting to understand who the gainers and losers are, how they perceive their new situation in their own terms and what implications this has for

[15] Philippe Sands, Principles of International Environmental Law: Frameworks, Standards and Implementation (Manchester Univ. Press 1995).
[16] Id.

the full array of beneficial and harmful effects.[17] The Cost Benefit Analysis (henceforth CBA) is one such economic instrument, and it involves ascertaining the potential benefits and costs of action or lack of action.[18] The foundations of the CBA arose from the Kaldor Hicks Efficiency Criterion, which requires that a project merits consideration if the total benefits that result from it exceed the total costs i.e. those who gain from the activity should be able to compensate those who lose and still remain better off.[19]

It has been argued that the CBA requires strengthening due to the lack of a unitary decision making mechanism, time horizons spanning 100 years or more, factors outside market parameters, uncertainties in the Cost-Benefit configuration, among others.[20] Another efficiency criterion is the Scitovsky criterion, according to which social alternative *x* is better than *y* if in a move from *y* to *x*, gainers can compensate the losers and still be better off, *but* if there is a move from *x* to *y*, it is not the case that gainers can compensate the losers and still be better off.[21] Therefore, there cannot be a case where each of the alternatives is better than the other.[22] Again, with the lack of a unitary decision making mechanism, identifying the gainers and losers would pose as an obstacle. I will employ each of these tools while suggesting a shift in the current policy toward efficient outcomes.

IV.I. The Role of Valuation in the Adoption of Conservation Regimes

Valuation of intangibles can be ascertained by the preferences of people.[23] The valuation of biodiversity varies with different functions- when property rights and markets cannot be established for all potential future uses, an alternative approach becomes necessary, i.e. institutional approaches have to be used to preserve eco systems by determining their non-market values (existence/option values).[24] The total economic value (TEV) of an environmental good or natural resource is calculated as the sum of its Use Value and Non Use Value. Therefore, TEV = Use Value (UV) + Non Use Value (NV).[25] Existential Value

[17] Id.
[18] P.K Rao, International Environmental Law and Economics (Blackwell Publishers 2002).
[19] Id.
[20] Id.
[21] Satish Jain, *Introduction*, ed., Law and Economics, OUP (2010).
[22] Id.
[23] Stuart Bell & D. McGillivray, Environmental Law (Oxford Univ. Press 2006).
[24] Horst Siebert, Economics of the Environment, Theory and Policy, Springer, 7th Edition, 2008, at 207.
[25] Katar Singh and A. Shishodia, *Environmental Economics*, SAGE publications, 2007 at 126.

and Preservation Value form a part of the latter category, i.e. a natural resource's Non Use Value.[26]

Existence Values are a result of preventing the extinction of a species, preventing the complete destruction of a natural resource or just the satisfaction of knowing that a particular wilderness, endangered species or a component of nature exists.[27] In the present context, the Existence Value (determined from the respondents' willingness to pay to conserve it), irrespective of the motive is the satisfaction of knowing that whales exist. The concept of Existence Values was introduced by John V. Krutilla , who stated that values independent of people's present use of the resource are called "existence", "intrinsic", "non-user" and "non-use" values and they may arise from either a motive to preserve resources for future generations, or out of ethical and altruistic concerns.[28]

Existence values provide both an account of how federal processes can be regulated to restrict the degradation of natural spaces (in spite of concerted opposition) and a normative account for why such restrictions are maximise welfare from a societal perspective.[29]The Contingent Value Method (henceforth CVM) becomes relevant in determining the Existence Value of a species.[30] The CVM has been useful, due to its flexibility in facilitating valuation of a variety of non-market goods and helping researchers assess the total value inclusive of the passive use value.[31]

It has gained relevance with growing environmental concerns as it has been realised that commodities for which no markets exist are nevertheless valued by segments of the public.[32] The provision of environmental amenities has been referred to as an economic gain because of its ability to increase individual or social welfare- the consumer's Willingness To Pay has been held to be an appropriate money metric measure in assessing the forthcoming

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[26] P.K Rao, International Environmental Law and Economics (Blackwell Publishers 2002).
[27] Rabindra Bhattacharya (Ed), *Environmental Economics: An Indian Perspective*, Oxford University Press, 2001 at 127.
[28] Food and Agriculture Organization, Option and Existence Values, Forestry Department, http://www.fao.org/docrep/003/w3641e/w3641e15.htm.
[29] David A. Dana, Existence Value and Federal Preservation Regulation, Harvard Env. L. Rev., 2004, at 345
[30] Daniel Kahneman, & J. Knetsch Valuing Public Goods, The Purchase of Moral Satisfaction, Journal of Environmental Economics and Management, 1992, at 22 ; See also P.K, Rao, International Environmental Law and Economics (Blackwell Publishers 2002).
[31] R. Carson, N. Flores and F. Meade, Contingent Valuation, Controversies and Evidence, Environmental and Resource Economics, 2001 at 19.
[32] Id.

benefits, resource costs, etc. in the making of a rational policy decision.[33] The economic approach to valuation however has been argued to preclude all values that aren't anthropocentric or non-instrumental to humans.[34] It has also been argued that literature on environmental valuation does not take into account the individual's role as a citizen and as a consumer.[35]

I have highlighted how both economic tools and valuation have roles to play when ascertaining environmental policies. In the following section, I will highlight the lens from behind which environmental perspectives operate whilst arguing for conservation policies.

IV.II. Environmental Perspectives and Conservation Regimes

This third approach to conservation of nature and biodiversity is that it deserves to be conserved for aesthetic or ethical reasons.[36] It finds its roots in the exploitation of the American continent by European settlers.[37] There have been ethical proponents of interspecies equity and biotic rights with arguments that "the underlying concern of biotic rights is human responsibility to the rest of nature".[38] The call for preservation of wilderness due to its intrinsic values[39] finds its earliest proponents here, John Muir and Aldo Leopold.[40] Their views serve as the starting point for exploring literature on wilderness/nature and its components' intrinsic values.

Muir was well aware of the economic rationale behind conversation, but he also believed in an independent rationale for preserving the wild.[41] He believed every species had

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[33] Mordechai Schecter, A Comparative Study of Environmental Amenity Valuations, Environmental and Resource Economics, 1991, at 1.
[34] Hugh McDonald, *Environmental Ethics and Intrinsic Value*, in John Dewy and Environmental Philosophy, State University of New York Press, 2004, at 12.
[35] Karine Nyborg, Homo Economics & Homo Politicus, *Interpretation and Aggregation of Environmental Values*, Journal of Economic Behaviour and Organization, 2000, at 42.
[36] Mark, Sagoff, *Zuckerman's Dilemma: A Plea for Environmental Ethics*, Hastings Center Report, Vol.21, No.5, http://faculty.wwu.edu/dunnc3/rprnts.zuckermansdilemma.pdf.
[37] Ramachandra Guha, Environmentalism: A Global History, (Oxford University Press, 2000).
[38] P.K, Rao, International Environmental Law and Economics (Blackwell Publishers 2002).
[39] Michael J. Zimmerman, *Intrinsic vs. Extrinsic Value*, The Stanford Encyclopedia of Philosophy Winter Edition, 2010, http://plato.stanford.edu/entries/value-intrinsic-extrinsic/; See also Ramachandra Guha, Radical American Environmentalism and Wilderness Protection, http://www.vedegylet.hu/okopolitika/Guha%20-%20Third%20World%20Critique.pdf.
[40] Katherine Kortenkamp and C. F. Moore, *Ecocentrism and Anthropocentrism: Moral Reasoning About Ecological Commons Dilemmas*, Journal of Environmental Psychology, 2001, http://psych.wisc.edu/moore/PDFsMyPapers/Kortenkamp&Moore2001.pdf.
[41] Ramachandra Guha, Environmentalism: A Global History, (Oxford University Press, 2000), at 50.

its own space in the scheme of nature and nature had a right to be cared for regardless of "*any man's bank balance or any country's Gross National Product*".[42]

Aldo Leopold's attitude was more inclusive as it moved from the protection of species, to that of habitats and finally of all biodiversity.[43] While he recognized that a reorganization of the economy on ecological principles was necessary to ensure an equitable distribution of nature's fruits among humans and save wild areas, ethically he hoped that an attitude of care and wonder towards nature would form a concrete part of people's daily lives.[44]

A third opinion regarding wilderness is that it is of vital importance for understanding and protection of intrinsic natural values.[45] The view that nature has no value in itself and all intrinsic value is projected by humans onto the natural object has been referred to as an anthropocentric philosophy which results in inadequate importance and respect for intrinsic natural values.[46] The concept of sustainable development has also been referred to as "irremediably anthropocentric", because while humans too have their worth as a species, it is questioned whether it is necessary that they have the *most* value.[47] The aforementioned are the different perspectives that play a crucial role in the adoption of conservation regimes. Following this, I will employ perspectives to suggest a shift in the current policy.

V. DIFFERENT PERSPECTIVES AND THEIR USE IN POLICY RECOMMENDATIONS

V.I. Policy Recommendation One

This approach will pertain to a shift in the moratorium with regards to whaling for scientific research and commercial purposes:

[42] Id. at 52
[43] Id. at 58
[44] Id.
[45] H. Rolston III, *The Wilderness Idea Reaffirmed*, Colorado State University, The Environmental Professional, 1991, at 370-377.
[46] Id.
[47] Id.

A) A permanent moratorium with regard to Scientific Research and Commercial Whaling (which was earlier subject to review).[48]

B) Establishing ethical standards for non-lethal research.

This constitutes an indefinite moratorium with regard to critically endangered or near extinct, endangered and vulnerable species even for aboriginal subsistence, applicable on all nations. Critically endangered cetacean species include the Antarctic blue whale and North-west Pacific populations of the gray whale and the vaquita.[49] Endangered species include the blue whale, fin whale, North Pacific right whale, North Atlantic right whale and sei whale, while vulnerable species include the beluga, the Atlantic subspecies of the blue whale, and the sperm whale.[50]

This modification to the moratorium essentially entails a ban on lethal scientific research, commercial whaling and incorporates a new element that additionally establishes ethical standards for non lethal research also.[51] The second part of the modification has already been provided for through the IWC's mechanisms in its schedule, which declares certain species to be protected and not open to hunts.[52]

With regard to Part (1), let social alternative *x* be a move from Consumption to Preservation (aforementioned policy) and social alternative *y* be a status quo, wherein consumption takes place under provisions for scientific research or objections. The current social arrangement involves majority member nations of the International Whaling Commission in favour of Preservation and minority nations in favour of Consumption.

The Scitovsky Efficiency criterion is satisfied in situations where if there is a move from *y* to *x*, then the gainers can compensate the losers and still be better off; and if there is a move from social alternative *x* to social alternative *y* then it is not the case that the gainers can compensate the losers and still be better off. In the present scenario due to the permanence of

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[48] A.W. Harris, *The Best Scientific Evidence Available: The Whaling Moratorium and Divergent Interpretations of Science*, 29 Wm. & Mary Envtl. L. & Pol'y Rev. 375 (2005), http://scholarship.law.wm.edu/cgi/viewcontent.cgi?article=1128&context=wmelpr.

[49] World Wildlife Fund, Whaling FAQs, http://m.wwf.org.au/our_work/saving_the_natural_world/wildlife_and_habitats/australian_priority_species/whales/threats_to_whales/whaling/whaling_faqs/.

[50] Id.

[51] International Whaling Commission, Resolution 2007-1, Resolution on JARPA, http://iwc.int/cache/downloads/2yfkueebw9essk0o8gkkw8kog/Resolution%202007.pdf.

[52] International Convention for the Regulation of Whaling 1946, Schedule 2012, http://iwc.int/cache/downloads/1lv6fvjz06f48wc44w4s4w8gs/Schedule-February-2013.pdf

the moratorium, Whale Preservers serve as gainers while Whale Consumers as the party at a loss. Therefore, while a move from *y* to *x* may allow the Preservers to compensate the Consumers and be better off, the move from *x* to *y* must not result in a case where the Consumers can compensate the Preservers and still be better off. The same will be established for both components of the first recommendation.

The explanation is as follows: Because of the high Existence Value accorded to the conservation of the species, with a move from y to x, Whale Preservers can compensate the Whale Consumers and still be better off because of the satisfaction the existence of whales brings to them. This is further supported with monetary benefits that result from Whale Watching, as opposed to Whaling. Whale Watching is a highly lucrative economic activity that even as a developing industry generates billions of dollars every year.[53] The funds from whale watching can be used to compensate (through a distribution of the revenues[54] earned through Whale Watching) Whale Consumers, with the net result remaining positive. The 'wealth' generated (the number of whales being saved) from a move to *x*, even after payment of compensation, is greater than what existed before.

The compensation creates a channel whereby it is made possible for the Whale Consumers to divert funds towards various counts i.e. alternative sources of livelihood for communities that were earlier dependent on whaling and non-lethal ethical research methods ensuring a cruelty free interaction with the cetaceans. This has in fact been accomplished in Kaikoura, a small coastal community in New Zealand.[55]

With regard to Part (2), social alternative *x* is a similar move from Consumption to Preservation, and *y*, a situation where all nations may hunt any species for aboriginal subsistence irrespective of existing numbers. The same reasoning can be extended here as a

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[53] Andrew Revkin, *Whale Watching Trumps Whaling*, N.Y Times, June 23 2009, http://dotearth.blogs.nytimes.com/2009/06/23/whale-watching-trumps-whaling/?_r=1.

[54] Whale Watching, an industry that is still developing, has been pegged at billions of dollars, much higher than whaling- its potential began to be utilized after the moratorium on commercial whaling in 1982, when it was first considered as an alternative to whaling. The expenditure on whale watching has grown from $14 Million in 1980 to $2113 Million in 2008; See International Fund for Animal Welfare, *Whale Watching Worldwide Tourism Numbers, Expenditures And Expanding Economic Benefits*, Special Report, 2009, http://www.ifaw.org/sites/default/files/whale_watching_worldwide.pdf; See also Richard Black, *Whale Watching 'Worth Billions'*, (June 23, 2009), http://news.bbc.co.uk/2/hi/science/nature/8114353.stm.

[55] Department of Conservation, Government of New Zealand, The Conservation Of Whales In The 21st Century - Whale Watching As An Example Of Non-Consumptive Sustainable Use, http://www.doc.govt.nz/publications/conservation/native-animals/marine-mammals/conservation-of-whales-in-the-21st-century/conserving-whales-a-challenge-for-the-21st-century/whale-watching-as-an-example-of-non-consumptive-sustainable-use/.

move from *y* to *x* allows the Preservers to compensate the Consumers in the same manner and still be better off. The first condition of the efficiency criterion therefore stands fulfilled for both components.

On the other hand, the Whale Consumers cannot compensate Whale Preservers and still be better off. This can be attributed to the high Existence Value in Dollar terms. This is coupled with the fact that the whaling industry, on the other hand is not a profitable one.[56] Many whale species, due to the existing loopholes and unregulated activity have deteriorated to critical levels.[57] A situation that ultimately results in extinction or critical endangerment of the species implies even lesser benefits to the Whale Consumers considering their anthropocentric needs, such as the need to hunt whales for subsistence of the indigenous people. Allowing status quo to continue entails the inability of Whale Consumers to be better off even after having compensated the Whale Preservers. Thus the second condition of the criterion is also met.

Assuming the costs of the Preservation to be C(P) and the benefits to be B(P), it results in a situation where B(P) > C(P). These benefits reflect not just an opportunity for the deteriorated numbers to recover over time, but even the substantially higher earnings that result from activities such as whale watching as opposed to whaling.[58] This can be elucidated with an expression where in a move from social alternative *y* to social alternative *x*, *x* is the better alternative because: *Existence Value (In $) - Compensation to Consumers (From earnings from Whale Watching, In $) = a positive number, but Earnings from Whaling (In $) - Compensation to Preservers (based on Existence Value in $) = a negative number.*

V.II. Policy Recommendation Two

I argued under the first policy recommendation for a permanent moratorium on lethal scientific research, commercial whaling and establishing ethical standards for even non-lethal research. Under Part (2), an extension of the moratorium on hunting critically endangered,

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[56] WWF and Whale and Dolphin Conservation Society, *Sink or Swim, The Economics of Whaling Today*, 2009, http://www.wdcs.org/submissions_bin/economics_whaling_report.pdf.

[57] World Wildlife Fund, Whaling FAQs, http://m.wwf.org.au/our_work/saving_the_natural_world/wildlife_and_habitats/australian_priority_species/whales/threats_to_whales/whaling/whaling_faqs/.

[58] Department of Conservation, Government of New Zealand, The Conservation Of Whales In The 21st Century - Whale Watching As An Example Of Non-Consumptive Sustainable Use, http://www.doc.govt.nz/publications/conservation/native-animals/marine-mammals/conservation-of-whales-in-the-21st-century/conserving-whales-a-challenge-for-the-21st-century/whale-watching-as-an-example-of-non-consumptive-sustainable-use/.

endangered and vulnerable species for aboriginal subsistence was also argued for. These were shown to be socially efficient alternatives as per the Scitovsky criterion.

The next recommendation provides Whale Consumers with quotas for hunting for aboriginal subsistence rights with regard to species of whales (with stable numbers) in their respective nations. The Whale Consumers will provide relevant information on how much dependence is placed over time on hunting for subsistence. The quotas will also be reviewed based on continuous checks on the whale population.

The assumptions are as follows:

1) In addition to high Existence Value of the whales to the Whale Preservers, the Value associated with hunting for subsistence to the Whale Consumers is also high.
2) These particular species are stable in number and under no foreseeable threat.
3) Ethical standards of hunting, IWC Resolutions[59] with regard to whale sanctuaries, prohibition on taking suckling calves, etc are in existence and capable of being followed to ensure humaneness and as little[60] suffering zero suffering to the whales as possible.
4) The information provided by Whale Consumers is transparent and correct.

The Kaldor Hicks Efficiency Criterion (a widely used instrument in policy analysis especially for environmental policy[61] requires that a policy merits consideration if the total benefits that result from it exceed the total costs i.e. those who gain from the activity should be able to compensate those who lose and still remain better off.[62]

Under the criterion, it is possible for a situation to arise where social alternative *x* is better if in a move from social alternative *y* to social alternative *x*, the gainers can compensate the losers and still be better off. It is also possible that and in a move from social alternative *x* to social alternative *y*, gainers can compensate the losers and be better off. Therefore, it is possible for either alternative to be better. Consider social alternative *x* to constitute of the second policy recommendation. Social alternative *y* is status quo, where Whale Consumers

[59] International Convention for the Regulation of Whaling 1946, Schedule 2012, http://iwc.int/cache/downloads/1lv6fvjz06f48wc44w4s4w8gs/Schedule-February-2013.pdf.
[60] Norway has developed modern whaling techniques that aim to eliminate, or at least reduce the pain caused to the whales; See Animal Planet, *Whale Wars: Do Harpooned Whales Suffer?*, http://www.animalplanet.com/tv-shows/whale-wars/about-whaling/whales-whaling-harpooned-whales-suffer/.
[61] Satish Jain, *Introduction*, ed., Law and Economics, OUP (2010)
[62] Id.

hunt sans any quotas (except the ones set for themselves), with inadequate methods to incorporate humaneness in the hunting operations, leading to the prolonged suffering of the whales.

In a move from social alternative *y* to *x*, Whale Preservers can compensate the Whale Consumers and still be better off. This is because *Existence Value (In $) - Compensation to Consumers (From earnings from Whale Watching, In $) = a positive number.* While certain numbers are indeed being hunted, there are mechanisms in place to ensure that the whales do not suffer, to reduce the quota on findings that the reliance has in fact lowered and most importantly, no threat whatsoever to the whale numbers. The Kaldor Hicks Efficiency Criterion is therefore established. In a move from *x* to *y*, it is also possible for Whale Consumers to compensate Whale Preservers and still be better off. This is so because the right to hunt for aboriginal communities to survive is considered an important one. This right is to the Whale Consumers what the Existence Value is to Whale Preservers. It creates an opportunity for the net result after compensation to the latter to be a positive one. Therefore, *Value of hunting for aboriginal subsistence (In $) - Compensation to Preservers (based on Existence Value in $) = a positive number.*

I have therefore suggested two recommendations by incorporating economic tools, valuation and environmental perspectives to ensure a balanced approach. However, it is also necessary that this system be equipped with certain checks and balances in order to prevent deviance from the moratorium. In the next and concluding part of my essay, I will highlight how certain consequences can be used to incentivize state parties to comply with the changed policy.

VI. CONSEQUENCES IN THE EVENT OF NON- COMPLIANCE

Currently, though the decisions of the International Whaling Commission are binding on its members, there is no mechanism to ensure compliance with them.[63] This implies that there is no definite way of enforcing a decision, another reason which I attribute to the ineffectiveness of the moratorium. It must be noted that the compensation taking place in the former two sections is by way of arriving at a socially efficient alternative condition.

[63] Department for Environment, Food and Rural Affairs, The International Whaling Commission: The Way Forward, Crown Copyright 2008, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/183323/iwc-wayforward.pdf.

Changing the policy once an agreement has been reached on the global scale would be the responsibility of the individual national government, which would veer its communities towards revenues from Whale Watching as opposed to Whaling, or alternatively ensure compliance with ethical standards when providing for aboriginal subsistence whaling.

The proceeds from Whale Watching would have to be directed based on whether hunting for commercial purposes, or 'scientific research' is being stopped or whether there is a shift in the dependence on whaling for food purposes. It is possible that Whale Consumers may themselves invest in whale watching, generate the income that could sustain their coastal communities. In cases where this might not be possible, Whale Preservers would be able to provide the compensation from whale watching income that *they* generate.

In furtherance of implementing these recommendations, I suggest a liability rule through which harms can be apportioned between the "injurers" and "victims".[64] Since the ultimate aim is the conservation of whales in one form or another, the harm will be apportioned in a way that achieves the same. The compensation, in the event of non compliance may be transferred to a fund that will promote non-lethal research, developing humane hunting methods, alternative sources of livelihood for erstwhile whaling communities, etc. The parties who will be taking on the role of "victim" or "injurer" here are the Whale Preservers and Whale Consumers. The assumption will remain that the due levels of care that have been specified are appropriate in nature.

Consider Policy Recommendation One. Before this suggested modification to the moratorium, one party, the Whale Consumers were actively participating in lethal scientific research and commercial whaling without any ethical standards to comply with. The modification now creates a prohibition on the former two methods of interaction with the whales and necessitates the use of ethical means even when engaging in non-lethal research. In this scenario, I suggest using the strict liability rule. It is true that this rule is generally not an efficient one when looking to minimize social costs as the victim gets compensated in spite of not taking the due level of care.[65]

However, in the instant case, the due levels of care have to be ensured and taken by the Whale Consumers alone for reasons aforementioned. Therefore, the strict liability rule

[64] Satish Jain, *Introduction*, ed., Law and Economics, OUP (2010).
[65] Id.

can serve to be an efficient rule with regards to the first recommendation. The knowledge that they will have to compensate the victim i.e. Whale Preservers on not meeting the due level of care will act as an incentive to meet the level of care that is required.

Next, consider Policy Recommendation Two. Here, before the modification, members of both factions hunted whales for aboriginal subsistence, while some nations were requested to steer away from relying on whale meat for aboriginal subsistence. Subsequent to the recommendation, all nations whose aboriginal populations rely on whale meat are provided quotas for the same, subject to the conditions that the whales are hunted in a humane and cruelty-free manner, among others. Here, I suggest the negligence rule. This is done keeping in mind the situation that both Whale Preservers and Whale Consumers will have the right to hunt whales for their respective aboriginal populations. Therefore, it is required of both to adhere to due levels of care. The negligence rule comes in handy as it helps minimize social cost, where liability only arises on not meeting one's own standard of care.[66] In this instance, whoever hunts more whales than their quota permits, or whoever fails to meet the required ethical standards, would be liable. Ensuring compliance with one's own standards leads to absolution from liability.

These compliance measures may be used in ensuring that the modified policy has enough teeth to ensure that its objective is attainable in its true sense, i.e. strict adherence to ethical standards while fulfilling anthropocentric considerations like research or sustenance for aboriginal populations, and ultimately, increased whale populations.

VII. CONCLUSION

I believe in recognising the intrinsic rights of the whales to life quite apart from any anthropocentric considerations. However, a pragmatic approach is required keeping in mind the varying positions regarding the conservation debate surrounding whales. I have therefore suggested policy recommendations that incorporate both the economic perspectives in a way that efficient social alternatives can be reached while ensuring that there is a curb on any human activity that may in any manner either affect their populations or lead to a situation of negative effects on the cetaceans and their habitat.

[66] Id.

The policy recommendations may hopefully begin to serve as the starting point for necessary change in conserving the world wide symbol for magnificence, awe and mystery in a way that ultimately will result in an outlook of conservation not because of the dollar sign that accompanies these magnificent cetaceans, but because of the recognition that they deserve to be saved just the same.

ECONOMIC VALUE OF FOREST DIVERSION IN INDIA AND ITS DISTRIBUTION ACROSS SPATIAL SCALE

- ***Madhu Verma and Dhaval Negandhi****

ABSTRACT

An agency seeking to use forest land for non-forestry purposes in India needs to pay a charge called as NPV (Net Present Value). This charge is based on the economic value of ecosystem services lost due to diversion of forests that are uncompensated by compensatory afforestation. As suggested by the Hon'ble Supreme Court in 2008 in the Writ Petition (Civil) No. 202 of 1995, popularly known as the Godavarman case, these rates are to be revised every 3 years. A study was conducted in this regard to, inter alia, examine the current methodology of estimating NPV and recommend revised rates to the Ministry of Environment, Forests & Climate Change, Govt. of India. The current paper seeks to briefly discuss the methodology used for estimating NPV, provides disaggregated NPV across various spatial scales to highlight need for compensating local losses and briefly discusses other relevant aspects to ensure effective implementation of the policy.

The study classified the forests into 14 Forest Type Groups and 4 Forest Canopy Cover Density Class. The economic value of forest ecosystem services was estimated for these classification units individually. The study recognized the fact that few classification units may have dominant ecosystem services in terms of their economic value which may be very different from other classification units in which some other ecosystem services may dominate. The methodology is thus designed to objectively estimate the economic value of ecosystem services originating from different classification units by appropriately considering the specific factors rather than using a blanket value across the country. The array of forest goods and services valued in the report comprise of timber, bamboo, fodder, fuelwood, NWFP, gene-pool conservation, carbon sequestration, carbon storage, soil conservation, water recharge, pollination and seed dispersal, and water purification.

In terms of the economic value of forest goods and services estimated in the study accruing at various spatial scales, it was found that about 50% of the total economic value of forests is

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accrued at the local level with 34% and 16% at the state and national level respectively. The consultations and examination suggest that proper targeting of fund apart from compensating affected local communities is essential to realize the mandate of NPV mechanism through effective compensation & institutional mechanisms

I. BACKGROUND

While the Net Present Value (NPV) for forest diversion was formally enforced in India in 2008 with the range of Rs. 4.38 lakhs to Rs. 10.43 lakhs per hectare, it has been in practice in few states of the country for over a decade now. In 2002, a special purpose vehicle called CLEV (Compensation for Loss of Ecological Value) was introduced in Himachal Pradesh based on a study on economic value of forests in Himachal Pradesh conducted by Indian Institute of Forest Management during the Himachal Pradesh Forest Sector Reforms (HPFSR) project in 2000. Following this study, states of Madhya Pradesh, Chhattisgarh and Bihar started practising collection of NPV in addition to charging for compensatory afforestation in early 2000s.

These states were recovering NPV at the rate of Rs. 5.80 lakhs to Rs. 9.20 lakhs per hectare depending on density and quality of forests. Discussions around NPV were introduced in the Godavarman case (Writ Petition (Civil) No. 202/95)[1] in the Hon'ble Supreme Court through the report of the Central Empowered Committee (CEC), an empowered body and creation of the Hon'ble Supreme Court in 2002,which highlighted that "the States/UTs as well as Ministry of Environment and Forests are of the view that in addition to the funds realized for compensatory afforestation, the Net Present Value of forest land being diverted for non-forestry purposes should also be recovered from the user agencies. The money so recovered could be utilized for undertaking forest protection, other conservation measures and related activities".

After a prolonged debate in court hearings, the Hon'ble Supreme Court (SC) of India accepted that every user agency shall have to pay NPV for forest land diverted for non-forestry use. The NPV of earlier mentioned States were accepted at the all-India level. NPV as a concept thus evolved from the need to take precautionary measures in the event of

[1]See order dated 05.05.06 I. A. No. 1337 with I. A. Nos. 827, 1122, 1216, 1473

diversion of forest land for non-forestry use to balance the interests of economic development and environmental protection.[2]

The rationale for charging of NPV when forests are diverted for non-forestry purpose, in addition to paying for Compensatory Afforestation (CA) is subtle. When forests are diverted, a whole set of benefits (tangible and intangible) flowing from forests in terms of ecosystem goods and services are lost which are not accounted for by CA[3] (yellow area in Figure 1). Benefits from CA increase slowly (blue area) and the rationale for NPV collection is to balance the uncompensated benefits (green area) till the compensatory afforestation area attains maturity and starts providing a portion of benefits provided earlier by the forest area diverted. Even after maturity, it is likely that a portion of benefits lost due to forest diversion will never be compensated by benefits from compensatory afforestation. The CEC in its report in 2002 further recognized that plantations take much longer to mature and even then can never adequately compensate for natural forests. Hence the NPV amount payable for forest diversion is a conservative charge.

In pursuance of the Hon'ble Supreme Court order dated 26.09.2005 in IA No. 826 in IA No. 566 of 2000 in Writ Petition (Civil) 202 of 1995,[4] a 3-member Expert Committee was formed in 2005, to formulate a practical methodology to work out the Net Present Value (NPV) for forest land diverted for non-forest use on economic principles. Under the chairpersonship of Dr. Kanchan Chopra (IEG), the 2006 NPV Expert Committee recommended a 12-step procedure at the forest range level to estimate NPV. The Committee did not estimate NPV of forest diversion for the country as the task of the Committee was to illustrate the NPV estimation methodology with a case study.

The Committee also suggested that calculations for determining NPV payment should be site-specific and demonstrated the methodology by calculating circle-wise rates for the state of Himachal Pradesh. The Committee internalized in its recommendation, the methodology & case-study suggested by the study assigned by 2006 NPV Expert Committee to the principal author of the current article in 2005 on "Estimating Economic Value of Forest

[2] *See,* ELDF, WWF INDIA, INDIA'S FORESTS AND THE JUDICIARY - THE GODAVARMAN STORY, (2009 ED.- WWF INDIA, NEW DELHI).
[3] M. Verma, *Forest Resource Accounting: Factoring in the Intangibles*, International Forestry Review, Volume 10, 362-375, (2008).
[4] See *supra* n 1.

Land: A Methodology",[5] which prescribed estimation of benefits and costs of various ecosystem services.

I.I. 2006 NPV Expert Committee

The NPV estimation methodology consisted of seven key goods and services from forests apart from biodiversity. These goods and services were estimated based on parameters shown in Table 1. NPV was calculated as present value of the net flows accruing over 20 years at 5% social rate of discount. It was further argued that simply adding up services would be incorrect as different forests yield different services. Thus percentage values were developed for each goods and services valued, based on the type of dominant forest practices. The NPV amount collected was recommended to be paid by the user agency into a centralized fund called "CAMPA". Payments received from NPV collection, Compensatory Afforestation (CA) charge, Catchment Area Treatment (CAT) charge, Safety Zone (SZ) charges among others are collected in this centralized fund. It was also recommended that the amounts collected in lieu of NPV and other charges should be utilized as per the methodology described between those accruing to local, state and national level stakeholders.

I.II. Central Empowered Committee Report

Following the report submitted by the 3-member Expert Committee (hereafter referred to as 2006 NPV Expert Committee), the Central Empowered Committee (CEC) filed a supplementary report in pursuance of the SC order dated 28.11.2006 in IA No. 826 in IA No. 566[6] after considering technical inputs from Forest Survey of India, MoEFCC officials, Chairperson and Members of the 2006 NPV Expert Committee.

In the report, the forests of India as classified in the Champion and Seth classification were grouped into 6 eco-classes based on climate. Equalization value of forests belonging to different eco-classes and forest canopy cover density was worked out on the basis of value judgment and experience.

The CEC, besides considering the findings of the 2006 NPV Expert Committee, also estimated the carbon sequestration value (instead of carbon storage value as estimated by the 2006 NPV Expert Committee), value of flagship species and bio-prospecting as assessed in

[5] M. Verma, *Estimating Economic Value of Forest Land: A Methodology*, March 2006
[6] See *supra* n 1.

the Green India States Trust (GIST) report. The total value of per hectare of forest based on these goods and services was estimated to be Rs. 7,77,597 and was approximated to be Rs. 8 lakhs per hectare. Based on equalization value of forests, the CEC recommended the NPV rates for forest diversion for 6 forest eco-classes and 3 forest canopy cover density classes (See Table 2).

While keeping the time period of 20 years for NPV calculations, the CEC reduced the social rate of discount to 4% in calculating these values. In 2008, the Hon'ble Supreme Court accepted CEC's recommendations of collecting NPV rates which varied from Rs. 4.38 lakhs to Rs. 10.43 lakhs per hectare depending on Forest Eco-value Class and Canopy Cover Density Class.

Following CEC recommendations, the Hon'ble Supreme Court in its order dated 28th March 2008 suggested that the rates of NPV for forest diversion should be revised after 3 years. While the Hon'ble Supreme Court did not explicitly state the reason for suggesting this time period, it may be recognized that 3 year period is an appropriate timeframe to revise economic value of forest ecosystem services by accounting for 1) latest tools with advancement of technology to estimate the economic value of forests and 2) reflect the scarcity value of forests. As per the direction, Indian Institute of Forest Management was assigned a study on "Revision of rates of NPV applicable for different class/category of forests" by the Ministry of Environment, Forests & Climate Change (MoEFCC), Govt. of India (Verma et al., 2014).[7]

Among the Terms of References, MoEFCC required IIFM to critically examine methodology adopted by 2006 NPV Expert Committee for NPV estimation, suggest appropriate amendments and recommend revised rates of NPV. While the study also had other terms of references, the current paper specifically deals with the TOR of examining the methodology and recommending revised rates of NPV.

[7] M. Verma, D. Negandhi, A.K. Wahal,R. Kumar, G.A. Kinhal & A. Kumar, REVISION OF RATES OF NPV APPLICABLE FOR DIFFERENT CLASS/CATEGORY OF FORESTS: A STUDY EXECUTED FOR THE MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE, GOVT. OF INDIA, (Bhopal: Indian Institute of Forest Management, Bhopal, India 2014)
http://forestsclearance.nic.in/writereaddata/public_display/circulars/01_IIFM_NPV_07NOV.pdf.

I.III. Structure of the paper

Following the introduction and evolution of NPV in India, the paper discusses the overall methodology used for recalculation of NPV. The next section then discusses specific methodology used for valuation of each ecosystem service included in NPV. The basic idea behind charging NPV is to compensate those losing due to loss of ecosystem services from forests diverted. The subsequent section then discusses the distribution of NPV at local, national and global scale before concluding with suggestions that help in furtherance of the NPV concept.

II. METHODOLOGY

An expert group was formed as a part of this study comprising of experts in the area of natural resource economics, forest conservation, management information systems for forests and related legal issues. The expert group met on several occasions including the consultation workshop and GCM workshop and discussed possible implications of key methodological components in NPV estimation. In addition, to make the methodology objective and scientific and to carry out estimation of NPV on latest data of forest resources in the country, the current study was conducted in collaboration with the Forest Survey of India.

Forests in the context of this study have many stakeholders including Ministry of Environment, Forests & Climate Change (MoEFCC), Govt. of India, State Forest Departments, MoEFCC Regional Offices, Central Empowered Committee (CEC). The National Green Tribunal, National Tiger Conservation Authority (NTCA), user-agencies seeking forest land for diversion, The Planning Commission of India, The Finance Commission of India constituted by the Govt. of India, research organizations (such as ICFRE, IGNFA, TERI, WII, WTI, and others), data generation agencies (FSI, IIRS, CSO, NSSO, and others), environmental consultants, legal experts/law firms, utility service providers (water, electricity, roads, transmission, and others), consumers, forest dependent industries, local communities and citizens of India.

To internalize the view of these stakeholders, consultation meetings were conducted with all major stakeholders. Providing detailed information on how NPV is currently calculated and the basis for estimation of NPV rates; issues and concerns of stakeholders were duly noted and internalized. While individual concerns, especially those of provider and

user agencies, were recognized through individual consultation meetings, a National Consultation Workshop was subsequently conducted to discuss these concerns in togetherness, each for MoEFCC, forest departments and user agencies.

II.I. Forest classification

The classification of forest used currently for NPV rates is based on two parameters:

- 6 Eco-classes (as aggregated by Forest Type Groups according to Champion & Seth Classification)
- 3 Canopy Cover Density Classes which include Very Dense Forest (VDF), Moderately Dense Forest (MDF) and Open Forest (OF)

Recognizing the fact that forests across the country vary greatly in terms of their composition, species, and biodiversity among various other factors, consultations suggested the need for more detailed matrix be computed for NPV rates. After due consideration to classify India's forests according to various parameters including physiographic zone classification developed by The Planning Commission of India, the classification of India's forests as developed by Champion and Seth was deemed appropriate for the scope of this study. Champion and Seth have classified India's forests into 16 major Type Groups.

In an attempt to recalculate rates of NPV for forest diversion more scientifically and objectively, latest forest inventory data collected by the Forest Survey of India has been used. However, to confirm to statistical requirements based on number of samples from each unit of classification, few of the forest type groups mentioned above needed to be aggregated into one. In addition, few of the forest type groups such as Tropical Wet Evergreen Forests are located in more than one patch across the country, often in unique climatic zones and with different species composition.

Recognizing this fact, few type groups have been sub-divided. The final classification of forests consisting of 14 Forest Type Groups thus proposed is as shown in **Table 3**. It should be noted that no separate classification is proposed for "Plantations" and it is recommended that the NPV rate applicable according to the Forest Type Group and Canopy Cover Density Class of plantation area should be charged in the event of its diversion.

As regards the second parameter used in the 2006 NPV Expert Committee Report and the CEC Report submitted thereon, an additional forest canopy cover density class, namely Low Density Forests, has been added. This class represents recorded forest areas with less than 10% canopy cover (See **Table 4**).While such areas do not have dense forest cover, they nevertheless provide many ecosystem services. Recent studies, for example, have found that grasses and bushes in these areas help in sequestration of carbon in significant quantity along with preventing release of soil carbon.[8] Many such areas are also critical habitats for biodiversity and hence are important. In the light of these facts, the forest canopy density class has been included as the second parameter for classification with four levels – namely Very Dense Forest (VDF), Moderately Dense Forest (MDF), Open Forest (OF) and Less than 10% Canopy (LTF).

Taking these two parameters – i.e. forest type group (reclassified) and forest canopy density classes – a 14 X 4 matrix has been prepared with each cell showing the NPV of forest diversion. In addition, to remove subjectivity in estimation across different forest type groups and density classes, instead of starting with one averaged NPV estimate and then using relative 'weighing factors, value judgment and experience' for different forest type and canopy cover density classifications as suggested in the CEC report for estimating NPV rates which are currently prevalent, the NPV rates in the current study have been estimated independently for each of the cells in the matrix mentioned above.

The methodology recognizes the fact that few classification units may have dominant ecosystem services in terms of their economic value which may be very different from other classification units in which some other ecosystem services may dominate. The methodology is thus designed to objectively estimate the economic value of ecosystem services originating from different classification units by appropriately considering the specific factors rather than using a blanket value across the country.

II.II. Rotation period

Currently used methodology for calculation of NPV of forest diversion discounts future benefits and costs for 20 years. The consultations also suggested that 20 years is too generic a time period for calculating NPV in different forest types groups across India. Since

[8] Food and Agriculture Organization, GRASSLAND CARBON SEQUESTRATION: MANAGEMENT, POLICY AND ECONOMICS (Rome: Food and Agriculture Organization 2010).

the earlier study which presented a methodology for NPV calculation, rich datasets are now available for forest resources of the country. Along the lines of classification units proposed here, weighted averaged rotation period for each unit has been estimated based on the rotation period of dominant tree species within each unit.[9] It may be noted that for the purpose of this study, the physical rotation period of a tree is used as its rotation period.

For each unit of classification based on forest type group and forest canopy density class, 12-15 dominant tree species were first identified from forest inventory data collected by Forest Survey of India. Based on rotation period of different dominant species and their proportion in the total number of trees per hectare within each unit, weighted average rotation period has been estimated for each classification unit (See Table 5). For few forest type groups, rotation period in Less than 10% canopy cover forest category could not be estimated due to unavailability of data. From these, the mean and standard deviation of rotation period for each forest type group has been estimated.

III. VALUATION OF ECOSYSTEM SERVICES

III.I. Economic values of individual ecosystem services

a) Timber

While green felling is regulated in India following the Hon'ble Supreme Court order, timber continues to be one of the most readily marketable benefits from forests. Although after the National Forest Policy of 1952 & 1988, forests in India are not specifically managed with the goal of timber production, it is important to recognize that the economic value of timber production from forests of India is significant. It is important to clarify here that the economic value of timber included in NPV calculation relates to the potential timber production that would have occurred if the land had continued to be used for forestry purposes. The value of the standing timber is not included in derivation of NPV.

The 2006 NPV Expert Committee Report on NPV suggested valuing timber benefits from forests based on the stumpage value. While the methodology has its advantages in terms of simplified assumptions and calculations, it ignores a vital aspect of timber production in India – it's under-reporting. In an attempt to address this concern and use most recent data on timber production in India, the study uses growing stock estimates in different forest type

[9] M.P. SHIVA, INVENTORY OF FOREST RESOURCES FOR SUSTAINABLE MANAGEMENT AND BIODIVERSITY CONSERVATION. INDUS PUBLISHING COMPANY, New Delhi (1998).

groups of India further classified by canopy cover density classes. These estimates are sourced from the Forest Inventory Data of the Forest Survey of India.

Von Mantel's formula,[10] a conservative approach of yield determination, has been subsequently used to derive mean annual increment in these classification units on the basis of rotation period estimated for each forest type group. Further, a conservative 50% cost factor has been applied on the market value of timber to account for management and transportation costs for getting at in-situ value of timber. The estimated market price of timber were sourced from the latest issue of Timber and Bamboo Trade Bulletin published by the ICFRE.[11]

b) Bamboo

The 2006 NPV Expert Committee Report did not account for the value of bamboo production in the calculation of NPV for forest diversion. However, reliable datasets are now available on bamboo production, which has been used. As in the case of timber, biomass of bamboo in different classified units is obtained from the Forest Inventory Data of The Forest Survey of India. Assuming an average rotation period of 4 years, Von Mantel's formula is used to estimate the mean annual production of bamboo from the bamboo biomass estimates. A cost factor of 20% is used to obtain the cost-adjusted price of bamboo from the market price of bamboo on account of factors such as high proportion of use by local communities and opportunity cost of bamboo extraction & transportation cost to local communities.

c) Fodder

Forests are one of the most important sources of fodder for people involved in livelihoods associated with livestock. A significant proportion of cattle used in livestock management are grazed in forests. The 2006 NPV Expert Committee estimated the value of fodder production from forests based on data obtained from the NSSO 54th Round Survey on Common Property Resources in India conducted in 1999. Apart from the fact that the data is relatively old now, a major limitation of using that data is that it is based on consumption figures, which are known to be severely underestimated in India.

[10] I. Armitage, GUIDELINES FOR FOREST MANAGEMENT PLANNING (Rome: Food and Agriculture Organization of the United Nations 1998) http://www.fao.org/docrep/w8212e/w8212e00.HTM.
[11] ICFRE, TIMBER BAMBOO TRADE BULLETIN (Dehradun: ICFRE 2011).

A recent study conducted by the Forest Survey of India found that more than 86 million Adult Cattle Units (ACUs) are completely dependent on forests for fodder requirements.[12] The study provides state-level estimates on the number of ACUs completely dependent on forests for fodder. Based on standard fodder requirements for each ACU (22 kilograms / ACU / day), the total consumption of fodder from forests is estimated.[13] Again, assuming a 10% cost factor on market price of fodder, cost-adjusted price of fodder is obtained which is used in the estimation of economic value of fodder production from forests in each state.

These economic value estimates are further converted to economic value of fodder production in different forest type groups of India based on the proportion of area under different forest type groups in each state. Based on ease of access to forests under different canopy cover density classes, it is assumed here that the economic value of fodder production is same across all forest canopy cover density classes.

d) Non-Wood Forest Produce (NWFP)

The importance of NWFPs for local forest communities cannot be underscored. The non-timber products play a very important role in the livelihoods of these communities. While absolute estimates about the contribution of NWFPs to an average family income vary, studies unequivocally suggest that NWFPs often contribute a very significant part to the total family income of forest dependent communities. The 2006 NPV Expert Committee deduced the value of NWFP production from forests based on data obtained from the NSSO 54th Round Survey on Common Property Resources in India conducted in 1999. As with fodder, a major limitation of using this data is that it is based on consumption figures, which are known to be severe underestimates.

To obtain a more realistic estimate of NWFP production from forests, the study estimates the production potential of 12 major NWFPs (bel, neem, chironji, tendu patta, aonla, mahua, karanj, kusum, sal, imli, bahera & harad) from forests. Average annual production figures per tree of each along with their market price were collected from various sources. These were used in conjunction with forest inventory data from the Forest Survey of

[12] Forest Survey Institute, INDIA STATE OF FOREST REPORT (Dehradun: Dehradun: Forest Survey of India Forest Survey of India, Ministry of Environment and Forests, Government of India 2011) http://www.fsi.nic.in/details.php?pgID=sb_16.

[13] R. Pandey, *Consumption and Valuation of Livestock Fodder under Different Forest Types of Himalayas,* INDIA. SILVA LUSIT. 19, 195–207 (2011).

India, which provided the number of trees of each of these 12 major NWFPs per hectare. As the market prices used for these NWFPs were derived from a study, which estimates them on the basis of market prices in major cities, a cost factor of 50% was used to account for low price fetched at the local market for many of these NWFPs and the opportunity cost to collect them. The values were finally aggregated for each of the classification unit.

e) Fuel wood

Fuel wood is the mainstay of rural population of India for cooking, along with other household and non-agricultural uses. NSSO 54th Round data revealed that more than half of the fuel wood requirement of the country is met from forests. While many surveys have been conducted to estimate the fuel wood consumption from forests, most suffer in failing to account for substantial quantum of unauthorized removal of fuel wood that goes unreported. The percentage of actual fuel wood consumption in the country to that which is actually reported is only about 10%.[14]

The 2006 NPV Expert Committee demonstrated the value of fuel wood production from forests based on data obtained from the NSSO 54th Round Survey on Common Property Resources in India conducted in 1999. However, a recently completed study by Forest Survey of India has estimated state-wise consumption of fuel wood from forests.[15] To account for unauthorized removal of fuel wood, it is conservatively assumed here that only 50% of the fuel wood consumed from forests was actually recorded in the FSI study. Economic value of fuel wood production from forests is estimated for various states based on the modified consumption estimates, market price of fuel wood[16] and a cost factor of 10% to obtain the cost-adjusted price of fuel wood.

Similar to the methodology followed for economic valuation of fodder production, economic value of state-wise fuel wood production is allocated to different forest type groups based on the proportion of area under different forest type groups in each state. As assumed in fodder production, it is again assumed here that based on ease of access to forests under different canopy cover density classes, the economic value of fuel wood production is same across all forest canopy cover density classes.

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[14] R. Chakravarti, *Some observation in fuelwood forestry*, 1 INDIA. J. TROP. FOR. 1985.
[15] See *supra* n 11.
[16] See *supra* n 12.

f) Carbon sequestration

While the 2006 NPV Expert Committee Report estimated the value of existing carbon storage, it did not suggest estimation of the value of carbon sequestration services from forests in India. Drawing an analogy from timber, while carbon stock relates to the standing timber whose value is being accounted for, carbon sequestration relates to the potential timber production that cannot be neglected too. Forests sequester large amounts of CO_2 while mitigating the perilous impacts of climate change. When forests are diverted, this ability to sequester CO_2 is severely paralyzed. The amount of CO_2 which would have been sequestered had the forests not been diverted have a social cost which needs to be accounted for in NPV calculation.

To estimate the amount of CO_2 that would be sequestered for different classification units used in this study, biomass estimates from the Forest Inventory of The Forest Survey of India have been used.[17] The biomass estimates have been used along with the default IPCC values to estimate the rates of carbon sequestration in different classification units. The average social cost of CO_2 (US$ 10 / tCO_2) derived for India by a recent study[18] is subsequently utilized to estimate the economic value of carbon sequestration.

g) Gene-pool conservation

At the backdrop of increasing species extinction rates across the globe, the role of forests in conserving species that may have future economic value is increasingly being recognized. This insurance value of forests relates to the option value in the Total Economic Value framework. While this is still an area of evolving research, state-wise estimates for economic value of gene-pool conservation in terms of bioprospecting are available for India.[19]

While the study provides NPV of economic value of gene-pool conservation for different states in India based on three different parameters namely 1) number of medicinal plants found in each state; 2) number of species of conservation importance in each state; and

[17] Forest Survey of India, FOREST INVENTORY DATABASE, (Dehradun: Forest Survey of India, Ministry of Environment, Forest and Climate Change 2013) http://www.fsi.nic.in/details.php?pgID=sb_14

[18] William D. Nordhaus, *Estimates of the social cost of carbon: background and results from the RICE-2011 Model*, NBER Working Paper No. 17540 (New Haven ,2011).

[19] H. Gundimeda, S. Sanyal,R. Sinha & P. Sukhdev, THE VALUE OF BIODIVERSITY IN INDIA'S FORESTS (Chennai: Green Indian States Trust 2006) http://www.esocialsciences.org/Download/repecDownload.aspx?fname=Document12682007150.4325373.pdf&fcategory=Articles&AId=1160&fref=repec

3) all species in each state, the current study uses the estimates based on all species in the state. Based on the methodology used for converting state-wise figures to estimates for Forest Type Groups as used for fodder and fuel wood, state-wise economic value of gene-pool conservation is allocated to different forest type groups based on the proportion of area under different forest type groups in each state.

Owning to limited data for canopy cover density classes; the economic value of gene-pool conservation is taken as the same across all forest canopy cover density classes. It should be noted that unlike other goods and services discussed above, the estimates of gene-pool conservation relate to NPV figures rather than annual flow estimates.

h) Pollination and seed dispersal

The 2006 NPV Expert Committee did not consider the value of pollination and seed dispersal services from forests in India. The current study however acknowledges their importance in a country such as India where majority of the workforce is dependent on agriculture for their livelihoods. The impact of degradation of such services has also been greatly felt in India (for example need for use of artificial measures for pollinating apple orchards in Himachal Pradesh) due to shrinking of forests.

The economic value of pollination and seed dispersal service has been estimated in the current study based on natural forest regeneration and its replacement cost if done artificially according to the model cost of ₹ 17,100 per hectare as recommended by the National Afforestation Programme Guidelines. The estimates of natural forest regeneration in all forest type groups classified are further adjusted according to the forest regeneration in plantations. It may be noted here that the economic value so estimated is limited only to the value of artificially replacing the process of natural forest regeneration and also partly covers the economic value of forest succession.

The valuation process, on account of lack of site specific data, ignores a whole range of values associated with the value of pollination and seed dispersal services that forests provide to agricultural fields and orchards in the vicinity. In addition, on account of absence of any reliable estimates for India, it is conservatively assumed here that only 50% of the natural regeneration in forests can be attributed to pollination and seed dispersal services by insects, birds and other animals and the remaining can be attributed to natural processes such

as water flow and wind. To account for proximity of agricultural landscapes to less than 10% canopy cover forests and open forests and good habitat for pollinators in moderately dense forest and very dense forest, the same value has been used across different canopy cover density classes.

i) Soil conservation

The 2006 NPV Expert Committee refers to the value of watershed services which included the value of soil conservation along with hydrological services from secondary site-specific studies. However, on account of inherent uncertainty in using 'benefit transfer' method, high contribution of watershed services to the total NPV rates as estimated in the 2006 Expert Committee Report and better availability of data to value these services presently, economic value for soil conservation and water recharge have been separately estimated in the current study. The data for average weight of soil per hectare was obtained from the Forest Inventory data of FSI.[20]

Conservatively assuming that the in absence of forests, the entire soil will take 100 years to erode, annual soil erosion rates have been estimated have been estimated for all Very Dense Forest (VDF) category of all forest type groups. Recognizing the fact that the capacity of forests to prevent soil erosion depends on a significant extent to the canopy of forest cover through which precipitation is intercepted[21], relative weights for different canopy density classes were calculated to estimate their ability to avoid soil erosion. Based on these relative weights, estimate of soil erosion prevented has been calculated for the remaining forest canopy density classes. Based on the quantity of soil erosion prevented by forests, avoided nutrient loss of three major nutrients namely nitrogen, phosphorus, and potassium has been estimated.[22]

The avoided loss of nutrients due to soil conservation by forests is then valued according to the price of fertilizers in the Indian market. Considering that these fertilizers are provided at subsidized rates, the estimates derived can be regarded as conservative. Based on quantity of nutrients loss avoided by forests via soil conservation and price of each of

[20] See *supra* n 17.

[21] Other factors include soil type and texture, slope and precipitation. However, these factors have not been included in the estimation methodology due to lack of data.

[22] A.N. Pandey, P.C. Pathak & J.S. Singh, *Water sediments and nutrient movement in forested and non-forested catchments*, 7 KUMAON HIMALAYA. FOR. ECOL. MANAG. 1984.

fertilizers for replacing different nutrients, the economic value of soil conservation by forests is estimated.

j) Water recharge

As mentioned in earlier, the 2006 NPV Expert Committee considered the value of hydrological services and soil conservation together as "watershed services". However, on account of reasons mentioned above, the current study has estimated these services separately. The economic value of hydrological services, more specifically, the economic value of water recharge has been estimated in this study based on the simple water balance equation as follows.

$P = E + R + F + GW$

where, 'P' is precipitation, 'E' is the Evapo-transpiration, 'R' is the run-off, 'F' is moisture required to saturate the soil to field capacity and 'GW' is the ground water recharge.

Assuming that 'P', 'E' and 'F' remain the same even when forests are diverted, the contribution of forests to ground water recharge is estimated based on the difference between the run-off rates when forests exists to those when forests are diverted. While site-specific estimates for run-off rates as a percentage of precipitation exists for forests and other land-uses, no such estimates exist for the different forest canopy cover density classes.

However, recognizing that canopy cover is an influential factor in ground water recharge, a linear relationship is assumed between the run-off as a percentage of precipitation and the vegetation cover. Estimates for the extreme scenarios i.e. run-off rates in Very Dense Forest (2% of precipitation) and run-off rates in bare soil (19.6% of precipitation) were obtained from the GIST study.[23] The run-off rates for Moderately Dense Forests, Open Forests and less than 10% canopy were extrapolated from the linear relationship based on the average canopy cover of 0.55, 0.25 and 0.05 respectively. The run-off rates so estimated were further used to calculate the additional ground water recharge that would happen when forests exist as compared to bare land. The estimates for additional ground water recharge

[23] P. Kumar, S. Sanyal, R. Sinha & P. Sukhdev, SOIL CONSERVATION, WATER AUGMENTATION, AND FLOOD PREVENTION, (New Delhi: Teri Press 2006).

attributable to forests are then used in conjunction with the economic value of water[24] to arrive at the economic value of water recharge services from forests.

k) Carbon storage

The 2006 NPV Expert Committee estimated the value of carbon stored in forests based on its impact on mitigating climate change. However, the value of carbon storage was not included in the calculations done by Central Empowered Committee and hence is currently not a part of the NPV rates for forest diversion. Apart from potential carbon that would sequester in forests, the existing carbon stored in forests have an economic value too as it is locking up the carbon from getting released into the atmosphere and add to climate change concerns.

When forests are diverted, this storehouse of carbon is also removed with increased likelihood of release of carbon into the atmosphere. For the current study, estimates from a recently conducted study by the Forest Survey of India were utilized for getting the carbon stock in different classification units proposed.[25] Based on the social cost of CO_2, the economic value of carbon stored in forests is estimated. It may be noted that the value of carbon storage is a one-time value similar to the economic value of gene-pool conservation as discussed earlier. Hence this value is added to the NPV estimated from annual value of all other services. The study used for obtaining the carbon stock estimates did not estimate the same for the Less than 10% Canopy Cover Category.

However, it should be noted that the carbon stock of LTF, especially that in below ground biomass, is significant and often comparable to that of Open Forest (OF). As a result, the carbon stock of LTF for each Forest Type Group has been taken as the carbon stock in Open Forest of associated Forest Type Group. It may also be noted that the rates of carbon release from different carbon pools in forest vary. However, for simplifying the calculations, the current study assumes that all the carbon stored will be released in one-go in the event forest is diverted.

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[24] M.D. Kumar, A.K. Malla & S.K. Tripathy, *Economic value of water in agriculture: comparative analysis of a water-scarce and a water-rich region in India*, 33 WATER INT., 214–230 (2008) doi:10.1080/02508060802108750.

[25] India State of Forest Report, 81-90 ,2011 (Dehradun: Forest Survey of India Forest Survey of India, Ministry of Environment and Forests, Government of India) http://www.fsi.nic.in/details.php?pgID=sb_16 (Last visited on [□]).

l) Water purification

Another service for which no reliable data exists on a regional or a national level in India is the contribution of forests in water purification services. Forests filter the precipitation naturally and save millions of Rupees in water purification costs. However when forests are diverted, such natural purification process of water is severely paralyzed. In such cases, the services that forests were providing need to be artificially replaced through artificial water purification units. Not only these units have a high set-up cost, a recurring maintenance cost also needs to be incurred in order to ensure availability of pure water on a continuous basis. Studies from across the globe were identified from the database of The Economics of Ecosystem and Biodiversity (TEEB) that estimated the water purification services of forests.[26]

These estimates were further adjusted for GDP (PPP) per capita of the country for which values were estimated and corresponding currency exchange rate. The average economic value of water purification services from forest so obtained is Rs. 2950 / hectare / year. On account of lack of any information to provide estimates for different forest type groups or canopy cover density classes, the study proposes to use a blanket estimate of Rs. 2950 / hectare / year as the economic value of water purification services for all forest type groups and canopy cover density classes.

III.II. Total Economic Value

It may be noted that in the 2006 NPV Committee Expert Report it was argued that simply adding up services from forest ecosystems is incorrect since different forests types yield different mix of the services (for the locals, regional and global communities), with the benefits being ecologically determined. It can be argued that the present NPV estimation internalizes this aspect to a certain extent as each of the services is individually estimated for each forest type. But it should also be noted that several of the ecosystem services are complimentary to each other and hence there is also the possibility of double counting of the service benefits.

[26] S. Van der Ploeg & R.S. de Groot, *The TEEB Valuation Database - a searchable database of 1310 estimates of monetary values of ecosystem services* (Foundation for Sustainable Development, Wageningen, the Netherlands 2010) available at http://www.fsd.nl/esp/80763/5/0/50 (Last visited on [ ]).

Therefore, the total economic value for forests is estimated based on a notional assumption of percentage of full value relevant for each of the forest goods and services to arrive at a more compatible and simultaneous delivery of ecosystem services. The assumptions are listed in **Table 6** and the total economic values estimated based on these assumptions are shown in **Table 7**. It may be noted that the values in **Table 7** estimated by adjusting for double counting and simultaneous delivery of ecosystem services exclude the economic value of genepool conservation and carbon storage which are one-time values.

III.III. Net Present Value

The Net Present Value (NPV) is computed using the following formula:

$$NPV = \sum_{t=1}^{N} \frac{B_t - C_t}{(1+r)^t}$$

where B_t and C_t are the annual benefits and costs from forests in the present state in year 't' respectively, 'N' is the number of years for which this annual benefit from forest will accrue, and 'r' is the social rate of discount.

As already mentioned during the estimation of individual forest goods and services, cost factors have been assumed in the study to simplify calculations. Based on these cost factors, the benefits have been appropriately discounted and the discounted net annual benefits as calculated in **Table 7** include the economic value of goods and services from forests. While the study assumes that the current benefits will remain the same in future for any given forest type and canopy cover density class (to simplify calculations), it is important to note that if and when the overall area under forests decline (attributable to forest diversions), the value from a given plot of forest would go up, reflecting the scarcity value of forests.

'N' is the time horizon in years over which the calculations are made. This needs to be closely linked to length of time needed to regenerate the same type and quality of forests. In its judgment dated 26th Sept, 2005 (page 10, para 4), the Hon'ble Supreme Court suggested that the basis for calculation of NPV should be the economic value spread over a period of 50 years, which would be the re-generational value for forest regeneration.[27] The social rate of

[27] IA NO. 826 in IA No. 566 of 2000 in Writ Petition (Civil) 202 of 1995, See *supra* n 1.

discount of 4% as currently accepted by the Hon'ble Supreme Court for estimation of NPV is retained for the calculation.

Based on the type of rotation period used for calculation of NPV rates (forest type group specific or a blanket value across all forest type groups) and the type of total economic value used (complete or relevant summation), the NPV rates for four scenarios were presented. The rotation period used in Scenarios 1 and 2 were based on specific rotation periods estimated for each forest type group. For Scenarios 3 and 4, an average rotation period of 60 years, as estimated from the average rotation period of all forest type groups had been used for estimation of NPV of forest diversion.

From all 4 scenarios, scenario 2 was recommended as the NPV to be made applicable for diversion of forests to non-forestry uses in India. The scenario internalizes the issue of simultaneous delivery of ecosystem services from forests and thus attempts to avoid double counting. In addition, it is based on rotation period estimated for each forest type group, thus internalizing the ecological diversity among forests of the country. Thus, while making the NPV estimates scientific, objective and regional specific, the scenario has kept them conservative without overestimating value of individual services or total economic value. The NPV estimates of recommended scenario are as shown in **Table 8**.

While the currently proposed rates for NPV of forest diversion may seem a significant departure from the existing rates (or updated rates based on some measures of inflation such as Wholesale Price Index), the proposed rates should be viewed in lights of recent developments. Firstly, the discipline of economic valuation of ecosystem services has become more developed as a result of which it is now possible to expand the calculus of ecosystem services that can be valued objectively.

The study has thus considered many ecosystem services which were not estimated either in the 2006 NPV Committee Report or the subsequent CEC Report. Secondly, the NPV rates estimated in the present study are based on actual sampling data from forests across India. Estimates of NPV in the two earlier reports mentioned above were largely based on consumption figures which are known to be gross underestimates. Thirdly, rather than using a blanket value of 20 years for rotation period across the country, the NPV calculations are based on objectively estimation rotation period based on rotation period of dominant species

in each forest type group. Lastly, the most significant changes in NPV are in Very Dense Forests and Moderately Dense Forests categories of forests. The NPV for Open Forests and Less than 10% Canopy Cover do not differ significantly from the existing NPV updated based on Wholesale Price Index.

IV. ECONOMIC VALUES DISAGGREGATED AT SPATIAL SCALES

It may be recognized that the whole array of forest goods and services valued in the study provide potential benefits at different spatial scales. This has direct implication on the NPV rates determined for forest diversion because they reflect the potential economic losses in case forests are diverted. Based on the assumptions of percentage of economic value of different forest goods and services accruing at various spatial scales (See **Table 9**), the economic value of potential losses due to forest diversion at these scales is estimated.

These estimates have direct implications on how NPV money should be used to compensate loss of forest diversion at various scales. It may be noted that according to assumptions listed in **Table 9** and forest goods and services valued in the study, it is estimated that about 50% of the economic losses of forest diversion occur at the local scale (See **Table 10**). During the consultation process followed during the study, a large number of suggestions were received that the quantum of funds should not only be proportionate to the level of use, but also in accordance to the rights of local communities.

V. DISCUSSION

While the suggested NPV rates internalize lost value of many more ecosystem services than is presently the case and also provide more site-specific rates, there are other related aspects that need to be managed in ensuring that loss of forest ecosystem services is truly compensated. These relate to the institutional mechanism of CAMPA fund management, forward-looking move from just afforestation to holistic forest rehabilitation and adoption of incentive-based mechanisms for rewarding good practices amongst user agencies which are briefly discussed in the following section.

V.I. Institutional Mechanism

Moving ahead from the current institutional structure of centralized fund collection and management, it is recommended that devolution of fund management is essential for better utilization of NPV funds. Many of the activities recommended here may only be carried out efficiently if managed at the local or state level.

For example, an activity such as providing clean drinking water where loss of forest has impacted water supply services can directly compensate affected local communities due to forest diversion in real terms. Other such activities may include construction and establishment of tribal centres and organizing vocational trainings to compensate for job loss associated with forest diversion. In order to effectively carry out such activities through CAMPA, it is imperative to involve local level institutions such as the Gram Sabhas or JFMCs. It may be further noted that a number of projects where forest land is proposed to be diverted face local resistance due to the inability of the current mechanism for compensating the loss of livelihoods and other benefits by the project affected people and local communities.

In order to harmonize development and conservation activities in a country such as India, it is imperative to decentralize the fund allocation and management system so as to effectively carry out activities for compensating the economic loss due to forest diversion. Based on estimates of proportion of benefits of each forest goods and services accruing at different spatial scales, proportion of NPV fund to be allocated at local, state and national level has been worked out as discussed in earlier section.

Based on these estimates, it is recommended that a three-tier structure be put in place for allocation of money collected from NPV charge. It is recommended that 50% of the fund should be allocated at the local level, 33% at the state level and 17% at the national level. A more detailed study may however be required to analyze the feasibility of such a mechanism and its operationalization.

V.II. From afforestation to forest rehabilitation

While NPV from forest diversion is currently collected in a centralized CAMPA fund, the use of fund in conserving or enhancing forest ecosystem services are yet to achieve the desired results on ground. As pointed out in the recent CAG Report on Compensatory Afforestation in India that against the receivable non-forest land of 1,03,382 hectares during the period of 2006-12, only 28,086 hectares was received, which constitutes only about 27 per cent of receivable non-forest land. Further, over the non-forest land received, compensatory afforestation was carried out only on 7,281 hectares, i.e. only 7 per cent of the

land which ought to have been received.[28] The objective behind NPV collection is to compensate those who suffer on account of loss of forest goods and services due to diversion.

This finds recognition in the CAMPA guidelines issued by Ministry of Environment, Forests and Climate Change in 2009. However, the two major heads for which CAMPA money is generally used include plantation activity and administrative & infrastructure development. Plantations can never replace natural forests and hence NPV amount should be used to compensate economic loss of forest diversion. Since the states receive funds from CAMPA under various heads such as NPV, CA, SZ, PCA, and PAF among others, all meant for forest development, there is potential of NPV not being directly addressed to the needs of the locals or for restoring ecosystem services.[29] But a good monitoring system, if instituted, can address this issue.

In the light of issues above, there is need to move from afforestation to holistic ecological restoration and forest rehabilitation based on area specific perspective plans in order to enhance the flow of essential ecosystem services from treated forests. While CAMPA guidelines already exist, there is a need to recognize that CAMPA money has the potential to address many issues which directly or indirectly help in either enhancing ecosystem services or compensating for their loss due to forest diversion.

In this regard, it is recommended that the CAMPA guidelines should include what specific activities will be allowed under CAMPA with prescribed limit on maximum budgetary expenditure for each major heads. Few important activities that need to be carried out in this regard emerged during the consultation process. These were building capacity of local forest department staff in accurately assessing the applicable NPV, building capacity of local communities in communicating their rights to ask for compensation in case they stand to suffer economic losses on account of forest diversion, reclamation of forest land after its non-forest use is completed, development of nurseries including indigenous palatable grasses and other important species, promote use of green energy such as LPG to reduce pressure on

[28] Compensatory Afforestation in India, Report no. 21 of 2013-Union Government (Ministry of Environment and Forests) - Report of the Comptroller and Auditor General of India available at http://www.saiindia.gov.in/english/home/our_products/Audit_Report/Government_Wise/union_audit/recent_reports/union_compliance/2013/Civil/Report_21/Report_21.html (last visited on [□]).

[29] K. Kohli, M. Menon, V. Samdariya & S. Guptabhaya, POCKETFUL OF FORESTS: LEGAL DEBATES ON VALUING AND COMPENSATING FOREST LOSS IN INDIA, (New Delhi: Kalpavriksh & WWF-India 2011) http://awsassets.wwfindia.org/downloads/pocketful_of_forests.pdf (last visited on [□]).

remaining forests, compensate for wildlife-inflicted economic losses and human injury in vicinity of forest land diverted due to forest fragmentation, among several others.

V.III. Incentive based mechanisms

Apart from charging NPV for forest diversion, the study found that there are no incentive based mechanisms currently in place to encourage user agencies to hand back the forest land after project life with appropriate improvement. Based on well-established criteria of forest land improvement, incentive based mechanisms have been proposed in the NPV report to encourage conservation of forest land during the project period such as effective catchment area treatment or roadside plantations among others. In addition, ambit of such mechanisms may be expanded to include incentives for quickening the process of mutation of non-forest land on which compensatory afforestation is carried out. Further, if a user agency returns the diverted forest land to the Forest Department before the expiry of lease period, it expedites the process of forest rehabilitation and hence may also be part of this incentive based mechanism.

In addition to the impact of such mechanisms on handing over the land after project life, such mechanism may also be important for many project categories which get forest clearances for large forest areas and do not use them immediately. While this does not have a very significant loss from ecological point of view, it does prevent access of local communities in using the forest land. The mechanisms need to be designed in a way to discourage keeping the diverted land unproductive for long periods of time. Designing the framework of such incentive based mechanisms needs a very thoughtful process.

It is recommended that such a system should collect the full NPV at the time of granting forest clearance and should then refund back a part of it according to well established and frequently monitored criteria at the end of project life. Such a deposit-refund mechanism has been successfully used in other countries such as the European Union for pollution control and has the potential to take care of worst possible scenario along with encouraging good practices that promote generation of positive externalities during the project activity.

In addition, the study also recognizes a need to incentivize local forest dependent communities in the vicinity of diverted forest area to encourage sustainable use of forest

resources. Diversion of a patch of forest has direct consequence of increased pressure on the remaining forests in the region and there is thus a need to reward local communities for its conservation and sustainable use. Many market instruments have been successfully implemented across the globe in this regard and appropriate instruments may be applied after proper modification on a site-specific basis to encourage communities for conservation of remaining forest resources.[30]

VI. CONCLUSION

NPV as a charge paid by an agency seeking to use forest land for non-forest purposes is suggested to be revised every three years by the Hon'ble Supreme Court of India. A study was commissioned by the Ministry of Environment, Forests & Climate Change to the Indian Institute of Forest Management for proposing revised NPV. The suggested NPV rates now include 12 ecosystem services and are more site-specific than the current rates. The rates have not been estimated for a classification system that consists of 14 Forest Type Groups and 4 Canopy Density Classes. Further, the estimation methodology recognizes the fact different classification units may have dominant ecosystem services in terms of their economic value which may be very different from other classification units in which some other ecosystem services may dominate.

The methodology is thus designed to objectively estimate the economic value of ecosystem services originating from different classification units by appropriately considering the specific factors rather than using a blanket value across the country, as done in calculating the current NPV rates. The array of forest goods and services internalized in the proposed NPV comprise of timber, bamboo, fodder, fuelwood, NWFP, gene-pool conservation, carbon sequestration, carbon storage, soil conservation, water recharge, pollination and seed dispersal, and water purification.

Apart from the absolute charge, the study has also disaggregated loss of forest ecosystem services at different spatial scales which found that about 50% of the losses occurred at the local level, with 34% and 16% occurring at the state and national level respectively. The extensive consultation and examination of policy suggests that proper targeting of fund apart from compensating affected local communities is essential to realize the mandate of NPV mechanism through effective compensation & institutional mechanisms.

[30] M. Verma & D. Negandhi, *Desired institutional and legal environment for implemeting PES mechanisms in India*, 1 ELPR, 22–33 (2011).

The Compensatory Afforestation Fund Bill, 2015 introduced in Lok Sabha on May 8, 2015 which seeks to establish funds at the national and state level to receive money from compensatory afforestation is likely to be more effective in achieving its objective of improving forest cover of the country if mechanisms to manage funds at local levels are included as part of the bill.

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VIII. Figures

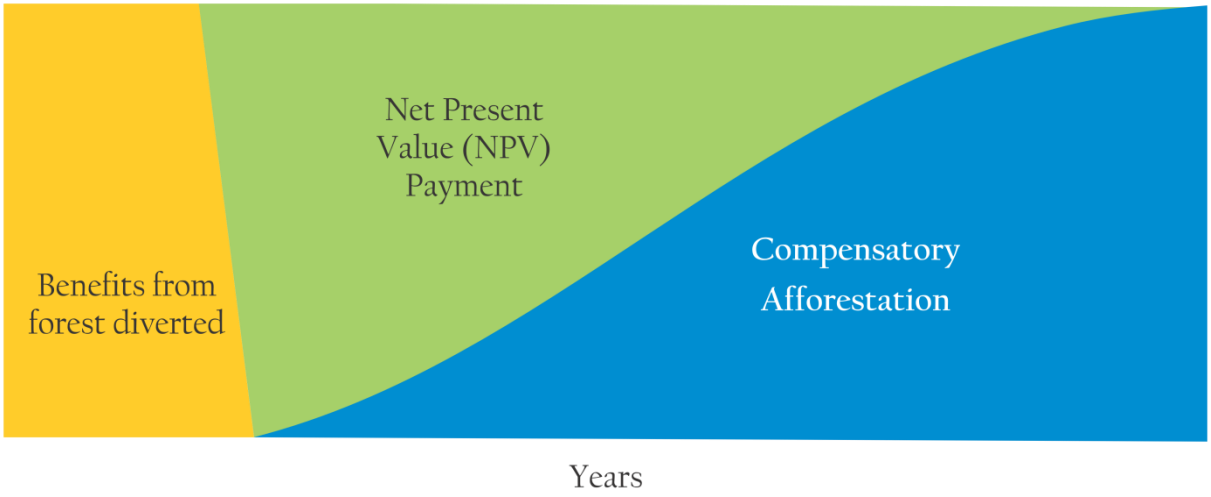

Figure 1 – Rationale for charging of NPV

IX. Tables

Table 1 – Goods and services included in the 2006 NPV Expert Committee

Good or service	Basis of estimation
Timber	Long run stumpage value and stumpage price of mature timber
Carbon storage	Carbon content and market rate of carbon
Fuelwood & fodder	Total quantity collected, market price of collection, and cost of collection
NTFP	Total quantity collected, market price of collection, and cost of collection
Ecotourism	Number of people visiting forests, average expenditure per person
Watershed services	Value per hectare of soil conservation and hydrological services
Biodiversity	Based on relative weighing pattern between biodiversity and other services

Table 2 – Current NPV

Eco-value class	VDF	MDF	OF
Class I	10,43,000	9,39,000	7,30,000
Class II	10,43,000	9,39,000	7,30,000
Class III	8,87,000	8,03,000	6,26,000
Class IV	6,26,000	5,63,000	4,38,000
Class V	9,39,000	8,45,000	6,57,000
Class VI	9,91,000	8,97,000	6,99,000

Table 3 - Proposed Forest Type Classification

Eco-class[1]	Champion & Seth Classification	Proposed Classification

[1] As used in the current NPV rates estimated (CEC, 2007)

Eco-class I	Tropical Wet Evergreen Forests	Tropical Wet Evergreen Forests – North East
		Tropical Wet Evergreen Forests – Western Ghats
Eco-class I	Tropical Semi Evergreen Forests	Tropical Semi Evergreen Forests-North East
		Tropical Semi Evergreen Forests-Western Ghats
		Tropical Semi Evergreen Forests-Eastern Deccan
Eco-class I	Tropical Moist Deciduous Forests	Tropical Moist Deciduous Forests
Eco-class II	Littoral & Swamp Forests	Littoral & Swamp Forests
Eco-class III	Tropical Dry Deciduous Forests	Tropical Dry Deciduous Forests
Eco-class IV	Tropical Thorn Forest	Tropical Thorn Forest
Eco-class IV	Tropical Dry Evergreen Forests	Tropical & Subtropical Dry Evergreen Forests
Eco-class V	Subtropical Dry Evergreen Forests	
Eco-class V	Subtropical Pine Forests	Subtropical Pine/Broadleaved Hill Forests
Eco-class V	Broadleaved Hill Forests	
Eco-class VI	Montane Temperature Forest	Montane & Moist Temperate Forest
Eco-class VI	Moist Temperature Forest	
Eco-class VI	Sub Alpine Temperate Forest	Sub Alpine & Dry Temperate Forest
Eco-class VI	Dry Temperate Forests	
Eco-class VI	Moist Alpine Scrub	Alpine Scrub
Eco-class VI	Dry Alpine Scrub	

Table 4 – Forest Density Classes used for classification

Forest Density Class	Forest Canopy Cover	% of Total Forest Cover
Very Dense Forest (VDF)	More than 70%	8%
Moderately Dense Forest (MDF)	Between 40 and 70%	47%
Open Forest (OF)	Between 10 and 40%	39%
Less than 10% Canopy (LTF)	Less than 10%	6%

Table 5 – Weighted average rotation period (years)

Forest Type Groups	VDF	MDF	OF	LTF	Mean
Tropical Wet Evergreen-North East	40	60	63		54
Tropical Wet Evergreen-Western Ghats	57	59	40	52	52
Tropical Semi Evergreen-North East	71	65	57	61	64
Tropical Semi Evergreen-Eastern Deccan	79	29	46		51
Tropical Semi Evergreen-Western Ghats	61	60	54	70	61
Tropical Moist Deciduous Forests	76	64	60	53	63
Littoral & Swamp Forests	93	58	55		69
Tropical Dry Deciduous Forests	63	57	51	51	55
Tropical Thorn Forest	77	48	45	48	54
Tropical & Subtropical Dry Evergreen Forests	69	61	52	39	55
Subtropical Pine/Broadleaved Hill Forests	72	74	73	58	69
Montane & Moist Temperate Forest	76	78	76		76
Sub Alpine & Dry Temperate Forest	84	89	92	73	84
Alpine Scrub	66	81	67		71
Weighted average rotation period					63

Table 6 – Assumptions used for estimating percentage of value relevant for each ecosystem service

Goods / service	Percentage of full value relevant
Bamboo	70%
Fodder	100%
Timber	50%
NWFP	70%
Carbon Sequestration	80%
Fuelwood	100%
Gene-pool conservation	70%
Pollination & seed dispersal	70%
Water recharge	80%
Soil conservation	80%
Water purification	50%
Carbon storage	80%

Table 7 - Towards Total Economic Value of forests[2]

Total Economic Value	VDF	MDF	OF	LTF
Tropical Wet Evergreen Forests – North East	1,78,772	93,991	81,716	22,988
Tropical Wet Evergreen Forests – Western Ghats	1,97,052	1,38,537	53,832	27,464
Tropical Semi Evergreen Forests - North East	1,02,971	80,975	42,447	24,170
Tropical Semi Evergreen Forests - Eastern Deccan	2,40,290	1,95,825	1,04,140	93,733
Tropical Semi Evergreen Forests - Western Ghats	1,59,497	1,05,316	63,064	34,818
Tropical Moist Deciduous Forests	1,47,493	1,01,457	57,112	26,102
Littoral & Swamp Forests	2,40,606	1,61,884	92,650	63,943
Tropical Dry Deciduous Forests	1,07,810	77,390	46,804	29,565
Tropical Thorn Forests	61,365	54,008	43,238	29,289
Tropical & Subtropical Dry Evergreen Forests	1,26,952	93,131	51,781	21,928
Subtropical Pine/Broadleaved Hill Forests	1,08,322	83,875	47,420	17,256
Montane & Moist Temperate Forest	1,65,691	1,27,735	63,635	18,541
Sub Alpine & Dry Temperate Forest	1,39,036	1,14,532	54,901	13,563
Alpine Scrub	1,20,739	89,210	41,483	18,038

Table 8 – NPV estimates from the recommended scenario

NPV Estimates	VDF	MDF	OF	LTF
Tropical Wet Evergreen Forests – North East	38.85	21.27	19.03	7.52
Tropical Wet Evergreen Forests – Western Ghats	43.34	31.31	14.22	9.01
Tropical Semi Evergreen Forests - North East	23.62	17.78	9.87	6.46
Tropical Semi Evergreen Forests - Eastern Deccan	55.55	45.68	26.97	24.86
Tropical Semi Evergreen Forests - Western Ghats	33.89	23.66	15.44	10.12
Tropical Moist Deciduous Forests	30.32	22.25	13.55	7.61
Littoral & Swamp Forests	49.02	35.12	22.58	17.48
Tropical Dry Deciduous Forests	25.08	18.62	11.17	7.73
Tropical Thorn Forests	14.37	13.41	10.57	7.78
Tropical & Subtropical Dry Evergreen Forests	28.38	21.43	13.24	7.47
Subtropical Pine/Broadleaved Hill Forests	22.74	17.97	11.63	6.64
Montane & Moist Temperate Forest	30.14	23.78	13.54	6.93
Sub Alpine & Dry Temperate Forest	25.29	20.07	11.29	5.65
Alpine Scrub	27.23	19.14	10.70	6.83
Average	31.99	23.68	14.56	9.43

Table 9 - Assumptions of economic value of forest goods and services accruing at different spatial scales

Goods and services	Local	State	National
Bamboo	70%	30%	0%
Fodder	100%	0%	0%
Timber	50%	50%	
NWFP	70%	30%	
Carbon Sequestration		30%	70%
Fuelwood	100%		

[2] excludes NPV values of carbon storage and gene-pool conservation

Gene-pool conservation	20%	20%	60%
Pollination & seed dispersal	70%	30%	
Water recharge	40%	40%	20%
Soil conservation	40%	40%	20%
Water purification	40%	40%	20%
Carbon storage		30%	70%

Table 10 - NPV of benefits accruing at various spatial scales

Contribution to average NPV	Local	State	National
Bamboo	0.38	0.16	0.00
Fodder	2.44	0.00	0.00
Timber	3.52	3.52	0.00
NWFP	0.58	0.25	0.00
Carbon Sequestration	0.00	0.52	1.22
Fuelwood	1.92	0.00	0.00
Gene-pool conservation	0.27	0.27	0.80
Pollination & seed dispersal	1.02	0.44	0.00
Water recharge	0.11	0.11	0.05
Soil conservation	0.70	0.70	0.35
Water purification	0.14	0.14	0.07
Carbon storage	0.00	0.51	1.19
Total	11.06	6.60	3.69
Percentage contribution	52%	31%	17%

THE WTO JURISPRUDENCE AND THE PROTECTION OF THE ENVIRONMENT: A NEW PARADIGM OF PROGRESS AND RECONCILIATION

Md. Abu Saleh [*]

ABSTRACT

The development and progress of International trade Law jurisprudence in protecting environment is not neither evolutionary nor revolutionary rather it is reformist in orientation. Over the past few years, an important period of reform has been commenced in the interplay of trade and environment. The linkage between international trade, environmental concerns and sustainable development are a constant raising focus of storm and debate. The debate began about 90 years ago and still continuing. In parallel, the jurisprudence on trade and environment has experienced significant developments since past few years. The new era was fostered by enlightened Appellate Body decisions and boosted by the attention given to the environment by trade negotiators in the waning days of the Uruguay Round. The incorporation of social clause in WTO was an urgent need since the inception of trade law

Here the paper intends to provide a critical analysis whether the existing legal framework of the WTO gives protection to the environment or not. Critics claim that trade principles of the GATT are irreconcilable with environmental and they perceive risks in liberalized trade. On the contrary supporters of the trade and environment theory believe that the two polices are not only reconcilable, but complementary. To solve the debate the present paper has been divided into four main parts. Part I provides a brief review of the history of environmental linkage with trade policy, beginning from 1923 till today. Part II offers the treaty provisions of the WTO to protect the environment. Part III looks at the contribution of the dispute settlement body to promote environmental concerns followed by US-Gasoline case, US-Shrimp case, EC-asbestos case, EC-tariffs preferences case, Brazil-Retreated Tyres case and China-Raw Materials case. Lastly Part IV seeks to demonstrate that the establishment of WTO brought up a new trend in the interface of trade and environment. The paper concludes addressing the post WTO period as a new paradigm of progress and reconciliation.

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I. INTRODUCTION

Regarding the question of relationship of trade and environment there are three sorts of views which exist today. It has received highest attention from legal scholars, economists and also political scientists in the recent past. Here the paper firstly analyses the role of WTO in promoting environmental protection without focusing much on the differences of scholar views, and lastly it concludes with the progressive views of the WTO panel and appellate body.

The argument in the contemporary literature falls into three categories where one group highlights the role of power in linking trade and environment, the second group talks about the efficiency and effectiveness and the last group emphasizes upon the norms and legal framework.[1] Bhagwati argued that the relationship between trade and environment poses the influence of few developed countries and they compel other states at the expense of the world poorest.[2] Steinburg has almost the same view as it derived from the domestic regulation of the wealthy countries.[3] Whereas, Finnemore and Toope argued that the linkage of trade and environment derives from norms and also to legitimize international trade.[4]

However, much of the discussion focuses on the role or the mission of WTO to incorporate these provisions to avoid the legitimacy crisis.[5] The concept of fairness and justice lies in the appropriation of other non-trade interests within the WTO legal framework.[6] The claims of unfairness and illegitimacy are often likely raised against WTO and the world witnessed different protests led by polyglot group of environmentalists and anti-free trade activists.[7] Some other authors argued that the existing framework of WTO is flawed to address properly the environmental issues and hence proposed for new multinational institution

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[1] Moonhawk Kim, 'Disguised Protectionism and Linkages to the GATT/WTO' (2012) 64 *World Politics* 429.
[2]Jagdish Bhagwati, "Afterword: The Question of Linkage" (2002) 96 *AJIL* 126-34.
[3] Steinberg and Richard H, 'Trade-Environment Negotiations in the EU, NA FTA and WTO : Regional Trajectories of Rule Development' (1997) 91 *AJIL* 231-67.
[4]Finnemore, Martha and Stephen J. Toope, 'Alternatives to 'Legalization': Richer Views of Law and Politics'(2001) 55 *International Organization*743-58
[5] Elsig, Manfred, 'The World Trade Organization's Legitimacy Crisis: What Does the Beast Look Like?'(2007) 41 *JWT* 75-98.
[6] Trebilcock, Michael J. and Robert Howse, *The Regulation of International Trade* (3rd edn., New York: Routledge: 2005).
[7] Rahmatullah Khan, 'The Anti-Globalization Protests: Side Show of Global Governance, or Law making on the Streets' ,(2001) *Max-Plank Institut fur auslandisches offentliches recht und volkerrecht* 324.

independently to look after trade and environmental issues.[8] They further explicate that it is completely untenable for WTO to combine both in a single legal framework.[9] The present paper tries to show that presently WTO itself is moving towards guaranteeing the environmental protection.

The jurisprudence of WTO ensures reconciliation of both the contesting and divergent issues together. It is evident from the recent approach of WTO member states; on 23rd October 2014 they expressed their concern regarding the protection of environment[10], where the committee on trade and environment[11] brings all the member states together to exchange their policies and to hear from the committee observers on the development of international organizations and multilateral environmental agreements. The committee heard the latest report of CBD (cop12), the report of UNEF and also the latest plan of UNFCC to reach a binding treaty.[12] The Doha development Agenda includes specific negotiations on trade and environment and some tasks were assigned to the regular Trade and Environment Committee.

The member states very recently in an informal meeting on trade and environment expressed their commitment to meet the July 2015 deadline for outlining a work programme on completing the Doha Round[13]. Ambassador Ruamraksa of Thailand, who chairs the environment negotiations taking place in 'special sessions' of the Trade and Environment Committee, declared on 17 December 2014 that 2015 will be a significant year for the trade and environmental negotiations.[14]

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[8] Jane L Yoon, 'the World Trade Organization: Environmental Police?' (2001) 9 *Cardozo J. Int'l and Comp* 227.
[9] Ibid, at 228
[10] WTO: 2014 News Items, '*Trade and Environment' Illegal logging and importance of international cooperation discussed in committee*' (23 October 2014) <https://www.wto.org/english/news_e/news14_e/envir_23oct14_e.htm> accessed 20 December 2014.
[11] The Uruguay Round negotiators called for a WTO Committee on Trade and Environment (CTE) which was set up in 1995, the Committee has served as a venue where national officials from trade and environment ministries can meet together, and representatives from some MEAs and the UN Environment Programme can regularly meet with trade officials. For details, see Steve Charnovitz, 'World Trade and the Environment: A Review of the New WTO Report' (2000) 12 *GIELR* 523.
[12] WTO, News item (n 11)
[13] WTO, Doha Ministerial Declaration, *Trade and Environment* WTO Doc WT/MN(01) /DEC (14 Nov 2001) para 31<https://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm#tradeenvironment> accessed 30 December 2014.
[14]Ambassador Ruamraksa pointed out that: 'WTO members ready to discuss how to advance talks in environment negotiations' (address to Trade and Environment Committee Informal Meeting on 17 December 2014), he also calls

Against this backdrop the paper would point out that trade and environment maintain historical linkage and the jurisprudence of WTO has experienced new step of progress and development towards reconciliation through its different multilateral agreements, ministerial declarations, and most importantly through liberal interpretation of panel and appellate body. The paper seeks to establish that a new era of progress and reconciliation between trade and environment has begun with the establishment of WTO. The panel and appellate body went a step ahead through interpreting treaty in light of customary principle of international law. It mainly focuses that, WTO rules and decisions prove that a new cycle has begun in international governance that pays greater latitude to environmental concerns within WTO regime.

II. THE LINKAGE OF TRADE AND ENVIRONMENT

Trade and Environment are linked historically. In the present part, the history of the linkage will be analysed under three different phases starting from the beginning of the 1920s to till today. The phases are divided based on the approach of the international community towards the interface of trade and environment. The first phase continued from 1920s to the end of the Second World War. The urge for linking trade with non-trade goals was clearly incorporated in the early 1920s for the first time in the history of international trade law.[15]

The concept of linkage attracted larger attention in the second phase; though the world experienced the adoption of different multilateral treaty which linked trade with environment, but surprisingly the panel of GATT took restrictive approach towards opening the door of GATT for the protection of environment. It has been alleged that the environmental policies could become a hurdle to international trade and it might serve the protectionist purpose of the developed countries.[16] This paper argues that the third phase after the establishment of WTO, its multilateral agreements and dispute settlement body espoused liberal interpretative approach and mandated the protection of environment within WTO regime.

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for another informal session on February 2015 to address the issue of reconciliation between WTO laws and the multilateral environmental agreements in pursuant to the paragraphs 31(I) and 31(II) of the 2001 Doha Declaration, for details see (n 11).

[15] Steve Charnovitz, 'A New WTO Paradigm for Trade and the Environment' (2007) 11 *SYBIL* 15.

[16] John Jackson, "World Trade Rules and Environmental Policies: Congruence or Conflicts" (1992) 49 *Wash. & Lee L. Rev.* 1227.

II.I. First Phase

From the early beginning of the Trade history, the trading system sought to avoid interfering with national health and environmental policy measures. The first multilateral treaty on trade, the Customs Simplification Convention of 1923[17] incorporated a provision stating that the disciplines of the treaty did not '*prejudice the measures which contracting parties may take to ensure the health of human beings, animals or plants*'.[18]

The next major multilateral trade treaty in this phase was the Trade Prohibitions Convention of 1927,[19] which sought to discipline import and export prohibitions. The Convention included an exception for '*prohibitions or restrictions imposed for the protection of human health and for the protection of animals and plants against disease, insects and harmful parasites*'. [20] It is clear that, even by 1927, the international community was aware of the implications of trade rules for biodiversity and bio safety.[21]

II.II. Second Phase

After World War II, when leading governments negotiated both the General Agreement on Tariffs and Trade and the Charter of the International Trade Organization,[22] there were a sufficient number of multilateral environmental agreements in place which relate solely to the conservation of fishery resources, migratory birds or wild animals.[23] The immediate post-war period had been an active time for international environmental policymaking and saw the

[17] International Convention Relating to the Simplification of Customs Formalities (1923) (adopted 3 November 1923, entered into force 27 November 1924) 30 L.N.T.S. 371. <https://treaties.un.org/pages/LONViewDetails.aspx?src=LON&id=560&chapter=30&lang=en> accessed 20 December 2014

[18] Ibid, art 17

[19] International Convention for the Abolition of Import and Export Prohibitions and Restrictions(adopted 8 November 1927) 97 L.N.T.S. 393

[20] Ibid, art 4.4

[21] Steve Charnovitz (n 15) at 15

[22] Havana Charter for an International Trade Organization (24 March 1948) 55U.N.T.S.187 <http://www.wto.org/english/docs_e/legal_e/havana_e.pdf> accessed 25 December 2014 [the convention has not come into force]

[23] Ibid, art 45(1)(a)(x)

negotiation of the Whaling Convention of 1946,[24] the Fishing Nets Convention of 1946,[25] the Pan American Nature Protection Convention of 1948[26] and the organic act of the International Union for the Conservation of Nature and Natural Resources of 1948.[27] Thus, the architects of the multilateral trading system were aware of certain environmental challenges and of the need to keep emerging trade policies compatible.

As of the failure of the Havana Charter, the GATT remained only one legal instrument to deal with the environment. It was the early 1970s when the discussions started seriously to incorporate environmental measures in WTO. As an intellectual contribution to the 1972 U.N. Stockholm Conference on the Human Environment, the GATT Secretariat prepared a report on "Industrial Pollution Control and International Trade".[28]

In the same period, officials in the GATT Secretariat gave technical advice to the drafters of the 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora[29] on how to make its trade obligations GATT-consistent.[30] In 1971, then GATT established a standby Group on Environmental Measures and International Trade. In this phase the panel has shown restrictive approach[31] to extend the exceptions of article XX of the GATT to protect environment. Steve Carnovitz in the early 1990s blamed GATT council 1990 not to implement proper mechanism to reconcile trade and environment and he mentioned that the drafter of the GATT were well aware of the importance of the environmental protection through GATT regime.[32] It is also evident from the GATT Secretariat Report of 1992 on “Trade and Environment” where it has been proclaimed that, it is not possible to access to one’s own market

[24] International Convention for the Regulation of Whaling (2 December 1946) 161 U.N.T.S.72.
[25] Convention for the Regulation of the Meshes of Fishing Nets and the Size Limits of Fish (5 April 1946) 231 U.N.T.S. 199.
[26] The Convention on the World Meteorological Organization (11 October 1947) 77 UNTS 143.
[27] Statutes of the International Union for the Conservation of Nature and Its Resources (5 October 1948) BZTS 1975/21.
[28] GATT, Industrial Pollution Control and International Trade, GATT Studies in International Trade No. 1 (Geneva: GATT Secretariat, 1971).
[29] Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (3 March 1973) 993 U.N.T.S. 243.
[30] Robert Boardman, *International Organization and the Conservation of Nature* (Bloomington: Indiana University Press 1981) 89-92.
[31] GATT, Panel Report, *United States- Restrictions on Imports of Tuna*, GATT Doc DS21/R-39S/155 (not adopted 1991)
[32] Steve Charnovitz, ‘GATT and the environment: Examining the issues’ (1992) 4(3) *International Environmental Affairs* 203-33 <http://www.ciesin.org/docs/008-061/008-061.html> accessed 28 December 2014.

related with domestic environmental policies.[33] So it is assumed that GATT was unsympathetic to the environmental challenges.[34] This approach continued almost till the creation of WTO.

II.III. Third Phase

Though this phase stared from 1995, it would trace back to the Uruguay Round negations where non trade issues have been broadly discussed and counties in some points came to mutual understanding. Several events in the early 1990s concern that; the GATT might be acting in an environmental friendly way. The GATT Group met intermittently over the next couple of years until it was replaced in 1995 by the WTO Committee on Trade and Environment. [35] Much has been written on the historical linkage of trade and environment before and after the creation of WTO,[36] in this short article, it is not possible even to summarize that literature.

The primary purpose of this chapter is to show that the interface of trade and environment is not a new issue rather these two are linked historically. More particularly, the paper demonstrates that a new era in the interface of trade and environment started after the establishment of WTO in 1995 that is the present phase or the third phase. This era has experienced the adoption of a large number of multilateral agreements which mandate the protection of environment, and it has been furthered by the well thought out views of WTO panel and appellate body. The paper proposes in the next three chapters that the era of historical linkage between trade and environment is out dated and the present paradigm should be regarded as an era of progress and reconciliation of environmental protection within WTO regime. It would be elucidated in greater details in next parts of the paper.

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[33] GATT Secretariat, 'International Trade' (1992) 19-43 at 23 <http://ciesin.org/docs/008-082/008-082.html> accessed 28 December 2014.

[34] Steve Charnovitz, 'The WTO'S Environmental Progress' (2007) 10 *JIEL* 686.

[35] Gregory C. Shaffer, 'the World Trade Organization under Challenge: Democracy and the Law and Politics of the WTO's Treatment of Trade and Environment Matters' (2001) 25(1) *Harv. Envtl. L. Rev.* 1.

[36] Kym Anderson and Richard Blackhurst (eds.), *The Greening of World Trade Issues* (Hertfordshire: Harvester Wheatsheaf, 1992); Steve Charnovitz (n 15) 15-40; Konrad von Moltke, The Last Round: The General Agreement on Tariffs and trade in Light of the Earth Summit' (1993) 23 *Envtl. L*. 519; Richard Blackhurst, *Trade and Sustainable Development Principles* (Winnipeg: International Institute for Sustainable Development, 1994); Sara Dillon, 'A Farewell to Linkage: International Trade and Global Sustainability Indicators' (2002) 55 *Rutgers L. Rev.* 87; Lori M. Wallach, 'Accountable governance in the Era of Globalization: The WTO, NAFTA and International Harmonization Standards' (2002) 50 *U. Kan. L. Rev*. 823.

III. WTO TREATY PROVISIONS ON ENVIRONMENT AND TREATY DEVELOPMENT

WTO contains 24 covered Agreements and other understandings that are part of a single undertaking. Besides the preamble of the WTO establishing Agreement 1994, other multilateral trade Agreements incorporated environmental issues; this part provides the short analytical overview of the environmental provisions under different multilateral agreements of WTO.

The most important greening occurred in the new world trade constitution is the Marrakesh Agreement Establishing the World Trade Organization (WTO Agreement) and its annexes. The preamble of WTO Agreement is almost same as it was in the GATT. The GATT preamble recognises the developing of full uses of resources of the world,[37] where the WTO Agreement ensures it in light of the objective of sustainable development, seeking both the preservation and protection of environment in a manner consistent with different levels of development.[38]

Presently the jurisprudence of WTO proves that the preamble of WTO Agreement has legal significance. In *US-Shrimp* case the Appellate Body relied upon the WTO preamble to interpret the general exception clause in GATT Article XX.[39] The appellate body stated that the preamble shows that WTO negotiators decided to qualify the optimal use of resources in accordance with the sustainable development.[40] Steve Charnovitz here concluded that, '*a WTO commitment to sustainable development is a hollow victory for environmentalists because that term has been stretched in a way so as to make it acceptable to all and meaningful...*'[41]

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[37] General Agreement on Tariffs and Trade (15 April 1994) U.N.T.S. 187, 33 I.L.M. 1153 preamble [hereinafter GATT].

[38] Marrakesh Agreement Establishing the World Trade Organization (15 April 1994) 1867 U.N.T.S. 154, 33 I.L.M. 1144 preamble.

[39] John H. Jackson, 'Justice Feliciano and the WTO Environmental Cases: Laying the Foundations of a Constitutional Jurisprudence with Implications for Developing Countries' in Steve Charnovitz, Debra P. Steger and Peter van den Bossche (eds), *Law in the Service of Human Dignity. Essays in Honour of Florentino Feliciano* (Cambridge: Cambridge University Press 2005) 40.

[40] WTO, Appellate Body Report, *United States-Import Prohibition of Certain Shrimp and Shrimp Products,* WTO Doc WT/DS58/AB/R (6 November 1998) paras 152–53.

[41] S Charnovitz (n 34) at 688

This part of the paper focuses on the treaty provisions of WTO which promotes the protection of environment within WTO multilateral regime. It argues for a paradigm shift from the previous approach of mere trade and environmental linkage to the reconciliation of trade and environment within WTO through treaty development and treaty interpretation.

III.I. Trade in Goods

Though GATT is being considered as a vehicle of promoting free trade, nevertheless it balances between trade and non-trade goals. It is evident from the adoption of different provisions under WTO multilateral agreements which mandate the protection of the environment. It is important to mention here that Agreements in Annexure 1, 2, and 3 constitute 'Multilateral Trade Agreements' and they are binding on all WTO members. The Annex 1A of the Agreement Establishing the WTO provides the list of fourteen categories of goods, out of which five agreements contain provisions that can be interpreted to protect environment within WTO regime. The first agreement under Annex 1A, that is being considered as the main treaty to reconcile the environmental protection with trade liberalization is GATT 1994.

As a general proposition any type unilateral measure to protect environment could potentially be inconsistent with several provisions of the GATT, including article I and III which prohibit discrimination among members and article XI which prohibits non tariffs barriers to trade. On the contrary, article XX creates exceptions of the above mentioned obligations to accommodate the protection of environment in WTO regime. Thus article XX of the GATT mainly permits WTO members to deviate from the substantive obligations and allow environmental measures in certain specific circumstances. The third chapter of this paper would define GATT article XX in greater details with special emphasize of the contribution of WTO panel and appellate body in bringing up a paradigm shift from GATT to WTO or from mere historical linkage to reconciliation and development.

Apart from GATT, environmental regulations that include ecolabeling requirements would be subject to WTO agreement on Technical Barriers to Trade (TBT).[42] One of the main TBT rule is that any governmental regulation *'shall not be more trade-restrictive than necessary*

[42] Agreement on Technical Barriers to Trade (16 April 1994).

to fulfil a legitimate objective, taking account of the risks that non-fulfilment would create'.[43] A 'legitimate objective' has been defined to include *'protection of human health or safety, animal or plant life or health, or the environment'*.[44] Another core TBT rule is that when a relevant international standard exists, a government's technical regulation shall use that international standard as a basis for its regulation, unless the standard would be '*an ineffective or inappropriate means for the fulfilment of a legitimate objective'*.[45] Standards are defined broadly and include environmental product standards. Thus TBT agreement can possibly be interpreted to require laggard governments to move up to an internationally environmental product standard.

For certain health-related regulations, TBT rules are supplanted by the Agreement on the application of Sanitary and Phytosanitary Measures (SPS).[46] A measure that falls under SPS agreement is carved out of the TBT Agreement. There are considerable literatures on SPS rules and their relation to bio-safety and precaution.[47] This Agreement contains numerous disciplines on regulations used to protect human, animal or plant life, while it allows enough flexibility and it also ensures higher level of protection within the available means of the protection.[48]

Another Treaty under Annex 1A of WTO multilateral agreements that promotes protection to the environment is, the Agreement on Subsidies and Countervailing Measures (SCM) prohibits subsidies that have specificity and that cause "*adverse effects to the interests*" of WTO member countries.[49] The early exempted certain environmental subsidies that has been expired at the end of 1999, were for assistance to promote environmental protection.

Another area of SCM is the agricultural subsidies that are being governed by the Agreement on Agriculture,[50] and where the preamble of the Agreement suggests that its

[43] TBT Agreement, art 2.2.
[44]Ibid
[45] Ibid, art 2.4
[46] Agreement on The Application of Sanitary and Phytosanitary Measures (15 April 1994) WTO Agreement, Annex 1A [hereinafter SPS Agreement].
[47] Terence P. Stewart & David S. Johanson, 'A Nexus of Trade and the Environment: The Relationship between the Cartagena Protocol on Bio safety and the SPS Agreement of the World Trade Organization' (2003) 14 Colo. J. Int'l Envtl. L. & Pol'y 1
[48] SPS Agreement arts 3.1, 5.5
[49]SCM Agreement art 2.5
[50] WTO Agreement on Agriculture (1994).

commitments have been made with regard to "*the need to protect the environment'*.[51] Most importantly, the Agreement puts environmental subsidies under 'Green-Box' and many agricultural subsidies lead to preserve incentives for production that entail environmental degradation, thus the Agreement promotes the protection of environment within WTO multilateral regime.

III.II. Trade in services

The second aspect of WTO law is trade in services. The General Agreement on Trade in Services (GATS) can have significant environmental consequences. In contrast to the GATT which has two broad general exceptions applicable to the environment, the GATS has only one environmental exception. That exception applies to measures necessary to protect human, animal or plant life or health[52]. Thus, the GATT's environmental exception for conservation of natural resources was purposefully omitted from the GATS.[53]

III.III. TRIPS

This Agreement has introduced a strict legal regime for the intellectual property protection and at the same time it provides some exceptions and qualifications which can be used to foster certain policy goals including the protection of environment, access to public health. TRIPS first recalls that the technological innovations and protection should be in light of dissemination, transfer of technology in a manner conducive to social and economic welfare.[54]

It also recognizes that the rights and obligations of the patent holders need to be balanced, thus admitting the limitations and flexibilities as fundamental to the regime. It has expressly mentioned that member states can take necessary measures to protect public health and to promote public interest to enhance socio, economic and technological development.[55] Patenting

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[51] Ibid, preamble
[52] General Agreement on Trade in Services (15 April 1994) U.N.T.S. 183, 33 I.L.M. 1167 art XIV (b) [hereinafter GATS].
[53] David Waskow, 'Environmental Services Liberalization: A Win-Win or Something Else Entirely?' (2003) 37 (3) *Int'l Law* 777.
[54] Agreement on Trade-Related Aspects of Intellectual Property Rights (15 April 1994) 33 I.L.M. 1197 [hereinafter TRIPS] art 7.
[55]Ibid, art 8

in the field of intellectual property most likely seems to have a significant effect on environment and health quality.

Under TRIPS, governments are required to issue patents in all fields of technology, but mandated to protect public order, morality, including the protection of human, animal or plant life or health to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law.[56]

It is obvious from the text of article 30, that the Agreement in one side it urges to avoid unreasonably prejudicing the interests of the patent owners and simultaneously it takes into account the legitimate interests of the third parties. TRIPs has provided different other flexibilities which pave the way to maintain different other international interests of the member states.[57] The Panel Report in *Canada-Patent Protection for Pharmaceutical Products* relating to the so called Bolar exception is extremely important in clarifying flexibilities provided under article 7 and 8 of TRIPS. The panel concluded that in interpreting any provisions the objectives and principles must be born in the mind.[58] Thus TRIPS Agreement as part of WTO multilateral agreements enhances the protection of the environment under numerous provisions.

From the above mentioned discussion it is clear that the establishment of WTO developed treaty provisions to safeguard environment within WTO law. In justifying the measure of environmental protection arose from non-WTO obligations, the compliance with WTO law is essential because WTO law does not allow violation of WTO law as a justification to comply with non-WTO obligations.[59] To illustrate it further, Article 3.2, 7 and 11 of the

[56] TRIPS art 27.2 (exclusion is also possible for animals other than micro-organisms, as provided for in the complex rule laid out in TRIPS art 27.3); see also the Convention on Biological Diversity art 16.5 (regarding intellectual property rights)

[57] K M Gopa Kumar, 'TRIPs Implementation and Public Health Safeguards' (2005) *South Asian Yearbook of Trade and Development* 239.

[58] WTO, Panel Report, *Canada-Patent Protection for Pharmaceutical products*, WTO Doc WT/DS114/R, (17 March 2000) para 7.2.

[59] Wolfgang Weiss, 'Security and Predictability under WTO Law' 2 *WTR* (2003) 217.

Dispute Settlement Understanding (DSU) limit the applicable law before panels and appellate body to the agreements covered by the DSU.[60]

The applicable law is specific and which includes solely the WTO covered agreements listed in Appendix 1 of DSU. At the same time, Article 3.2 DSU Agreement states that the dispute settlement system serves to clarify the provisions of the WTO covered agreements (see Art 1.1 of DSU) in accordance with the customary rules of interpretation of public international law,[61] and these covered agreements have to be interpreted in accordance with the rules on treaty interpretation.[62] To put it in another way, only DSB of WTO has discretions to interpret WTO treaties to accommodate environmental policy measures. The next part of this paper would look at the approach of the WTO panel and appellate body in interpreting WTO laws fall under above mentioned covered agreements to promote non-WTO goal i.e. environmental protection and thereby it outlines that the well thought out views of DSB has developed consistent interpretation of WTO treaty provisions to reconcile between free trade and environmental protection.

IV. THE CONTRIBUTION OF DSB TO PROMOTE ENVIRONMENTAL PROTECTION

After the establishment of WTO, the DSB contributed a lot to the protection of the environment. The panel and appellate body of the DSB interpreted many provisions of the WTO in harmonization with the international environmental law. The well thought out appellate body decisions inspired confidence in the adjudication process and also convinced many environmentalists that proper environmental measures can be taken up by the WTO regime. Generally article I, III and IX[63] of the GATT talks about the core obligations of the WTO regarding the liberalization of the trade, where on the other side article XX lays down some exceptions derived from some non-trade issues[64].

[60]Understanding on Rules and Procedures Governing the Settlement of Disputes (15 April 1994) U.N.T.S. 401, 33 I.L.M. 1226, (hereafter DSU) articles 3.2, 7 and 11.See also Lorand Bartels, 'Applicable law in WTO Dispute Settlement Proceeding' 35(3) *J. of World Trade* (2001) 499.
[61] Wolfgang Weiss (n 59) at 184
[62]Joost Pauwelyn, The Role of Public International law in the WTO: How Far can we Go' 95 *AJIL* (2001) 538, 542
[63] GATT art XI (general elimination of quantitative restrictions).
[64] B S Chimni, 'WTO and Environment Shrimp Turtle case and EC Hormones case' (May 2000) 35 *Economic and Political Weekly* 176.

Out of ten exceptions under article XX of GATT, two deals indirectly with the protection of environment. During GATT (1948–94), six panel proceeding involving an examination of environmental measures or human health-related measures under GATT Article XX were completed,[65] and three cases in this period were not adopted. In 1995, the WTO dispute settlement procedure took over from GATT. Since then, almost a dozen of such proceedings have been completed. DSB of WTO has disregarded the narrow interpretation of article XX promulgated by GATT panel and it went ahead drawing a broader interpretation of article XX to balance between substantive obligations of GATT and the non-trade environmental exception.[66] The first case ever came before WTO confirmed that trade does not trump over societal considerations, rather a balance has to be found applying a two tier test.[67] The present section explicates the contribution of WTO dispute settlement body to enhance environmental protection under article XX of GATT, provided that article XX provides considerable difference to member states to take measures to protect environment in harmonization with free trade mandate of WTO law.

IV.I. GATT Article XX (b)

Article XX (b) of GATT provides for: *'nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures: ..(b) necessary to protect human, animal or plant life or health'*. It covers measures designed to protect public health policy as environmental policy.[68] Only three environmental cases under this article have been fully adjudicated at the WTO and these are *US-Gasoline*, *EC-Asbestos* and *Brazil-Retreated*

[65] The list of the cases under GATT regime related to trade and environment: ***United States — Taxes on Automobiles***, ruling not adopted, circulated on 11 October 1994, case brought by EU; ***United States — Restrictions on Imports of Tuna***, sale of tuna Dolphin, ruling not adopted, circulated on 16 June 1994, Case brought by EU; ***United States — Restrictions on Imports of Tuna***, the tuna-dolphin case, ruling not adopted, circulated on 3 September 1991, Case brought by Mexico; ***Thailand — Restrictions on the Importation of and Internal Taxes on Cigarettes***, ruling adopted on 7 November 1990, Case brought by US; ***Canada — Measures Affecting Exports of Unprocessed Herring and Salmon***, ruling adopted on 22 March 1988, Case brought by US; ***United States — Prohibition of Imports of Tuna and Tuna Products from Canada***, ruling adopted on 22 February 1982, case brought by Canada <http://www.wto.org/english/tratop_e/envir_e/edis00_e.htm> accessed 10 December 2014.

[66] WTO, Panel Report, *United States- Standards for Reformulated and Conventional Gasoline* WTO Doc WT/DS2/R (29 January 1996) at 16-17; GATT Panel interpreted narrowly, see *US Tuna* Dispute, *Supra* note, 21 at para 5.22.

[67] Ibid, *US- Gasoline* at 22 (two tests: the measure must be covered by one of the exceptions and it must comply with the provisions of the *chapeau* of Article XX).

[68] Peter van Den Bossche and Werner Zdouc, *The Law and Policy of the World Trade Organization: Text, Cases and Materials* (Cambridge: Cambridge University Press 2013) 555.

Tyres. Apart from these two disputes, in *EC-Tariff Preferences,* and *China-Rare Earth,* the defendant states sought to justify their measure under Article XX (b) and the panel dismissed their argument for the non-fulfilment of first level test. It sets out a two-tier test; first, whether the policy objective more specifically environmental protection pursued by the measure falls under article XX (b) and second whether the measure is necessary to fulfil that policy objective.[69]

The first element test is relatively easy compare to the second level necessity test. It is evident from the first case of WTO which was *US-Gasoline*. In this case the measure at issue was a US domestic law that required certain gasoline to be cleaner-burning, so as to reduce motor vehicle emissions. The law had been found to violate GATT article III: 4 based on its different treatment of foreign and domestic products in terms of methodology for determining the quality of the gasoline at issue. The US offered several defences under article XX, one of which was under article XX (b). The panel accepted the US argument that air pollution presents health risks to humans, animals and plants and half of air pollution is caused by vehicle emissions and the measure was within the range of policy goals described in article XX (b).[70]

In *China-Raw materials,* China sought to justify the export ban on certain raw materials at issue in this case that these export restrictions were part of comprehensive environmental protection whose objectives are pollution reduction for the protection of health of the Chinese population.[71] The respondent in this case, the European Union, The United States and Mexico argued that China's export restrictions were not designed to address the health risks associated with environmental pollution rather it was merely a *post hoc* rationalization developed solely for purposes of this dispute.[72] The panel found that China was unable to substantiate that the export restrictions at issue were part of policy objective under article XX (b).[73]

[69] Panel Report, US-Gasoline para 6.20; for more recent application of this test see WTO, Panel Report, *China-Measures Relating to the Expropriation of Various Raw Materials*, WTO Doc WT/DS394/R, (5 July, 2011) paras. 7.479-7.780.
[70] Panel report, *US-Gasoline* (n 66) para 6.21
[71] Panel Report, *China-Raw Materials* (n 69) para 7.498
[72] Ibid, para 7.499
[73] Ibid para 7.516

The determination of second level necessary test is complicated and most of the time it is confusing. The interpretation and application of the necessity requirement has evolved considerably over the years and this standard is to be judged in every case through the process of weighing and balancing a series of factors.[74] Some hints have been given in *US-Gambling* Case, which includes the common interests or value of the measures, the importance of the measure in realizing the ends and its impact on international commerce.[75] It is the burden of the defending government to put forward evidences to enable a panel to reach a decision.[76] The defending government does not have to show that the measure is better than all alternatives.[77] It is necessary only when the complaining government points to an alternative measure which the defending government could have taken, then the defending government would have to prove why the alternative measure is not reasonably available.[78]

To understand the test of necessity under article XX (b), it is important to consider the findings of panel and appellate body in *EC-Asbestos*. In this case, the measure at issue was the French law prohibiting the import of chrysotile asbestos fibres and product containing this kind asbestos. Canada alleged among other few things that the measure of French violated GATT Article III and XI due to import ban. The EC put forward defence under Article XX (b) and (d). In considering the defence of EC the Appellate Body examined the necessity test in consideration with the probability of the reasonably available alternatives.[79]

The panel first found the measure of French falls under Article XX (b) and it also found that the measure was necessary under Article XX. Canada challenged the findings of panel alleging that the panel erred in applying necessity test as control use could reasonably be

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[74] WTO, Appellate Body Report, *Korea-Measures Affecting Imports of Fresh, Chilled and Frozen Beef* , WTO Doc WT/DS161/AB/R, WT/DS169/AB/R (10 January 2001) para 164.
[75] WTO, Appellate Body Report, *United States-Measures Affecting the Cross-Border Supply of Gambling and Betting Service* WTO Doc WT/DS285/AB/R, (20 April 2005) para 306.
[76] Ibid, paras 309,310,323
[77] Ibid, para 320
[78] Ibid, para 311
[79] WTO, Appellate Body Report, *European Communities-Measures Affecting Asbestos and Asbestos Containing Products*, WTO Doc WT/DS135/AB/R (5 April 2001) paras164-175 [hereafter *EC-Asbestos*].

available. Canada put forward four arguments in establishing that the panel erred in finding necessity test.[80] The Appellate Body dismissed Canada's contentions[81] and stated that:

> *'We uphold the Panel's finding, in paragraph 8.222 of the Panel Report, that the European Community has demonstrated a prima facie case that there was no "reasonably available alternative" to the prohibition inherent in the Decree. As a result, we also uphold the Panel's conclusion, in paragraph 8.223 of the Panel Report, that the Decree is "necessary to protect human ... life or health" within the meaning of Article XX (b) of the GATT 1994.'*[82]

The Appellate Body concluded that the measures taken by the France were necessary in relation to the objectives pursued based on the scientific evidence put forward by parties, the comments of the experts consulted and the findings of the international bodies such as World Health Organization and the International Agency for Research on Cancer.[83] The appellate body has not clarified what exactly would constitute a qualified and respected opinion.

However this approach appears to give countries a significant degree of flexibility which would offer a wider scope for implementing environmental measures.[84] In this case, the appellate body stated that the WTO Member States have the undisputed right to determine the level of protection for health as they consider appropriate at a given situation.[85] Robert Howse and Elisabeth proposed that the right of the determination of the level of protection is subject to the

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[80] Ibid, para 165, the four grounds are presented by Canada before the Appellate Body were as follows: firstly, the panel erred in finding scientific evidences before it; secondly, the panel simply relied on the hypothesis of the French authorities without quantifying risk by itself; thirdly, the premise is false because the panel does not take into account the risk associated with the use of substitute products without a framework for controlled use; fourthly, it erred in finding that controlled use is not reasonably available alternative to the Degree.

[81] ibid, paras 166, 167, 168 and 169

[82] ibid, para 175, in justifying necessary test the Appellate Body also referred the finding of three other cases: the Panel Report of the *Thailand- Restrictions on Importation of and Internal taxes on Cigarettes* GATT Doc DS10/R-37S/200 (7 November 1990); Appellate Body Report, *Korea – Measures Affecting Imports Of Fresh, Chilled and Frozen Beef* WTO Doc WT/DS161/AB/R (11 December 2000); Panel Report, *United States-Section 337 of the Tariff Act 1930* GATT Doc L/6439-36S/345 (7 November 1989).

[83] Appellate Body, *EC Asbestos* (n 79) para167

[84] Andrew Grenn and Tracey Epps, 'The WTO Science and The Environment: Moving towards Consistency' (2007) 10 *JIEL* 296.

[85] Ibid, para 177

consideration of proportionality.[86] Reviewing the panel decision the appellate body agreed with the panel's findings on the protection of the environment.[87] It is clear from the findings of appellate body in *EC-Asbestos* case that article XX (b) of GATT provides considerable difference to member states to justify non-trade policy goals subject to the satisfaction of some requirements developed by WTO jurisprudence.

Another most important case under article XX (b) is *Brazil-Retreated Tyres* case, where both panel and appellate body contributed to the development of WTO jurisprudence in favour of reconciliation of environmental protection with trade liberalization. The measure challenged here was an import ban on retreated and used tyres. The European Communities argued that the import ban was a quantitative restriction in violation of GATT article XI: I. Brazil defended the import ban under article XX (b) that the import will be a direct threat to biodiversity, environment and the human health.

Brazil submitted with regard to its import ban on retreated tyres that: *'the accumulation of waste creates a risk of mosquito-borne diseases such as dengue and yellow fever... mosquito borne disease also poses risks not only to humans but also to animals and plant life'*.[88] The panel accepted Brazil's arguments and concluded that: '*Brazils policy of reducing exposure to the risks to human, animal or plant life or health arising from the accumulation of waste tyres falls within the range of policies covered by article XX (b)*'.[89] It is clear from the language of the panel that the objective pursued is also the protection of animal and plant life and health. The Panel acknowledges that the preservation of animal and plant life and health, which constitutes an essential part of the protection of environment, is an important value, recognized in the WTO Agreement.[90]

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[86] Robert Howse and Elisabeth Turk, 'The WTO Impact on International Regulation in George A. Bermann and Petros C. Mavroidis (eds), *Trade and Human Health and Safety* (Cambridge: Cambridge University Press 2006) 113
[87] WTO, *United States: Standards for Reformulated and Conventional Gasoline- Appellate Body Report* (20 May 1996) WT/DS2/9 para 151.

[88] WTO, Panel Report, *Brazil-Measures Affecting Imports Of Retreaded Tyres*, WTO Doc WT/DS332/R, (12 June 2007) paras 7.53 and 7.83.
[89] Ibid para 7.102
[90] Ibid, para 7.112

IV.II. Article XX (g)

Article XX (g) of GATT provides for: *'nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures: ..(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption'*. Like article XX (b), it addresses measures that depart from core rules for environmental protection purposes. Three issues have to be addressed to invoke a measure under this clause, firstly, whether the measure at issue is concerned with the conservation of exhaustible natural resources, secondly, whether it relates to conservation and lastly, whether the measure is made effective in conjunction with restrictions on domestic production consumption?

In *US-Shrimp* case, the measure at issue was the US law prohibiting the import of sea turtle from the countries not using TEDs (turtle excluder devices) to safeguard sea turtles was challenged on the ground that the turtles are not an exhaustible natural resource. The Appellate Body proclaimed that these words must be read by a treaty interpreter in the light of contemporary concerns of the community of nations about the protection and conservation of environment, it said again that the definition of natural resource is not static rather it is evolutionary.[91] The AB concluded on the scope of the concept of exhaustible natural resources that measures to conserve exhaustible natural resources, whether living or non-living may fall under article XX (g).[92]

Most importantly, the Appellate Body further pointed out a number of sources that promotes the protection of environment including the mention of sustainable development and the environment in the WTO's preamble, the UN Convention on the law of the sea, the Convention on biological diversity, Agenda 21 and the Resolution of Assistance to the Developing Countries adopted in conjunction with the Convention of Migratory Species of Wild Animals.[93] The appellate body did not clarify whether these are considered as a source of law or not? It is clear from article 3.2, 7.2 of the DSU that these can be considered only as a tool of interpreting the WTO Agreements. The Appellate Body concluded that, *'it is too late in the day*

[91]Appellate Body, *US-Shrimp* paras 129-30
[92] Ibid.
[93] Ibid, para 131

to suppose that Article XX (g) of the GATT 1994 may be read as referring only to the conservation of exhaustible mineral or other non-living natural resources.'[94]

Another important approach further articulated in the *US Shrimp* case relates to the relationship between the general structure of the measure and the conservation policy goal. Regarding the US import ban on Shrimp the Appellate Body examined that the means were reasonably related to the ends.[95] As already mentioned above, in *US Gasoline*, the measure at issue was the US clean air regulation to reduce harmful vehicle emissions. The specific goal was to improve air quality in the most polluted urban areas of the country.

Two WTO members claimed that the measure treated imported gasoline products less favourably than domestic products. The US first justified the measure under article XX (b), the panel found that measure satisfied the first level test,[96] but failed to satisfy the necessity requirement under article XX (b).[97] US also took defence under article XX (g), and the question before panel was whether US measure of clean air regulation can be exempted from the WTO principles of national treatment or not under article XX (g) exception.

The Panel then examined whether clean air could be considered as an exhaustible natural resource. In the view of the Panel: '*clean air was a resource (it had value) and it was natural and could be depleted. The fact that the depleted resource was defined with respect to its qualities was not decisive for the Panel. Likewise, the fact that a resource was renewable could not be an objection. A past panel had accepted that renewable stocks of salmon could constitute an exhaustible natural resource. Accordingly, the Panel found that a policy to reduce the depletion of clean air was a policy to conserve a natural resource within the meaning of Article XX (g)'*.[98] This finding was not appealed.

With regard to the 'relating to' element, the panel examined whether the *discriminatory aspect of the measure* was related to the conservation of exhaustible natural resources. The AB rejected this approach and stated that the 'measure itself as a whole' must be examined for its

[94] Ibid, para 131
[95] Ibid, paras 136-37
[96] Panel Report, *US-Gasoline* (n 66) para 6.21
[97] Panel Report, *US-Gasoline* (n 66) paras 6.24-25
[98] Ibid, para 6.37

relationship to the policy goals. Applying this approach, the AB considered whether the measure was primarily aimed at the conservation of natural resources for the purpose of article XX (g) and it answered this question in the affirmative.[99]

The finding of the AB in this aspect seems to provide member states huge discretions to take measures as whole related to environmental concerns. It is important to mention that even after the satisfaction of all requirements under article XX (b) or XX (g), still the measure at issue to protect or conserve environment is subject to the fulfilment of *chapeau* requirement. This is mainly to check the protectionist approach of WTO member states.

IV.III. The Chapeau:

Once a measure is determined to fall within Article XX (b) or XX (g), the analysis turns to the *chapeau* which talks about the manner in which a measure is applied, rather than how the measure is designed.[100] Specifically it, it asks whether the measure in question serves as a method of arbitrary or unjustifiable discrimination between the countries or it leads to a disguised restriction to international trade. The appellate body in *US-Gasoline* case assigned to the culprit government the burden of proof for the *chapeau*.[101] To elucidate *Chapeau* clause the appellate body once again sought guidance from the preamble of the WTO Agreement and also considered the Uruguay Round Decision on Trade and Environment.[102]

More importantly, the Appellate Body in the above mentioned case proclaimed that, under the *chapeau* it could seek additional interpretative guidance as appropriate from the general principles of international law.[103] Further it added that general principles of international law need to be exercised reasonably.[104] In *US Gasoline* Case, it has been decided that Article XX

[99]Appellate body report, *United States-Standards for Reformulated and Conventional Gasoline,* WTO Doc WT/DS332/AB/R, (3 December 2007) 16, 19.
[100] Ibid, at 22
[101] Ibid, at 22-23
[102] Appellate Body, *US-Shrimp* (n 40) paras 152-155
[103]Ibid para 158
[104]Ibid para 158

must need to be applied reasonably balancing the legal duty of the regulating state and the legal right of other relevant parties.[105]

Now the question is what does constitute arbitrary discrimination and disguised restriction as defined in the *chapeau* of auricle XX. In US Shrimp case the appellate body explained that arbitrary discrimination can occur when a defendant government asks the certification of an exporting country without giving that country the formal opportunity to be heard. It creates arbitrary discrimination because it treats certified and uncertified country differently. An important ban can constitute arbitrary discrimination when it applies a rigid and unbending standard that ignores the consideration of different circumstances of the exporting countries.[106]

Secondly, unjustifiable discrimination derives when the importing county takes some measures which allows different sorts of mechanism for different countries. The Body exemplified it as US created unjustifiable discrimination allowing four years flexibility time for a group of countries and adversely four moths time period for the complaining states.[107] Another instance has been given when US regulators negotiated cooperative agreements on sea turtle conservation with some countries and did not attempt to do so with the complaining countries.[108]

Thirdly, unjustifiable discrimination occurred when US regulators paid less effort to technology transfer to the complaining countries than to some other countries.[109] The Appellate Body recommended the imposition of safeguards based on this article which require flexibility, transparency and predictability.[110] So the measures to protect environment under Article XX can be taken unless it contradicts with the different test promulgated by the WTO jurisprudence.

[105]Appellate Body, *US-Gasoline* (n 99) at 22
[106] Appellate Body, *US-Shrimp* (n 40) paras 165, 176
[107]Ibid, paras 173, 74
[108] Ibid, paras 167, 171,172
[109]Ibid, para 175
[110] Ibid, paras 177-179

V. A NEW PARADIGM OF PROGRESS AND RECONCILIATION

Since the beginning of the 1920s the linkage between trade and environment has attracted attention at the international level. The progress of reconciliation has been furthered notably after the creation of the WTO. WTO Treaty series contributed a lot to give protection to the environment. The commitment of the WTO members in its different ministerial conferences also promoted the safeguard to the environment. The DSB has brought up significant supplementations to progress the reconciliation of trade and environment. Under the GATT regime in three cases (Superfund, Tuna 1 and Tuna II case), it was decided that international law outside the GATT was not relevant to the GATT panel, and the panel struggled with the application of GATT article XX to protect environment and developed inconsistent interpretations.[111]

The previous phases before the establishment of WTO were largely confined within trade and environmental linkage debate, whereas these two were subject matter of two distinct international legal regimes. The establishment of WTO, the adoption of binding multilateral agreements, the creation of DSB and more particularly the consistent progressive interpretation developed by AB contributed towards shifting the previous restrictive regime into a progressive regime reconciling trade and environmental concerns within WTO regime. Presently the approach has been completely changed; here the appropriate proposition would be the paradigm has been shifted.

In interpreting Article XX of GATT, WTO Appellate Body cast aside some of the GATT and early WTO panel holdings, which threaten the environmental exceptions unusable with the ostensible intention of saving the trading system.[112] It is highly unlikely that the appellate body would depart from the emerging attitude of its jurisprudence because DSB maintains a standing body of seven judges unlike the *ad hoc* panel body.[113]Steve Charnovitz in 1992 mentioned that a series of panels fabricated illogical reasons as to why Article XX could not be used to safeguard

[111] Wenwei Guan, 'How General Should the GATT General Exceptions Be?: A Critique of the Common Intention Approach of Treaty Interpretation' 48(2) *J. of World Trade* (2014) 221.
[112] S. Charnovitz (n 34) at 695
[113] Wolfgang Weiss (n 59) at 191

environment.[114] At the same time by reversing *US-Gasoline*, *US-Shrimp* and *EC-Asbestos* panels, the appellate body not only corrected errant holdings but also sent a signal to the public that the era of runaway panels on environmental matters was over.[115]

One reason why WTO became the focal point of environmental regulation given by Hakan Nordstrom and Scott Vaughan is that, the WTO has an integrated adjudication mechanism backed by trade sanctions as the ultimate enforcement tool.[116] The WTO is using the trade sanctions to enforce compliance mechanism with WTO obligations and which has changed the traditional view of rebalancing concessions.[117] Edith Brown Weiss in an essay on 'international compliance processes' distinguishes three strategies for encouraging countries to comply with international environmental agreements: transparency method, positive incentives and coercive measures.[118]

A new paradigm of reconciliation between trade and environment has started notably only after the creation of WTO. The gate of WTO seems to be open to other branches of international law. Art 3.2 of the DSU states that dispute settlement system serves to clarify the provisions of WTO agreements in accordance with the customary rules of interpretation of public international law. Panels and Appellate Body [119] in many cases cited arts 31, 32 and 33 of Vienna Convention as a customary norm and which is relevant in WTO treaty interpretation.[120]

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[114] Steve Charnovitz, 'GATT and the Environment: Examining the Issues' (1992) 4 *Int'l Environmental Affairs* 211 [pointing out that increasingly stringent tests are being created by panels on an *ad hoc* basis].

[115] H. Jackson (n 39) at 29-43

[116] Hakan Nordstrom and Scott Vaughan, 'Trade and Environment' 4 *WTO Special Studies Centre* (1999) 57.

[117] Steven Charnovitz, 'Rethinking WTO Trade Sanctions' 68 *AJIL* (2001) 831.

[118] Edith Brown Weiss, 'Strengthening National Compliance with Trade Law: Insights from Environment' in *New Directions of International Economic Law: Essay in honour of John H. Jackson* (Marco Bronckers & Reinhard Quick edn 2000) 457.

[119] Regarding the use of art 31 of VCLT see Appellate Body, *US-Gasoline* (n 99) at 67; Appellate Body Report, *Japan-Taxes on Alcoholic Beverages*, WTO Doc. WT/DS8/AB/R WT/DS10/AB/R, WT/DS11/AB/R, at 11–12; Appellate Body Report, *Argentina-Measures Affecting Imports of Footwear, Textiles, Apparel and Other Items*, WTO Doc. WT/DS56/AB/R, paras 42, 47. Panel Report: *US – Section 301–310 of the Trade Act of 1974* para 7.22. Regarding art 32 of Vienna Convention see Appellate Body Report *EC – Measures Affecting the Importation of Certain Poultry Products*, WTO Doc. WT/DS69/AB/R, para 83.
Regarding the use of Art 33 of Vienna Convention see Panel Report, *US – Section 110(5) of the US Copyright Act*, WTO Doc. WT/DS160/R para 6.229. For a detailed analysis of the interpretation of WTO Law in the light of Arts. 31–33 of the Vienna Convention, see Lennard, 'Navigating by the Stars: Interpreting the WTO Agreements' (2002) *JIEL* 17.

[120] Wolfgan Weiss (n 59) at 185

Though GATT regime before the establishment of WTO was being considered as a self-contained regime and it is not anymore true in the WTO regime.[121] The appellate body in its first decision addressed that, GATT is not to be read in clinical isolation from public international law.[122] One of the most interesting features of WTO jurisprudence has been the way the Appellate Body and panels are restoring to other treaties, customary international law, international decisions and arbitral judgements and the writings of publicists in order to render trade decisions.[123]

VI. CONCLUSION

From the above discussion it is clear that WTO is no more a self-contained regime, rather it tries to reconcile between trade and non-trade goals. The drafter of the WTO Agreement embraced sustainable development and environment as a common goal in its preamble. Different other multilateral agreements contain the provisions which directly or indirectly relates with the protection of environment. The emerging case laws of WTO brought new trends in the interface of trade and environment. Some authors acknowledged the present paradigm as of WTO as an environmental agency arguing that the traditional linkage policy would undermine the reconciliation of environment and trade objectives.[124]

S Charnovitz further argued that, *'Instead of viewing trade and environment as substitutes, the WTO should view them as complements; the new consciousness should be that environment and sustainable development are part of the purpose of the WTO, not just a rhetorical adornment'*.[125] WTO Formal Director-General Pascal Lamy stated this well in his speech: '*We must remember that sustainable development is itself the end-goal of this institution.*'[126]He went on to say that accompanying social and environmental policies can no

[121]S. Charnovitz (n 117) at 793
[122]Appellate Body, *US-Gasoline* (n 99) at 17
[123] David Palmeter and Petros C, Mavroidis, 'The WTO Legal System : Sources of Law' 92 *AJIL* (1998) 398.
[124] S. Charnovitz, (n 15) at 40
[125] Ibid.
[126] Pascal Lamy, 'Trade Can Be a Friend, and Not a Foe, of Conservation' (Address to, WTO symposium on Trade and sustainable Development within the framework of paragraph 51 of the Doha Ministerial Declaration, 10-11 October 2005) <http://www.wto.org/english/news_e/sppl_e/sppl07_e.htm> accessed 28 December 2014.

longer be looked at by the WTO as the responsibility of other organizations; the WTO is responsible for them too.[127]

This paper has endeavored to show that WTO has given greater latitude to members to restrict free trade for environmental concerns. At the question of interface between trade and environment, the reconciliation of these two areas in order to elicit green investments and green production is only possible within WTO regime.[128] Though the applicable law in WTO is limited by covered Agreements, still the consistent treaty interpretation developed by DSB contributes toward reconciling environmental concerns within WTO regime itself. The jurisprudence of WTO hints that, the organization is moving towards serving as a trade as well as an environmental agency. The ruling of the appellate body indicates that WTO is moving ahead to be a pro environmental organization, though yet now it works poorly. Fundamental shift in approach may come in future, but till now it has been settled that, WTO jurisprudence promotes a new paradigm of reconciliation and development between trade and environment.

[127] Ibid.

[128] Raymond Saner, 'Greening WTO Agreement to Stop Climate Warming' *CSEND Policy Study No. 2 ISSN 2296-472X* Geneva (2013) <www.wto.org/english/forums_e/ngo_e/CSEND_greening_wto_agreements_study.pdf> accessed 20 December 2014.

REFORMING THE LIABILITY REGIME FOR AIR POLLUTION IN INDIA

- ***Shibani Ghosh****

ABSTRACT

The recent uproar about the toxic levels of pollution in the country's national capital region has once again brought to fore the failure of the regulatory and legal mechanisms in India to control air pollution. According to a World Health Organisation study released in 2014, 13 of the top 20 cities world-wide with the worst quality of air are Indian cities.[1] For decades now the worsening quality of air across the country has been a cause for serious concern; yet the Central and State governments have not been able to contain it. In fact in many ways, governments have not only condoned instances of aggravated pollution, but have also actively permitted pollution to rapidly increase by granting approvals to polluting industries, not taking measures to effectively control vehicular and industrial pollution, and by practically ignoring significant sources of pollution like building construction and diesel generators.

Legislative acknowledgement of the problem of air pollution, and the need to tackle it, came more than three decades ago when the Air (Prevention and Control of Pollution) Act 1981 ['the Air Act'] was passed by the Parliament. But this early acknowledgment of the problem, and regulatory mechanisms set up consequently, have not been able to restrict the sharp upward trajectory of air provisions – encapsulating both criminal liability under the Air Act, the Indian Penal Code ['IPC'] and the Code of Criminal Procedure ['CrPC'] as well as civil liability under the National Green Tribunal Act 2010 ['the NGT Act'] and the Code of Civil Procedure ['CPC']. It does not, however, discuss the rights-based jurisprudence that has evolved from judgments of the Supreme Court and the High Courts (arising primarily under their writ jurisdiction) recognising a right to pollution free air.[2] A writ remedy is a constitutional remedy and available notwithstanding statutory limitations. It is however a

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1 World Health Organisation, *Ambient (outdoor) air pollution in cities database 2014*, available at http://www.who.int/phe/health_topics/outdoorair/databases/cities/en/ (last visited 16 June 2015).

2 *See* Subhash Kumar v. State of Bihar (1991) 1 SCC 420; followed in M.C. Mehta v. Union of India (*Aravalli Mining case*) (2004) 12 SCC 118.

discretionary remedy, and courts are generally reluctant to entertain cases if alternative efficacious remedies are available under other statutory provisions.

The essay is divided into three parts. The first part discusses the relevant provisions of the law pertaining to liability for causing air pollution. The second part identifies three critical issues that have emerged in the current liability regime. The third and final part proposes a way forward.

I. THE LEGAL REGIME

As the Preamble to the Air Act states, the law was passed to implement the decisions taken at the UN Conference on the Human Environment 1972[1] in which India participated.[2] During the Conference it was decided, *inter alia*, that countries would take appropriate measures to preserve the natural environment, including the quality of air, and control of air pollution.[3] The Air Act delineates various functions of the Central Pollution Control Board ['CPCB'][4] and the State Pollution Control Boards ['SPCBs'].[5] These functions include advising the Central and State Governments (respectively) on matters concerning prevention, control or abatement of air pollution, planning and executing programs for prevention, control or abatement of air pollution, and laying down standards for quality of air.

It is important to mention here that standards for vehicular emissions are proposed and decided by inter-governmental committees (with participation of industry groups) headed by the Joint Secretary, Ministry of Road Transport and Highways ['MoRTH'].[6] As the MoRTH is responsible for the implementation of the Motor Vehicles Act 1989 under which these standards are issued and enforced, the CPCB and SPCBs along with the Ministry of Environment, Forests and Climate Change have only a minor role to play with regard to regulation of vehicular emissions.

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[1] Declaration of the United Nations Conference on the Human Environment, 5-16 June 1972, UN Doc. A/Conf.48/14/rev1.
[2] Air (Prevention and Control of Pollution) Act 1981 ['the Air Act'], preamble.
[3] *Id*.
[4] The Air Act, s. 16.
[5] The Air Act, s. 17.
[6] See, Gaurav Bansal and Anup Bandivadekar, OVERVIEW OF INDIA'S VEHICLE EMISSIONS CONTROL PROGRAM: PAST SUCCESSES AND FUTURE PROSPECTS 35 (International Council on Clean Transportation 2013).

According to Section 21 of the Air Act, an industrial plant[7] cannot be setup without the prior consent of the SPCB to establish or operate such a plant. These consents are referred to as Consent to Establish ['CTE'] and Consent to Operate ['CTO']. Similar consents are required under the Water (Prevention and Control of Pollution) Act 1984 ['the Water Act'].[8] An industrial plant has to obtain a CTE before construction work/ establishing the industrial plant. Once the plant is established along with the pollution control systems as required in the CTE, it may apply for a CTO before commencing operation.[9] The State Government has the power to prescribe the application process, including the application fees and the particulars required.[10] While considering an application for consent, the SPCB can undertake such inquiry as it deems fit, and follow the procedure prescribed by the State Government.[11]

The SPCB is required to decide on an application within four months, and issue an order in writing with reasons.[12] It may refuse to grant the consent, or grant it with conditions (including specifications for equipment particularly pollution control equipment).[13] Consents are granted for a limited time period and after the expiry of such time period, the same has to be renewed. The SPCB may cancel a consent before the time period expires or refuse to renew the consent if it is found that the conditions laid down in the consent have not been complied with.[14] The SPCB may also revise the conditions in a consent in case there is technological improvement or otherwise.[15] However, in such situations the person concerned has to be given a reasonable opportunity to be heard before the SPCB decides.[16]

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[7] See, The Air Act, s. 2(k). See, Delhi Pollution Control Committee v. Splendor Landbase Limited, LPA 895/2010, Judgment of the High Court of Delhi dated 23 January 2012. The High Court considered the definition of an 'industrial plant'. It held that 'the inevitable conclusion has to be that prior consent under the Air Act would be needed where a building is proposed to be constructed wherefrom trade would be carried on and since from a shopping mall and from a commercial shopping complex trade is carried on, we hold that prior consent under the Air Act would be required'.

[8] The Water (Prevention and Control of Pollution) Act 1984 ['the Water Act'], s. 25.

[9] See, Himachal Pradesh State Pollution Control Board, Office Procedure Manual, 6-7, available at http://hppcb.nic.in/OfficeManual.pdf (last visited: 16 June 2015).

[10] The Air Act, s. 54(2)(l).

[11] The Air Act, s. 54(2)(m).

[12] The Air Act, s. 21(4). Interestingly, the consent granting provision under the Water Act includes a deeming provision that the Air Act does not have. Section 25(7) of the Water Act, states that a consent will be deemed to be given after the expiration of four months in case the SPCB has not decided the consent application.

[13] *Id*.

[14] The Air Act, s. 21(4), first proviso.

[15] The Air Act, s. 21(6).

[16] The Air Act, s. 21(4), first proviso and s. 21(6).

Any person aggrieved by an order issued by the SPCB can challenge the same before an Appellate Authority constituted by the State Government.[17] In accordance with a 1999 order of the Supreme Court, Appellate Authorities have to be headed by a High Court judge (sitting or retired), and a group of scientists of high ranking and experience to help in the adjudication of disputes relating to environment and pollution. [18] 'Person aggrieved' has been interpreted to include not only persons who may have applied for the consent, and who want to challenge the rejection of the consent application or the conditions included in the consent, as the case maybe, but also persons who would be affected by the industrial plant being granted consent, such as, persons likely to be affected by the emissions from the industrial plant.[19] Matters that are appealable before an Appellate Authority constituted under this Act cannot be filed before any civil court.[20] A decision or order of the Appellate Authority may be appealed against before the National Green Tribunal.[21]

The Air Act supports a command-and-control form of regulation with criminal sanctions. Section 22 of the Act prohibits industries from emitting any air pollutant in excess of standards laid down by the SPCB in exercise of its powers under Section 17(1)(g). SPCB can approach a court (not lower than Metropolitan Magistrate or a Judicial Magistrate of the first class) for restraining any person who is likely to cause air pollution.[22] The Act also empowers the SPCBs to obtain information about emissions from industrial plants, enter and inspect premises, take samples of emissions and send for analysis.[23]

In case emissions in excess of the permissible standards have occurred or are likely to occur due to an unforeseen incident, the person in charge of the premises has been placed under an obligation to inform the SPCB immediately.[24] Any remedial measures undertaken

[17] The Air Act, s. 31.
[18] A.P. Pollution Control Board v. Prof. MV Nayudu (1999) 2 SCC 718, para 48; see also, Puducherry Environment Protection Association v The Union of India, WP No. 19496/2013, Judgment of the High Court of Madras dated 11 April 2014.
[19] See Gujarat Pollution Control Board v. Parmar Devusinh Shersinh, Special Civil Application No. 11/1989, Judgment of the High Court of Gujarat dated 5 May 2000, in the context of analogous appeals under the Water Act. See also, Vimal Bhai & Others v. Ministry of Environment and Forests & Others, Appeal No. 5/2011, Order of the National Green Tribunal dated 14 December 2011.
[20] The Air Act, s. 46.
[21] The National Green Tribunal Act ['the NGT Act'], s. 16(f).
[22] The Air Act, s. 22A(1).
[23] The Air Act, ss. 24, 25 and 26.
[24] The Air Act, s. 23.

by the SPCB or any other agency to mitigate the impact of such emission of air pollutants is recoverable from the person concerned.[25]

This provision implicitly recognises and implements the polluter pays principle; a principle that finds statutory expression much later in the National Green Tribunal Act 2010.[26] The provision also enshrines the absolute liability principle that was formally introduced to Indian environmental jurisprudence by the Supreme Court of India in its landmark judgment in 1987 in the *Oleum Gas leak* case.[27]

Through an amendment in 1987, the CPCB and the SPCBs were granted additional powers to issue certain directions to ensure compliance with the provisions of the Act.[28] These include directions for closure, prohibition or regulation of any industry, operation or process; or stoppage or regulation of supply of electricity, water or any other service.[29] Persons to whom such directions are issued are bound to comply with them.[30] An appeal against such directions of the CPCB or SPCB lies before the Appellate Authority,[31] and an appeal against an order of the Appellate Authority lies before the National Green Tribunal.[32]

If any person fails to comply with Section 21 or Section 22 or directions issued under Section 31A, a penalty is imposable under Section 37 of the Air Act. Failure to comply would include situations wherein a plant is established or commences operation without the

[25] The Air Act, s. 23(3).

[26] For a comprehensive exposition on the polluter pays principle, see Lovleen Bhullar, 'Making the Polluter Pay in India: Scope and Limitations of Environmental Law', in Shibani Ghosh (ed.), ANALYTICAL LEXICON OF PRINCIPLES AND RULES OF INDIAN ENVIRONMENTAL LAW (2015) (publication in process, manuscript available on request).

[27] M.C. Mehta v. Union of India (Oleum Gas leak case) (1987) 1 SCC 395. The Supreme Court in this case held (para 31): "... an enterprise which is engaged in a hazardous or inherently dangerous industry which poses a potential threat to the health and safety of the persons working in the factory and residing in the surrounding areas owes an absolute and non-delegable duty to the community to ensure that no harm results to anyone on account of hazardous or inherently dangerous nature of the activity which it has undertaken. The enterprise must be held to be under an obligation to provide that the hazardous or inherently dangerous activity in which it is engaged must be conducted with the highest standards of safety and if any harm results on account of such activity, the enterprise must be absolutely liable to compensate for such harm and it should be no answer to the enterprise to say that it had taken all reasonable care and that the harm occurred without any negligence on its part."

[28] The Air Act, s. 31A.

[29] *Id*, explanation. While discussing the ambit of closure directions, the High Court of Delhi in Gopi Nath Pvt. Ltd. v. Department of Environment Govt. of N.C.T. of Delhi (1998) 72 DLT 536 held: "Closing down all industrial activity is neither the purpose nor the object of the Act. Prevention of pollution is. If one particular component is the cause of pollution, the Board may well, subject to the provisions of the Act, direct its closure but it cannot seal the entire unit bringing thereby even unoffending activities to a standstill."

[30] The Air Act, s. 31A.

[31] The Air Act, s. 31. Although the provision does not specifically refer to directions issued under s. 31A, it is presumed that 'order' in s. 31 covers such directions.

[32] The NGT Act, s. 16(f).

necessary consent, or it violates the conditions stipulated in the consent letter by, for instance, exceeding the permissible emission standards or not installing the requisite pollution control equipment. Such failure is punishable by an imprisonment of not less than one and half years which may extend up to six years along with a fine.[33]

In case such failure continues, an additional fine may be imposed which may extend to five thousand rupees for every day during which such failure continues after the conviction for the first such failure. If the failure continues beyond a period of one year after the date of conviction, the offender shall be punishable with imprisonment for a term of not less than two years, but which could extend up to seven years with fine.[34]

Penalties for other offences such as providing false information to obtain consent from a SPCB; obstructing a person authorized by a Board from exercising his functions; damaging any work or property belonging to a Board, etc. are provided under Section 38. The penalty for such offences is an imprisonment for term that may extend up to three months or a fine up to an amount of ten thousand rupees or both. Contravention of any provision of the Act for which a penalty is not provided specifically under Section 37 or 38 is punishable with a term of imprisonment which may extend upto three months or with fine or both.[35] In case such contravention continues, an additional fine may be imposed.[36]

The penalties mentioned in the Act have to be imposed by a court of law and cannot be levied by the SPCBs directly. The concerned SPCB or an officer authorised by it has to initiate the criminal prosecution by filing a complaint against the alleged offence in a court not inferior to that of a Metropolitan Magistrate or a Judicial Magistrate First Class. [37] Following an amendment introduced in 1987 to increase public cooperation in the implementation of the law, any person other than the SPCB can also file a complaint against

[33] The Air Act, s. 37(1). It may be noted that the amount of fine is not specified in the Air Act. However, Section 29 of the Code of Criminal Procedure 1973 provides that a Judicial Magistrate First Class or a Metropolitan Magistrate can impose fines up to ten thousand rupees.
[34] The Air Act, s. 37(2).
[35] The Air Act, s. 39.
[36] *Id.*
[37] The Air Act, s. 43(1). See P. Pramila v. State of Karnataka, 2015 SCC OnLine SC 348. In this case the complaint was filed by the Regional Officer under s. 37 of the Air Act. The Supreme Court set aside the complaint as it was not filed by the competent authority under the Act. The Court held: "The "officer authorised in this behalf" was not authorised by the provisions of Section 43 of the Air Act, or by any other provision thereof, to further delegate, the authority to file complaints. The Chairman of the Board, therefore, had no authority to delegate the power to file complaints, to any other authority, for taking cognizance of offences under the Air Act."

an alleged offence, but such person has to give a notice of not less than sixty days to the SPCB of his or her intention to approach the court.[38] In such cases, the SPCB is required by law to provide all relevant reports in its possession to the complainant.[39]

Other than the provisions of the Air Act, instances of air pollution can also be prosecuted under the IPC, and action may be taken under the CrPC.[40] Section 268 of the IPC defines the offence of public nuisance,[41] and actions causing air pollution could potentially be brought within the definitional ambit of Section 268.[42] Section 278 makes the act of voluntarily vitiating the atmosphere and making it noxious to the health of persons, an offence punishable with a fine.[43] The Kerala High Court in a 1999 judgment found that smoking in public places was an offence under Section 278, IPC.[44] Offences under Section 268 and 279, IPC are both non-cognizable and bailable offences. With a fine of a paltry amount of five hundred rupees, and the likelihood of a long trial period, prosecution under these provisions are unlikely to effectively deter polluters.

Action can be taken against persons under Section 133 of the CrPC for undertaking certain activities which are injurious to the 'health or physical comfort of the community'. Industries or process that are emitting air pollutants and causing adverse health impacts and discomfort to the people living nearby can also be issued a notice by the Magistrate under this provision to stop such polluting activities. The Supreme Court in *Kachrulal Bhagirath Agrawa v. State of Maharashtral*[45] upheld an order under Section 133 stopping the storing

[38] The Air Act, 43(1)(b).
[39] The Air Act, 43(2).
[40] See generally, P. Leelakrishnan, ENVIRONMENTAL LAW IN INDIA, ch. 2 (Lexis Nexis, 3rd ed 2008, Reprint 2013).
[41] **268. Public nuisance:** A person is guilty of a public nuisance who does any act or is guilty of an illegal omission which causes any common injury, danger or annoyance to the public or to the people in general who dwell or occupy property in the vicinity, or which must necessarily cause injury, obstruction, danger or annoyance to persons who may have occasion to use any public right.
A common nuisance is not excused on the ground that it causes some convenience or advantage.
Sections 290 and 291 of the IPC stipulate the punishment for the offence of public nuisance.
[42] A case law search on the manupatra database for cases raising air pollution issues and relying on Section 268 IPC did not provide much information.
[43] **278. Making atmosphere noxious to health**.—Whoever voluntarily vitiates the atmosphere in any place so as to make it noxious to the health of persons in general dwelling or carrying on business in the neighbourhood or passing along a public way, shall be punished with fine which may extend to five hundred rupees.
[44] K. Ramakrishnan v. State of Kerela, AIR 1999 Ker 385. The Court held: "There can be no doubt that smoking in a public place will vitiate the atmosphere so as to make it noxious to the health of persons who happened to be there. Therefore, smoking in a public place is an offence punishable under Section 278, IPC."
[45] (2005) 9 SCC 36.

and transportation of dry chillies from a godown as it was a public nuisance causing pollution and physical discomfort to persons residing nearby. The Court held:

> *"The guns of Section 133 go into action wherever there is public nuisance. The public power of the Magistrate under the Code is a public duty to the members of the public who are victims of the nuisance, and so he shall exercise it when the jurisdictional facts are present. ... The conduct of the trade must be injurious in presenti to the health or physical comfort of the community. There must, at any rate, be an imminent danger to the health or the physical comfort of the community in the locality in which the trade or occupation is conducted."*[46]

While criminal liability for air pollution is covered by the Air Act, the IPC and the CrPC, the National Green Tribunal Act provides for civil liability for acts causing air pollution (besides providing the statutory appellate mechanism against orders of the SPCB as discussed above). The National Green Tribunal ('Tribunal') has original jurisdiction over all civil cases raising a substantial question relating to environment, including enforcement of any legal right relating to the environment.[47]

Such question must arise from the implementation of seven laws listed in the Schedule to the NGT Act including the Air Act.[48] Substantial question relating to environment includes instances where there is a direct violation of a statutory provision that impacts or is likely to impact the community at large (not just an individual or a group of individuals); that the gravity of damage to the environment is substantial or that the damage to public health is broadly measurable; or the applicant could show that the environmental consequences are being caused by a specific activity or a point source of pollution.[49]

The Tribunal can order relief and compensation to victims of pollution, and order restitution of property damaged and environment of the area.[50] Compensation can be paid under heads mentioned in the Schedule II to the NGT Act that includes death, disability,

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[46] *Id*, para 11.
[47] The NGT Act, s. 14(1).
[48] *Id*, and the NGT Act, schedule I.
[49] The NGT Act, s. 2(1)(m).
[50] The NGT Act, s. 15.

injury or sickness, loss of wages, medical expenses etc.[51] The Act makes the person responsible for causing the damage to the environment (for example, owner of a polluting factory) liable for paying the compensation as determined by the Tribunal.[52]

In case of an accident, the Tribunal has to apply the no fault liability principle[53] – following the absolute liability principle laid down by the Supreme Court in the Oleum Gas leak case.[54] The Act also requires the Tribunal to apply the polluter pays principle (along with the sustainable development principle and the precautionary principle) while deciding cases.[55]

Other than the power to determine compensation, the Tribunal can issue interim orders including granting interim injunction or stay, and orders requiring any person to cease and desist from committing or causing any harm to the environment.[56] The Tribunal can execute its order as a decree of a civil court, and for this purpose it has all the powers of a civil court.[57] An order of the Tribunal may be challenged before the Supreme Court.[58]

The Tribunal has used it powers to issue a variety of orders to tackle the issue of air pollution. In a matter concerning environmental damage, particularly air pollution, in the Rohtang Pass region of Himachal Pradesh, the Tribunal has issued several orders including restricting the number of vehicles going to the Pass per day, directing the payment of a fee for environmental compensation by each vehicle, and differentiating between petrol and diesel vehicles (the latter being more harmful), directing the government to avoid traffic congestion, etc.[59]

While responding to rising air pollution in the National Capital Region ('NCR'), the Tribunal has directed that diesel vehicles older than ten years and petrol vehicles older than fifteen years will not be registered in the NCR.[60] The Tribunal has also issued detailed orders

[51] The NGT Act, schedule II.
[52] The NGT Act, s.17.
[53] The NGT Act, s. 17(3).
[54] See *supra* n 27.
[55] The NGT Act, s. 20.
[56] The NGT Act, s. 19(3).
[57] The NGT Act, s. 25.
[58] The NGT Act, s. 22.
[59] See Court on its own Motion v. State of Himachal Pradesh, Application No. 237 (THC)/2015, before the National Green Tribunal, Principal Bench. See in particular Orders dated 6 February 2014 and 5 May 2015.
[60] See Vardhaman Kaushik v. Union of India, Original Application No. 21/2014, Order dated 7 April 2015 of the National Green Tribunal, Principal Bench.

to reduce pollution caused from construction activities in the NCR.[61] The Civil Procedure Code (CPC) also provides remedy for public nuisance, and therefore is a potential legal remedy against air pollution. As in any other civil suits, a declaration, injunction or any other appropriate remedy may be sought. Interestingly, in such cases persons filing the suit need not prove that special damage has been caused to them.

II. ISSUES

The state of air quality in most cities and towns of India indicates that the present liability regime is not designed or implemented to suitably punish those responsible for air pollution or deter future violations. The current regulatory model has evidently failed to achieve the objectives of the Act. For regulation of air pollution under the Air Act to be even moderately successful, several conditions have to be met. First, there has to be a credible threat of enforcement and sanctions have to be proportionate to the damage done and prohibitively expensive. Second, data collection and monitoring capacity of the regulatory agency has to be very strong, and it should be able to revise standards and technical protocols regularly to respond to evolving environmental conditions. Third, information asymmetries have to be minimised across the board. Fourth, transparency and accountability provisions have to be strong enough to disincentivise corruption and other malpractices.

There are various underlying causes for why the aforementioned conditions are either poorly met or not met at all in India – legal, institutional, political, financial, bureaucratic, and cultural – and each of these require in depth analysis. For the purposes of the present essay, focussing particularly on the liability regime for air pollution, there are at least three critical issues that are affecting the effectiveness of the existing enforcement mechanism:

II.I. Pollution Control Boards cannot levy penalties

Under the Air Act although the SPCBs and the CPCB are the key government agencies required by law to check rising air pollution, they are not empowered to levy any penalty on offending units, as the power to impose penalties lies with the criminal courts. The Boards can direct the closure of an offending unit or cut off/ regulate its water or power supply.

[61] See *Id*, Order dated 4 December 2014 of the National Green Tribunal, Principal Bench.

Closure of units may check the immediate cause of pollution, but it could lead to other problems such as unemployment, (negative) impacts on the market of particular products, wastage of resources (e.g. raw materials purchased by the unit), economic losses incurred by various actors along with the unit owner etc. In such cases, the directions may not be proportionate to the extent of violation. Closure directions would also not restitute the damage already caused to the environment or compensate the suffering caused to people affected by the air pollution. Furthermore, these directions would require inter-agency coordination to be brought into effect. Therefore, such directions do not offer an adequate or effective response to air pollution.

The language of Section 31A is open ended ('any directions'), but it has been interpreted to exclude any direction which could amount to a penalty, as penal powers have to be specifically provided in a statute. The High Court of Delhi has found that the grant of a consent cannot be made conditional on the payment of a penalty or fine or furnishing a bank guarantee, and the Boards cannot direct payment of environmental damages, as this would amount to levying a penalty.[62] Therefore, besides issuing show cause notices (which need not stop the polluting operations of a unit), or sending closure notices (which may be a disproportionate response), the Boards have little enforcement heft.

II.II. Criminal prosecution is not an effective solution

Litigation in courts could take very long to reach any conclusion. During the pendency of the case, unless a stay order is issued by the court restraining the offending unit from continuing its operations, the unit could continue to pollute. A matter could go through several appellate/revision forums and each forum could take time to conclude proceedings. An example of such protracted litigation was highlighted in *Uttar Pradesh Pollution Control Board v Mohan Meakins Ltd.*,[63] where the Supreme Court finally decided a matter relating to the pollution of a river seventeen years after the prosecution was launched by the SPCB. The time taken to conclude legal proceedings does not augur well for effective and timely pollution abatement. Along with the length of time taken to conclude legal proceedings, a low conviction rate in such cases, also lowers the deterrent impact of criminal prosecution.

[62] See Splendor Landbase Ltd. v Delhi Pollution Control Committee (2010) 173 DLT 52, upheld in Delhi Pollution Control Committee, *supra* n 7.
[63] AIR 2000 SC 1456.

Problems in pursuing legal proceedings are further aggravated by the fact that the Boards have limited capacity to pursue such cases diligently. Studies have shown that SPCBs are under-resourced,[64] and given the range of regulatory tasks they are expected to undertake (and not just under the Air Act), they have to inevitably prioritise the use of available resources. Consent granting functions take up a significant part of the SPCBs' time and resources, leaving much less for monitoring and enforcement functions. With an enormous workload, crippling staff crunch, and not much political will, pursuing convictions in court may not be considered worth the Boards' time and resources.

II.III. The NGT Act does not provide complete relief

While the Boards now have the option of approaching the National Green Tribunal[65] under Section 15 of the NGT Act as an aggrieved person[66] for restitution of damage to the environment and for claiming compensation, it only addresses a part of the problem. The Tribunal's jurisdiction over air pollution though wide, is restricted to civil adjudication. The Tribunal cannot determine criminal liability and cannot impose a punishment of imprisonment or criminal fine. In cases of aggravated pollution, repeated violation of standards, and/or sustained inaction in the face of clear evidence of adverse environmental impacts, civil liability may not be a sufficient response. Criminal conviction resulting in jail time and reputational damage may – in some cases – be a necessary legal outcome to suitably punish the offender and at the same time prevent polluting activities in future.

Limited jurisdiction apart, judicial recourse is not a viable long-term mechanism for protecting the quality of the country's air (or any other environmental issue for that matter). Controlling air pollution requires, *inter alia*, appropriate policies on regulating sources of pollution such as transportation, construction and industries; putting in place proper monitoring and enforcement mechanisms; and extensive inter-agency cooperation. These functions are mostly outside the jurisdictional mandate of the Indian judiciary including the National Green Tribunal. No doubt in India, the judiciary has played a very active role in

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[64] Centre for Science and Environment, TURNAROUND: REFORM AGENDA FOR INDIA'S ENVIRONMENTAL REGULATORS (New Delhi: Centre for Science and Environment, 2009), http://www.cseindia.org/sites/default/files/report.pdf (last visited: 17 June 2015); Geetanjoy Sahu, ENVIRONMENTAL REGULATORY AUTHORITIES IN INDIA: AN ASSESSMENT OF STATE POLLUTION CONTROL BOARDS (Mumbai, Centre for Science, Technology & Society, School of Habitat Studies, Tata Institute of Social Sciences, 2013, available on file with author).

[65] The NGT Act, ss. 14 and 15.

[66] The NGT Act, s. 2(1)(j)(viii) – person includes every artificial juridical person, not falling within any of the other sub-clauses.

environmental governance – but mainly because the executive remains indifferent to blatant transgressions of the law.

The judiciary does not have the time and capacity to formulate environmental policies that adequately address local, regional and global environmental problems, and then effectively monitor their implementation. The Tribunal may be better placed than the regular courts to determine environmental conflicts and to monitor implementation of its orders, but its orders remain problematic when they venture into policy making. Such orders not only raise questions about enforceability and effectiveness of judicial orders[67] but also about judicial decision making processes.[68]

If one of the primary objectives of the law is to punish offenders and deter future ones, it is certainly not being achieved by the current legal regime. It is perhaps time to reconsider the nature of liability being imposed and the enforcement action envisaged in the law.

III. CONCLUSION AND THE WAY FORWARD

The current liability regime is not capable of tackling the scale of air pollution that the country is witnessing, and is likely to experience in the near future. There is evidently need to introduce reform. An opportunity to explore potential reform measures arose when the Government of India set up a High level Committee in August 2014 to review the implementation of six environmental laws including the Air Act and suggest amendments.[69]

Unfortunately, besides certain observations on the need to check vehicular emissions,[70] the Committee's report does not consider other issues pertaining to the implementation of the Air Act. It finds merit in bringing the Air Act (and the Water Act)

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[67] See, Dinesh Mohan, *Dealing with pollution in our cities*, BUSINESS STANDARD, 4 April 2015, http://www.business-standard.com/article/opinion/dinesh-mohan-dealing-with-pollution-in-our-cities-115040400713_1.html (last visited: 17 June 2015).

[68] In the matter relating to air pollution in the Rohtang Pass region, the taxi operators union that was directly affected by the order of the National Green Tribunal, approached the Supreme Court, *inter alia* claiming that it was not heard by the Tribunal before the order was passed. The Supreme Court vide its order dated 26 May 2015 in Him Aanchal Taxi Operators Union v. State of Himachal Pradesh CA No. 4864/2015 directed the Union and other appellants to place before the Tribunal facts and issues which it had not considered before passing the impugned order.

[69] REPORT OF THE HIGH LEVEL COMMITTEE TO REVIEW VARIOUS ACTS ADMINISTERED BY THE MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE (2014), http://www.moef.nic.in/sites/default/files/press-releases/Final_Report_of_HLC.pdf (last visited: 3 June 2015).

[70] *Id*. at 91.

within the ambit of an amended Environment (Protection) Act 1986[71] – but there is little deliberation on what ails the current regulatory regime, and what merging of laws would resolve. However, the Committee made a very pertinent finding in its report that resonates with the discussion above:

> *"All the Acts under review of this Committee fail the litmus test. Either penal provisions are lacking, or not sufficient, or not proportionate; or the criminal justice system is not appropriately aligned. The Committee notes the tardy implementation of even the current penal provisions, which is by itself a catastrophe".*[72]

Air quality governance in India has to improve radically in many ways. But reforming regulatory mechanisms is not a modest ask. It is particularly complicated if it is a three decades old law in question, that requires several agencies – at the Centre and state-level – to function effectively in coordination and independently, and affects a vast multitude of stakeholders. As the government considers tougher penalties to check environmental violations,[73] along with measures to deal with specific sources of pollution,[74] it is perhaps worthwhile to consider a more broad-based reform agenda that enhances the enforcement capabilities of the SPCBs, as they are the first line of regulatory defence in the law.

A situation where citizens of the country consider a judicial forum such as the National Green Tribunal to be the first port of call is unfortunate, and undesirable. A competent and accountable regulatory agency (and therefore, presumably, less susceptible to corrupt practices) with access to adequate resources (technical, human and financial) is far better equipped to formulate and enforce environmental standards than the judiciary.

It is proposed that the law be amended to empower the SPCBs with a regulatory tool box containing a mix of policy instruments at their disposal. Currently the SPCBs have the power to issue show cause notices to defaulting units, and if dissatisfied with the response, follow them with closure notices or directions regulating power and water supply. The

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[71] *Id*. at 12.
[72] *Id.* at 9.
[73] Amitabh Sinha and Liz Mathew, *Tougher pollution laws soon, vows Environment Minister Prakash Javadekar*, THE INDIAN EXPRESS, 5 May 2015, http://indianexpress.com/article/india/politics/tougher-pollution-laws-soon-vows-environment-minister-prakash-javadekar/99/ (last visited: 21 June 2015).
[74] Vidya Venkat, *Three months for fixing Delhi's pollution*, THE HINDU, 14 April 2015, http://www.thehindu.com/news/cities/Delhi/environment-ministry-announces-measures-to-address-delhis-air-pollution/article7102033.ece (last visited: 21 June 2015).

SPCBs may also revoke consent or refuse to renew consent. However, they cannot impose fines or damages that are commensurate with the environmental damage caused by the unit to initiate urgent and immediate remedial measures.

The existing enforcement powers need to be complemented with powers to impose administrative fines, revoke bank guarantees, and levy of environmental damages that could facilitate timely and effective deterrent action. Power to impose financial penalties for causing environmental damage is not unprecedented. The SPCBs have the power to impose financial penalties for the violation of rules relating to hazardous waste management.[75] Criminal prosecution would remain as an option; but resorted to only in a small percentage of cases – for instance, when other enforcement actions fail to produce the desired result or the environmentally harmful actions were of extremely grievous nature.

There are two reasons to support the introduction of additional enforcement powers. First, regulatory pluralism has been considered to be a superior alternative to a single strategy approach.[76] Power to impose administrative fines would give the SPCBs the necessary flexibility to customise their responses to environmentally harmful activities based on various (pre-determined) criteria. These criteria could be relevant policy goals, nature and gravity of offence, track record of defaulter, social and economic implications of alternative policy instruments, etc. To deal with the same regulated entity, the SPCB could adopt different policy instruments with escalating levels of severity depending on the entity's compliance behaviour over time.

Enforcement actions that are not as harsh as closure notices, and are quicker to implement than long drawn criminal prosecution, are likely to be imposed more often. If the probability of an enforcement action increases, regulated entities are more likely to be deterred from violating the law, thereby increasing the rate of regulatory compliance. One of the main reasons why the current criminal liability regime has failed is that the overwhelming pendency in the courts, and the procedural hurdles of proving a case beyond reasonable doubt negated any fear of penal action. Non-compliance does not come at a very high cost; and regulated entities are willing to take the (miniscule) risk. This tendency needs to be reversed.

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[75] The Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008, r. 25(2).

[76] Neil Gunningham and Darren Sinclair, *Regulatory Pluralism: Designing Policy Mixes for Environmental Protection*, 21(1) LAW AND POLICY 49 (1999).

Second, polluter pays principle is part of Indian environmental jurisprudence. The Supreme Court of India in several judgments has applied the principle to award damages.[77] Delayed and inadequate action (or no action at all) against polluting units violates this principle. The liability regime for air quality needs to reflect this cardinal principle of Indian environmental jurisprudence, and uphold the 'right to pollution free air'.

There have been some positive developments in empowering the SPCBs. The National Green Tribunal has upheld the power of the SPCBs to require the furnishing of bank guarantees as a condition in a consent and eventual revocation of such guarantees as compensation for environmental damage.[78] The Maharashtra State Pollution Control Board in its Enforcement Policy 2014 has recognised the difficulties in securing compliance, and decided to implement a bank guarantee scheme, with the Board contemplating extreme measures (approaching a court of law or issuing closure licenses) only in five percent of the cases.[79] Furthermore, the High-level Committee reviewing environmental laws has suggested the promulgation of a new law – Environmental Laws (Management) Act 2014 – that, *inter alia*, encourages gradation of fines based on severity of offence.[80]

A note of caution may be recorded at this point. Any effort to empower the SPCBs must be accompanied by efforts to strengthen the SPCBs institutionally, make them financially independent and secure, and increase transparency in their functioning. Power to impose administrative fines etc. would only increase the width of discretionary powers that they currently enjoy. Efforts would have to be made to curtail the potential for abuse of these powers by putting in place appropriate monitoring and accountability mechanisms. While the modest reforms suggested in this essay are not without their own risks and costs, it is clear that maintaining the *status quo* is no longer an option.

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[77] Indian Council for Enviro-Legal Action v. Union of India and Others *(Bicchri case)* (1996) 3 SCC 212; and Sterlite Industries (India) Ltd v. Union of India and Others (2013) 4 SCC 575.

[78] See, State Pollution Control Board, Odisha v. M/s Swastik Ispat Pvt. Ltd. & Others, Appeal No. 68/2012, Order dated 9 January 2014 of the National Green Tribunal, Principal Bench. The Tribunal distinguished the case before it from the fact situation in the Delhi Pollution Control Committee case, *supra* n 7, by stating that an amount imposed as a compensation for environmental restoration was permissible, and that imposed as a penalty was not as only courts could impose any penalty under the Air Act.

[79] Maharashtra Pollution Control Board, *Enforcement Policy*, http://mpcb.gov.in/images/pdf/Enforcement_Policy2014_legal.pdf (last visited: 21 June 2015).

[80] REPORT OF THE HIGH LEVEL COMMITTEE, *supra* n 69, at 72 (Clause 8.2).

GLOBAL WARMING AND REFUGEES OF CLIMATE CHANGE

Dr. Aruna B. Venkat[*]

ABSTRACT

The issue of the climate change and resulting displacement has attracted serious discussions at the international level during the past two decades. The latest IPCC Report provides a dire warning as to the impact of climate change. In this regard the concept of 'climate refugee' assumes significance. However, there is no proper definition or international instrument in this regard. The paper is attempting to trace the need for recognition and impact of such recognition. In this regard, the relationship between the climate refugee and refugee in the traditional sense and climate refugee as persons facing conflict due to climate change is also addressed. The paper also tries to examine the question- Should International Refugee Law accommodates climate change? The paper has also tried to explore other alternatives to tackle the very notion of climate refugee by looking at Cancum framework on adaptation strategies and Nansen Initiatives as a long term solution. Before concluding, the impact of climate refugees on host nations is also dealt in brief with special reference to the Bangladesh and its impact on Indian economy. Finally, the paper discusses the role of the Advisory Group on Climate Change and Human Mobility and its commitment to design effective human mobility resilience measures to Climate Change in the upcoming Paris COP 21, 2015.

I. INTRODUCTION

The problem of global warming, as an inevitable impact of climate change, has been engaging the attention and concern of the International community for a long time, prompting its members to take necessary remedial steps to combat and control climate change. The need for urgent international efforts in this regard has become all the more imperative in view of the fact that in the recent past several countries had to cope with the disastrous consequences of the impacts of the global climate change. To mention a few, India was devastated by unseasonal cloud-bursts, and Helen and Lehar cyclones resulting in the loss of thousands of lives and thousands of crores of rupees of worth of crops and property, the United States of America and England had to face the onslaught of torpedoes, ice storms and unseasonable rains and flooding, respectively. It is most likely that, if

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corrective measures to contain climate change by long term cooperative international action plans are not initiated, the other members of the international community may also face similar climate change impact problems in future.

In this context, it may not be irrelevant to mention "Stockholm Declaration[1]" which declares that while "man has the fundamental right to freedom, equality, and adequate conditions of life in an environment of quality that permits a life of dignity and well-being, he also bears a solemn responsibility to protect and improve the environment for the present and future generations".[2] The Declaration, in particular, requires one and all to safeguard the natural resources of the earth including air, water, land, flora and fauna for the benefit of the present and future generations through careful planning and management.[3]

II. GLOBAL WARMING

It is a matter of common knowledge that the issue of global warming due to rise of emissions of greenhouse gases has become a serious issue of concern for the international community. It is said that there has been an average rise of 6.8% in the emissions by the richest countries. The U.N. Panel on climate change says that by 2100 the global temperature increase will range between 1.4°C and 5.8°C. Mean sea levels may rise by 80cm, inundating low lying areas and smaller islands. It has been predicted that there will be more frequent and severe heat waves, more intense tropical cyclones, changes in rainfall patterns and melting of ice. It is apprehended that the ice cover in the Arctic and Antarctic regions will be down by 14% and 25%, respectively.[4] Expressing similar concern, the Indian Apex Court observed[5];

> *"The entire world is facing a serious problem of environmental degradation due to indiscriminate development. Industrialization, burning of fossil fuels and massive deforestation are leading to degradation of environment. Today, the atmosphere level of carbon dioxide, the principle source of global warming is 26% higher than pre-industrial concentration. The earth's surface reached its record level of warming in 1990…The global warming had led to the unprecedented rise in the sea level*

[1] Stockholm Conference was held from 5-16, June, 1972 at Stockholm (Denmark) which was attended by 114 countries where a Declaration and Action Plan was adopted Sec. U.N. Doc.A/CONF/48/14.Rev.1.
[2] Id. Principle 1.
[3] Id. Principle 2.
[4] See a Report in Times of India, 15 October, 2002.
[5] See *Karnataka Industrial Areas Development Board v. C. Kenichappa and Others* (2006)6 SCC 371.

…Melting of polar ice and glaciers, thermal expansion of seas would cause worldwide flooding and unprecedented rise in sea level if gas emissions continue at the present rate. Enormous amounts of gases and chemicals emitted by the industrial plants and automobiles have led to depletion of Ozone layers which serve as shield to protect life on earth from the ultraviolet rays of the sun…. Air pollutants and acids generated by the industrial activities are now entering forests at an unprecedented scale".

III. HUMAN RACE RUNNING OUT OF TIME

It is clearly evident that climate is changing. The writing on the wall is that human race is running out of time. This reality seems to have dawned on the United States of America. From the non-committal attitude to a very proactive stand of the USA in the run to the crucial 2015, climate summit in December is overwhelming. It is also an indication of the fact that USA now has finally come to terms with the reality of climate change.

We at the international forums have seen a drastic change in the role the international communities are willing to play to protect our planet earth and keep it livable. International Community is sure that it does not want to repeat the Copenhagen 2009 outcomes. Copenhagen Conference failed to clinch a deal despite presence of almost all top political leaders.[6]

The host country France to Paris Summit 2015 is trying to build consensus on almost all contentious issues well in advance. France wants to talk to all 196 member Countries of the United Nation Framework Convention on Climate Change (UNFCCC) to Paris Summit (COP21) without having any surprise element in the final draft negotiating text. Informal consultations will be held during September- November 2015. It is expected that these meetings will lead nations to remove differences ahead of the final talks. It is also expected that the issue of climate finance will get the most critical push during the G 20 Summit in mid-November. All such efforts were missing prior to the Copenhagen Summit. This Summit did manage to raise the Climate Change Policy to the highest political level where top world leaders like the US President Barak Obama, German Chancellor Angela Merkel and then Indian Prime Minister Mr. Manmohan Singh attended the concluding round which eventually

[6] Vishwa Mohan, *Creating right climate for Paris & Heads of State may not be part of concluding rounds of tables*, TNN, Jul 30, 2015.

failed to reach an agreement to establish legally binding targets for reducing carbon emissions.[7]

IV. COMMITMENT TO CLIMATE CHANGE

So far, the international negotiations on a binding climate treaty have been blocked by the unwillingness of USA which is responsible for almost one-third of global greenhouse gas emissions. USA never signed up Kyoto Protocol because China was exempted. China being a developing nation did have that privilege under the Kyoto regime. The USA and China announced "Intended Nationally Determined Contributions" (INDCs) commitments to reduce their GHG emissions, thereby contributing to the objective of the UNFCCC.[8]

Now, China and USA have to walk the talk, President Obama wants to leave a legacy of his eight years in office by positioning the USA as a leader of climate diplomacy.[9] Mr. Obama i unveiled the US Clean Power Plan on 3 August 2015. The plan aims to reduce emissions by reducing power plant emissions and adopt solar and wind energy.

The National Green Tribunal in *Rohtang pass case*[10] observed that climate on earth is changing very fast due to increase in human activities. Rohtang pass is at a height of 13,500 feet above sea level. It is a tourist spot in Himachal Pradesh, it lies in the Himalayan range and is called "crown jewel" of HP. It is a popular tourist destination. Due to heavy and unregulated tourist rush, devastating impacts on environment of Rohtang pass are visible on the melting glaciers. Studies suggest that 40% of the glacier ice has melted due to black carbon emissions.

India is said to emit 534 kilotons of Black Carbon annually. The major contributors to this pollution are domestic sources like usage of crop residues, dung cake burning, vehicle pollution, power plants, forest fire etc. The heat generated by human activity accelerates melting of glaciers and rise in sea temperatures. This has led to swelling of seas and submerging of land mass. In *Court on its own motion v State of HP*, the tribunal has tried to

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[7] Ibid.

[8] INDCs of USA is to achieve an economy wide target of reducing its greenhouse gas emissions by 26% to 28% below its 2005 level in 2025 and reduce its emissions by 28%. China's INDCs say to reduce CO2 emissions per unit of GDP by 40% to 45% from 2005 level by 2020.

[9] Jo Leinen, MEP, *After Kyoto, the Paris Protocol*, http://www.progressivesforclimate.com/archives/805

[10] *Court on its own motion v State of HP,* Application No. 237 (THC)/2013 (CWPIL No.15 of 2010), order dated 6 February, 2014.

mitigate the impact on "crown Jewel" of HP by issuing guidelines for tourism, setting up of a green tax fund, curbing the vehicular pollution. NGT also issued directions to state of HP to shift to bio-degradable waste.

THE NGT in *Vardhaman Kaushik v Union of India & Ors* [11] has issued 14 point directions to Delhi government to curb vehicular pollution and has imposed a ban on burning plastics to reduce air pollution in the NCR region. Keeping these problems in mind, India has suggested that it may make two climate pledges: one that can be achieved with domestic resources, and another that would be possible with financial and technological aid from the developed world.[12]

The Paris agreement will come into effect in 2020, empowering all countries to act to prevent average global temperatures rising above 2 degrees Celsius and to reap the many opportunities that arise from a necessary global transformation to clean and sustainable development.[13] UN Climate Chief Christiana Figueres says India's climate pledge is "critically important" to a meaningful deal at the crucial UN climate summit in Paris in December 2015. India is yet to submit its INDC targets for emission cuts to the UN office. India is the world's third largest polluter. India is expected to play a crucial role in the Paris Summit 2015. It has pledged to reduce its GDP emissions intensity by 20-25% by 2020 compared to 2005 levels. India's pledge is rated as medium. It is not consistent with limiting warming to below 2°C.[14]

A study conducted by Prof. Pradan and Prof. Chowdhary [15] says that the analysis of water samples taken from Krishna delta revealed that there is severe fresh water crisis in Krishna delta. The study pointed out that transformation of fresh groundwater to saline water is taking place in the delta at a faster rate due to intensive increase of sea water intrusion.

[11] Before NGT (National Green Tribunal), Principle Bench, New Delhi, M.A. NO. 581 OF 2015 IN Original Application No. 21 of 2014.

[12] http://www.theguardian.com/environment/2015/jul/03/indias-climate-pledge-critically-important-says-un-climate-chief.

[13] http://newsroom.unfccc.int/unfccc-newsroom/united-states-submits-its-climate-action-plan-ahead-of-2015-paris-agreement/

[14] Climate Action Tracker, http://climateactiontracker.org/.

[15] A study was undertaken by Prof. Pradan and Prof . Chowdhary of Department of Civil Engineering and VIR Siddhartha Engineering College, Vijayawada, They collected 50 water samples from various villages in Krishna delta. This study was published in the recent issue of the International Journal of Engineering Technology, Management and Applied Science.

Failure of monsoon and over exploitation of the groundwater will lead to further ingress of the sea.

India's mountains, seas, oceans and glaciers are changing. India is experiencing severe climate conditions like crop failure, drought, rise in diseases, land slide, cyclones, floods, etc. The impact of such disaster has an important implication to India owing to its geographic location. In this respect, India needs to formulate a climate change refugee policy as India may be forced to receive migrants of climate change from Bangladesh very soon. In fact, Bangladesh is most near to parts of India.[16] A large part of the coastal regions of India are also at risk of rise in sea levels and of losing landmass. In this respect, recognition of concept of climate refugee assumes greater significance. Droughts may cause serious climate change risks to India. Migration due to droughts is already a response to changing environmental conditions.

For example, an estimated 3,00,000 labourers migrated from drought-prone Bolangir district in western Orissa to other parts in India. Theses may induce many people to migrate from the low lying and risky areas. The mega cities of India such as Mumbai and Kolkata are at risk of sea level rise and storm surges which may induce people to migrate to other places in India. According to a recent study, approximately 32% of India's coastal area will be at risk of inundation with sea level rise and intensified storm surges along with an additional 8,693 sq. km of land area, 3,744 sq. km agricultural land and 76,40,416 people at risk of storm surge and sea level rise[17]. It may put additional pressures on the resource base of areas they will migrate to in India and threaten the livelihoods of people who are presently living there. In the recent past, we have seen how a political party in Mumbai called Shiva Sena has raised concerns of people from other parts of India coming to Mumbai and taking away the opportunities of the local people.

Till now people have frowned upon such mind set but very soon this clamour will get stronger giving rise to conflicts. Therefore, the climate change refugee policy should be broad, inclusive and sensitive to the needs of refugees because climate refugees who migrate

[16] Deshingkar, P, *Improved Livelihoods in Improved Watersheds: Can Migration Be Mitigated?" in "Watershed Management Challenges: Improving Productivity, Resources and Livelihoods*, International Water Management Institute, Colombo, (2003).

[17] Dasgupta, S, B Laplante, S Murray and D Wheeler, Sea-level Rise and Storm Surges: A Comparative Analysis of Impacts in Developing Countries, Policy Research Working Paper No 4901, (2009), World Bank.

outside their home countries will face many difficulties. They will have to adjust to different laws, languages and cultures. Climate refugees may encounter conflict with indigenous residents. Educational and health care systems must adjust to a sudden, new population. This population may speak a different language or have different customs than the native population. Climate change may also increase the number of traditional refugees. Antonio Guterres, the U.N. High Commissioner for Refugees, has noted, "*Climate change can enhance the competition for resources—water, food, grazing lands—and that competition can trigger conflict*." *Therefore, displacement due to climate change is a de facto problem currently lacking a de jure solution.*[18]

India is determined that its GHG emissions will at no point exceed that of developed nations. India has a National Action Plan for Climate Change in place. It will be very important to see what India's trajectory on energy is going to be and also to know how it would electrify the lives of 400 million people without polluting further.[19]The impact of climate change and global warming is even more evident in other parts of the world. The island states of Tuvalu and Kiribati are losing their landmass, they are inundated by the sea. Over the past two decades, sea levels have risen by 6.7 inches in the last century along. Data from NASA's Gravity Recovery and Climate Experiment show Greenland lost 150 to 250 cubic kilometers of ice per year between 2002 and 2006. While Antarctica lost 152 cubic kilometer of ice between 2002 and 2005.[20]

Francis Bacon, an English philosopher once said 'Nature, to be commanded, must be obeyed'. Therefore, it becomes absolutely essential for the international community to initiate appropriate and effective remedial efforts to contain global warming by controlling the emissions of greenhouse gases.

Climate change is an environmental phenomenon, yet most scientists agree that human activities around the world contribute to it. The March 31, 2014 report on climate change from the Intergovernmental Panel on Climate Change (IPCC) revealed that human

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[18] Edith Lafontaine, The Need for a New Instrument to Deal with "Environmental Refugees", 50 (Sept. 21, 2007) (unpublished master's thesis, University of Oslo), *available at* http://www.duo.uio.no/publ/jus/2007/65668/Thesis.pdf; *see also* MYERS, *supra* note 10, at 150 ("The surge in refugee numbers is outpacing the ability of the world community to cope.").

[19] http://www.theguardian.com/environment/2015/jul/03/indias-climate-pledge-critically-important-says-un-climate-chief.

[20] Inaugural address by Hon'ble Mr. Justice Swatanter Kumar on the occasion of International Conference on 'Mitigation of Climate Change: Law, Policy and Goverence', NGT IJOE, Vol 2(2014).

health risks arising from climate change will increase. The report also discusses the potential benefits that may be achieved if greenhouse gas emissions are reduced. The scientific community has proved beyond doubt that human activities have been the major driver of recent warming of the earth's surface, and that both climate change, and its consequences, will continue into the future. Atmospheric CO2 levels are rising due to burning of fossil fuels. There is increase in the lighter carbon in the atmosphere. The CO2 that is released naturally in the atmosphere is heavier. The lighter CO2 is an effective greenhouse gas. It traps heat which then warms the surface of the earth further.

"No Challenge - No Challenge Poses a Greater Threat to Future Generations then Climate Change. 2014 was the planet's warmest year on record. Now, one year doesn't make a trend, but this does—14 of the 15 warmest years on record have all fallen in the first 15 years of this century.". ", said President Obama at his State of the Union address on Tuesday, 27th January 2015. *IPCC observed, "One of the gravest effects of climate change may be on human migration".*

V. CLIMATE CHANGING

It is predicted that climate change will force millions of people to leave their homes over the coming century. Rising sea levels will envelop small island states. Desertification will make occupied land uninhabitable. Studies predict that by 2050 the number of climate change refugees may be more than the number of traditional refugees — refugees of war under the 1951 Refugee Convention[21] and its 1967 Protocol[22].

Therefore, in this context, the concept of 'climate refugee' assumes significance. The international efforts have sought to bring down the global greenhouse gas concentrations to a level which would prevent dangerous human interference with the climate system and at the same time would preserve the right to sustainable development.

The disappointing aspect has been that issues such as the global temperature rise either at or below 2°C, building the capacity of the developing countries to cope up with the impacts of climate change, mobilization of finances to fund climate change actions taken by the developing countries, development and transfer of technology to the developing

[21] Convention Relating to the Status of Refugees, *opened for signature* July 28, 1951, 189 U.N.T.S. 150 [hereinafter Refugee Convention].
[22] Protocol Relating to the Status of Refugees art. 1, *opened for signature* Jan. 31, 1967, 19 U.S.T. 6223, 606 U.N.T.S. 267 [hereinafter Refugee Protocol].

countries to enable them to effectively adapt to the climate change challenges, and bridging the ambition gap between what has been pledged by the countries and what is required to contain the global temperature rise at 2°C, have all been thorny issues defying any solution as yet. International negotiations are still in progress and it may take some more time before acceptable solutions are thrashed out.

It may be mentioned, in this context, that while there has been some success in climate change mitigation, global greenhouse gas emissions continue to rise. This has become real cause for concern. This is evident from what has been expressed by a couple of international environmental agencies in their reports. Thus, the World Bank Report, named as "Turn Down the Heat : Why a 4°C Warmer World Must be Avoided" states that the world is on track towards a 4°C temperature rise, should the currently inadequate level of ambition remain.[23] In a similar vein, the World's Economic Forum's Global Risks Report, released in 2013, cites rising greenhouse gas emissions as one of the five major risks the global economy faces. It calls runaway climate change an **x** factor that multiplies and exacerbates all risks[24].

Mr. Kofi Annan the former U.N. Secretary – General says that "on climate change, we often don't fully appreciate that it is a problem. We think it is a problem waiting to happen …. We have to ensure that carbon emissions should be contained. Governments, societies and people have to take tough decisions. We need to make sure that polluters pay"[25].

VI. INTERNATIONAL EFFORTS

One of the positive aspects of the international efforts has been the significant encouraging outcomes of the various conferences of the parties to climate change convention. Thus, the outcomes such as Copenhagen Accord, Cancun, Durban and Warsaw Agreements and the Doha Amendment to Kyoto Protocol are all welcome developments. The initial disagreement between the developed and developing countries as to who is responsible for the present state of global environmental affairs and who should take the primary responsibility to remedy the situation is no longer there. The developed countries have agreed to take the lead role in taking mandated action to cut greenhouse gas emissions. The parties

[23] htpp://www.unric.org/en/images/stories/2012/pdf/Turn_Down_the_heat_Why_a_4_degree_centrigrade_warmer_world_must_be_avoided.pdf.
[24] www.garnautreview.org.au/CA25734E0016A131/.../05%20Security.pdf.
[25] OECD, 1989. Recommendation of the Council concerning the Application of the Polluter-Pays Principle to Accidental Pollution C(89)88. Paris: Organization of Economic Cooperation and Development.

have agreed to launch a new commitment period under the Kyoto Protocol, thereby ensuring that this treaty's important legal and accounting models remain in place. The Doha Conference strengthened their resolve and set out a timeframe to adopt a universal climate change agreement by 2015 which will come into force in 2020.

The Universal Climate Change Agreement which will be signed in 2015 at Paris should have the force to make the international community accept responsibility for mitigating climate- induced displacement. States should develop an innovative, international and interdisciplinary approach that can be implemented to mitigate the crisis before it reaches unmanageable proportions.

VII. A WAR ON COAL

To fight the climate change, US President Obama has finally declared "a war on coal" which is a source of more than third of power requirement in the USA. US President has unveiled what he called "the biggest most important step we have even taken" in tackling climate change. US is planning to revise clean power plan to cut GHG emissions from US power stations by nearly a third within 15 years. This clean power plan aims to place significant emphasis on wind and solar power and other renewable energy sources.

The plan aims to cut carbon emissions from the power sector by 32% by 2030, compared to 2005 levels.[26] America's clean power plan will give the president the moral authority to argue for global reductions in GHG at the major conference in Paris later this year. US stand may also put pressure on India's green climate plan to be more robust. Finally, the reality of climate change has drawn on the world community. Efforts are being made to mitigate the changing climate but the world community is unaware and ill prepared for risk from climate change.

UN IPCC, March 2014 report warns that the world is 'ill-prepared for risks from a changing climate' - and concludes that the drastic impacts are 'already occurring on all continents and across the oceans'.[27] Millions of people have already been displaced as a result of climate change related disasters. It is alarming to note that, Red Cross research

[26] Climate Change: Obama to unveil clean power plan. www.bbc.com/news/world-us-canada-33753067.

[27] http://www.dailymail.co.uk/news/article-2593851/UK-warned-climate-change-flood- refugees- Droughts-heatwaves-force-millions- flee-country.html visited on 27th April,2014

shows more people are now displaced by environmental disasters than by war[28].The United Nations University had predicted that 50 million people globally will be displaced by environmental crises by the year 2010.[29]

The term “Environment refugee” was first coined by the United Nations Environment Program in 1985. Other terms used in connection with this are forced environmental migrant", "environmentally motivated migrant", "climate refugee", "climate change refugee", "environmentally displaced person (EDP)", "disaster refugee", "environmentally displaced", "eco-refugee", "ecologically displaced person" and "environmental-refugee-to-be (ERTB)". The International Organization for Migration proposes the following definition for environmental migrants:

> *"Environmental migrants are persons or groups of persons who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad."*[30]

VIII. CLIMATE CHANGE REFUGEES

There is a related category of ‘climate change victim’ who refuse to move in spite of the hardships due to climate changes. The word ‘displacement’ can have wider connation including both the internal displacement and trans-boundary movement. Therefore, Climate Change refugees are people whom climate change forces to relocate across national borders. Studies predict that 50 million to 200 million displaced persons will be there before 2100. It is estimated that in Bangladesh alone could have 26 million displaced people by 2100. Egypt could have 21 million, China may have 73 million and India may have 20 million climate refugees. Some 50 million people could be at risk of displacement through increased droughts and other climate dislocations. Climate Change will also lead to millions of people going without sufficient water or food to survive. Experts say by 2050 we will have 150 million environmental refugees.[31]

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[28] http://www.ifrc.org/publicat/wdr2001/.
[29] http://www.ehs.unu.edu/index.php/article:130?menu=44.
[30] http://www.iom.int/jahia/webdav/shared/shared/mainsite/about_iom/en/council/94/MC_INF_288.pdf.
[31] Oliver - Smith is with Institute for Environment and Human Security (UNU-EHS) a group of experts affiliated with the UN University in Bonn, Germany, said in their study.

The traditional notion of human displacement is generally anthropocentric, as a direct impact of hounding based on various political factors like wars, internal rebellions, persecution of a particular race or religion etc., which creates a direct threat to the life. In fact, the term 'refugee' is attributed only to such people, barring a handful of international instruments that has included natural disasters as also a reason. The recent studies have however highlighted other factors of climate change that have resulted in human migration.

While the causes for displacement are often complex and unable to be attributed to one factor, Keane has highlighted the consensus among scholars on the four broad causes of environmental displacement natural disasters, long term environmental degradation, industrial accidents and war. [32]

Migration could become unmanageable. Current estimates by the IPCC indicate that by the end of this century the global sea level will rise somewhere between 28 and 43 centimetres as a result of thermal expansion and the melting of glaciers and ice caps.[33] Many scientists argue that the current estimates provided by the IPCC indicate a slower rise in global sea levels than is occurring in reality as it is not fully considering the impact of melting glaciers. Moreover, regional variances are predicted as a result of sea-level rise, with small island states likely to suffer disproportionate consequences especially in terms of land loss[34]. However, the predicted rise in sea level does not only threaten Small Island states, many countries with low-lying coastal areas are similarly under serious threat.

By the 2006 estimate of European Environment Agency,[35] more than thirteen million people across five European countries could be affected due to flooding as a result of a one meter rise in sea level especially vulnerable coastal regions in the Netherlands, Belgium, Germany, Romania, Poland, and Denmark. Moreover, the threat is even more pronounced in regions of high population density, such as South Asia. The Ganges-Brahmaputra-Meghna river delta, which stretches from India and Bangladesh, to Nepal, China, and Bhutan, is home to approximately 129 million people.

Further the rise in sea level results in salt contamination of fertile lands resulting in loss of agricultural lands which in turn affects employment and food security. For instance in

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[32] David Keane, 'The Environmental Causes and Consequences of Migration: A Search for the Meaning of "Environmental Refugees"' (2004) 209 *Georgetown International Environmental Law Review* 211.
[33] *Ibid.*
[34] *Ibid.*
[35] http://www.eea.europa.eu/publications/eea_report_2006_.

the case of Bangladesh it needed to be noted which previously had vast rice fields and agricultural land. The local communities are now forced to replace it with export-based shrimp farms due to salt contamination and rising sea levels. Also, the storms and cyclones destroy the crops, while the availability of the clean water is threatened by the rainfall patterns. Also the rise in sea level increases the salinity of land as well as water resources, the coral bleaching extinguishes stocks of natural marine resources. Furthermore, coastal erosion together with the loss of land and infrastructure as a result of storm surges and unpredictable weather patterns creates additional challenges in respect of displacement and relocation for local communities.

The effects of the climate change are not limited to just the coastal environments. The melting of glaciers in mountain regions results in huge unstable lakes that threaten the existence of communities living in lower valleys. The increase in phenomenon like glacial lake flooding, cloud bursts, landslides particularly in the Himalayan region, has been responsible for extensive fatalities, property damage, destruction of forests, farms, and mountain infrastructure in downstream areas. In such situations forced relocation becomes the only viable option where mountain glaciers continue to melt at an unprecedented rate.

Also there is a possibility of an entire island nation like Maldives, Caribbean Islands or Marshall Islands disappearing in future or could cease to exist and many others will lose portions of territory. Lose of land mass due to global warming will lead to forced displacements in future. In fact, five lakh people of Bhola Islands in Bangladesh are the world's first climate change refugees.

Evidence suggests that over 50 million 'environmental refugees' are created each year. This group of 'Environmental Refugees' is a growing cause of concern to policy makers at a national and international level. What's most worrying is there is no domestic and international protection afforded to victims of environmental events. The international refugee mechanisms, caters to the needs of post War refugees. International law, in its current form, no longer offers sufficient protection to a category of displaced people which outnumbers those displaced by war and other conflict.

In a statement the United Nation's Secretary General's representative for displaced persons, Francis M Deng, proposed the following definition. "Displaced persons are persons or groups of persons who have been forced or obliged to flee or to leave their homes or places

of habitual residence, in particular as a result of or in order to avoid the effects of armed conflicts, situations of generalized conflicts, situations of generalized violence, violations of human rights or natural or manmade disasters, and who have not crossed an internationally recognized State border." [36]

Under International Law, displaced persons do not form a judicial category. It only serves as a descriptive term, not as a status which confers obligations on States.[37] There is no consensus as to concept of 'climate refugees'. It is worthy to note the words of António Guterres, United Nations High Commissioner for Refugees in this regard:

> *"A growing number of people are uprooted by natural disasters or lose their livelihoods to desertification, with climate change now found to be the key factor accelerating all other drivers of forced displacement. These persons are not truly migrants, in the sense that they did not move voluntarily. As forcibly displaced not covered by the refugee protection regime, they find themselves in a legal void."* [38]

However, the 1985 UNEP Report[39] identifies the three categories of environmental refugees. The first category includes those people temporarily displaced due to temporary environmental stress but who return to their habitat once the area has been rehabilitated, such as following a natural hazard or environmental accident. Second, environmental refugees might include those permanently displaced who have resettled elsewhere due to permanent environmental change that, in many cases, is often man-made, such as large dam projects. The third category of environmental refugees includes people who have migrated (either temporarily or permanently) in search of a better quality of life as a result of progressive degradation of environmental resources. This often represents a more subjective classification whereby "the migration depends mainly on the refugees' perception of the change and their ability to cope with its consequences"[40].

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[36] United Nation Office for the Coordination of Humanitarian Affairs, Guiding Principles on Internal Displacement, at 1, UN Doc. E/CN.4/1998/53/Add.2 (1998).

[37] David Keane, 'The Environmental Causes and Consequences of Migration: A Search for the Meaning of "Environmental Refugees"' (2004) 209 *Georgetown International Environmental Law Review* 215.

[38] http://www.ejfoundation.org/climate/legal-recognition-and-protection-for-climate-refugees visited on 2nd May,2014

[39] El-Hinnawi, Essam, United Nations Environment Programme (UNEP), 1985.

[40] *Ibid.*

The concept of climate refugee may be further divided into the actual cause of displacement like scarcity of water, rise in sea level, etc. However as there are always multiple causes resulting in displacement, the process of classification can be cumbersome and often fictional in nature. Also some adopt the duration of displacement like temporary or permanent in order to classify as the level of implications in both the scenario will be different. Another important division is whether the displacement is within the border, 'internal' or outside the border 'external'. This is significant to determine ones statue as refugee.

There is no specific international legal instrument dealing with the issue of climate change refugee. So can 'Environmental Refugees' seek protection under the current refugee structure? Should International Refugee Law accommodate climate change? Can the United Nations help to protect people seeking safety abroad if their homes and jobs are destroyed by climate change related phenomena in the same way as if they were displaced by war or human rights abuse?

Volker Turk, Director of International Protection UNHCR, Geneva, explains that most displacement will occur within and not across international borders. The definition of refugee as given under 1951 Refugee Convention defines a refugee as someone with a well-founded fear of persecution, on the basis of one of five grounds: race, religion, nationality, membership in a particular social group, and political opinion. The 1951 Refugee Convention normally does not apply to situations of persons displaced across borders as a result of climate change and other environment factors alone. But convention can be made applicable in situations where the impact of climate change may also be an exacerbating factor of conflict, violence or public disorder. It is predicted that armed conflicts will increase as resources become scarcer as a consequences of climate change. These conflicts could be a fit case for refugee protection if these events lead to denial of humanitarian assistance to a minority group and this could as a result be considered persecution.[41]

At the moment, Finland and Sweden are the only countries in the world to have passed legislation allowing people to apply for asylum for environmental reasons, but the

[41] Discussion Forum on Climate Change – Remarks of Volker Türk, *Director of International Protection UNHCR Geneva* (Berlin, 17 June 2014).

processes there remain largely untested. Therefore, at present the answer to the above questions is a NO.

VIII.I. Kiribati "Climate Refugee" loses appeal

Mr. Ioane Teitiota, a Kiribati national, lost his asylum appeal in New Zealand in May, 2015 in a case that would have made him the world's first ever "Climate Change Refugee". He had moved to New Zealand claiming his island was sinking and becoming too dangerous to live on. His lawyers argued that Mr. Teitiota was being persecuted passively by the circumstances in which he's living and for which Kiribati government has no ability to undo. New Zealand's court of Appeal ruled that while climate change is a major and growing concern for the International community like Kiribati is not appropriately addressed under the Refugee Convention. The Court held- '*we don't have in international law, or any kind of mechanism to allow people to enter a state against the will of the state, unless they're refugees'*.

According to Channel 7 News (Australia)[42]:

"*The Supreme Court of New Zealand on Monday declined an appeal by Teitiota to overturn a decision to not grant him refugee status on those grounds.*

In its ruling, the court said it did not believe there was enough immediate threat to Teitiota to cover him under international refugee laws.

"In relation to the Refugee Convention, while Kiribati undoubtedly faces challenges, Mr Teitiota does not, if returned, face serious harm and there is no evidence that the government of Kiribati is failing to take steps to protect its citizens from the effects of environmental degradation to the extent that it can," it said."

The first national relocation plan is being developed on the atoll island nation of Kiribati. Kiribati President Anote Tong told Huffington Post that his Cabinet has endorsed a plan to buy nearly 6,000 acres on Fiji's main island, Viti Levu. He said the fertile land, being sold by a church group for about $9.6 million, could be insurance for Kiribati's entire population of 103,000, though he hopes it will never be necessary for everyone to leave. [43]

Kiribati President Anote Tong said: "*We would hope not to put everyone on one piece of land, but if it became absolutely necessary, yes, we could do it. It wouldn't be for me,*

[42] https://au.news.yahoo.com/.
[43] http://www.huffingtonpost.com/2012/03/09/kiribati-global-warming-fiji_n_1334228.

*personally, but would apply more to a younger generation. For them, moving won't be a matter of choice. It's basically going to be a matter of survival. Kiribati, which straddles the equator near the international date line, has found itself at the leading edge of the debate on climate change because many of its atolls rise just a few feet above sea level..... . We're trying to secure the future of our people. The international community needs to be addressing this problem more.***"**[44]

Small islands are tabling a resolution *calling on the UN Security Council to address climate change as a pressing threat to international peace and security.* Therefore, people like Mr. Teitiota do not find any solutions in International Law as it presently stands. Presently, there is no framework to guide governments. These issues could be sorted out through negotiations with neighboring states for transfer of populations. This is going to take a lot of imagination and political will to be able to negotiate transfers of populations which could be on a massive scale. So the best Mr. Teitiota could do was to petition the United Nations and he did some time back.

Many communities have rejected the 'Climate Refugee', label saying it gives a false sense of hopelessness. Many prefer to focus on adaptation and migration strategies to help them stay in their homes longer. Kiribati is looking towards the development of skilled migration programs that may be able to reduce overcrowding in the short term, while developing skills and building up communities abroad should larger scale settlement be required in the future.

IX. SO WHAT IS THE SOLUTION

Although people displaced by Climate Change are not classified as refugee under 1951 Refugee Convention, UNHCR's experience has shown that they are clearly people who face great challenges and whose rights and protection needs have to be addressed.

All parties to UNFCCC acknowledge the need for action in the area of displacement of people due to climate change. Cancum Adaptation Framework and COP decisions, 2010 encourages parties to take 'measures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation, where

[44] Id, By Wade Norris, on May 15, 2012.

appropriate, at the national, regional and international levels'.[45] Doha decision encouraged, 'further work to advance the understanding of and expertise on loss and damage, which includes [...] enhancing the understanding of […] how impacts of climate change are affecting patterns of migration, displacement and human mobility'.[46]

In 2011, the Bellagio Expert roundtable[47] examined protection gaps and potential responses linked to climate related external displacement and reached a number of broad understandings on human mobility.

In June, 2011, Nansen Conference on Climate Change in 21st Century held in Oslo lead to Nansen Initiatives on Human Mobility in the context of disasters and climate change. The conference emphasized the need for the importance of integrating human mobility considerations into National Adaptation Plans. NAPs are crucial to prevent or mitigate displacement and reduce vulnerability and strengthening the resilience of communities. The Nansen Initiative on Disasters and cross-border Movements, launched by Norway and Switzerland in 2012 is a state–led initiative which aims to build consensus on the key principles and elements regarding the protection of persons displaced across borders in the context of natural disasters. Nansen Initiative is helping states to figure out how to protect those who cross borders.

During the Lima Conference on Climate Change, Dec 2014, COP 20 had an opportune moment for policy makers to ensure that adaptation measures are taken to prevent and mitigate displacement in the context of climate change, including migration as an adaptation strategy and planned relocation as an adaptive measure of the last resort.

Parties of UNFCCC process have recognized that human Mobility issues are a matter of adaptation.[48] Solutions exit and can be developed to minimize risks of displacement with a rights based participatory approach. The Advisory Group on Climate Change and Human Mobility[49] is committed to design effective human mobility resilience measures to Climate

[45] Para 14(f) of the Cancum Decision 1/C.P 16, 2010.
[46] Doha Decision 3/C.P 18 para7 (a) (vi).
[47] Expert Roundtable Climate Change and Displacement: Identifying Gaps and Responses, Rockefeller Foundation Bellagio Center, 22-25 February 2011.
[48] Cancum Adaptation Framework 2010 lays down adaptation strategies.
[49] The Advisory Group on Climate Change and Human Mobility consists of the United Nations' High Commissioner for Refugees (UNHCR), the International Organization for Migration (IOM), the United Nations University Institute for Environment and Human Security (UNU-EHS), the United Nations Development Programme (UNDP), the Norwegian Refugee Council/Internal Displacement Monitoring Centre (NRC/IDMC),

Change. As discussed above, the 2015 Paris Agreement[50] needs to recognize that climate change is expected to increase the displacement of people and therefore, it is time to consolidate existing findings and recommendations put out at various international consultations and address the action gap. The Paris Agreement should also effectively equip the nation states with policy plans to act against disasters and human mobility.

Therefore, climate-change-induced displacement is not inevitable and may be mitigated where the right policies, such as migration, adaptation and planned relocation are developed and effectively implemented. The Advisory group has recommended that human mobility should be addressed in all its form and as a matter of adaptation in the main Paris Agreement and its potential decisions to be held in the December 2015.

X. CONCLUSION

History has demonstrated that the creation of a binding and effective international instrument on climate change refugee is a daunting task. Creating a treaty for the protection of environmental refugees encompasses a wide range of issues that go well beyond the protection of people and the elimination of the causes of their displacement is very hard to achieve. However, the growing number of 'environmental refugees' has made this an issue which, in coming years, will be hard to ignore. The central theme for deliberations at Paris this year for COP 21 will be Human Mobility and Climate Change. Hopefully, the Paris Agreement 2015 will suggest path breaking guild lines to tacking human mobility due to climate change and ***allow lives to be lived with dignity***.

Let me conclude my study with optimism and hope that an environmentally better and habitable world will be ushered in the near future. Similar optimism has been expressed by Mr. Kofi Annan when he says that slowly and steadily the world is gearing up to the challenges of climate change and global warming.

Refugees International, the Center for International Relations Studies de Sciences Po (Sciences Po CERI), and the Arab Network for Environment and Development (RAED).

[50] The Universal Climate Change Agreement which will be signed in 2015 at Paris.

JUSTICE AT LAST FOR THE OGONI PEOPLE

Martyn Day, Kate Gonzalez & Oliver Holland (Leigh Day)*

ABSTRACT

In late 2008, the Bodo community (Nigeria) was left devastated by two large oil spills which destroyed over 2,500 hectares of mangrove swamp in the Niger Delta. Leigh Day were instructed in February 2011 to bring claims in the High Court of England and Wales on behalf of the community and their individual fisher folk. In the first case of its kind to be brought in London, an agreement was eventually reached in December 2014 which resulted in a settlement of £55m.

The information provided in this piece has been gathered by the authors as a result of spending time with the affected communities. The authors spent half of the year in Nigeria with the clients and hence the source of data as discussed in this article is mostly primary in nature.

I. BACKGROUND

In 2015 the Bodo community in Ogoniland in the Niger Delta received individual and community compensation to the tune of £55m as a result of the devastation left by two enormous oil spills in 2008. Bodo is a rural coastal community comprised of 35 villages with a population of approximately 31,000 people. Its residents depend heavily on their natural resources including creeks and waterways bordered by mangroves comprised of over 9,000 hectares.

A riverine community, the Claimants argued that 80% of adults in the community (the great majority of whom were fisher folk) were reliant on the creeks until the two oil spills. Life in Bodo revolved around the creeks; indeed its very name is translated as meaning "*because of the sea*." Shell say they were informed of the first oil spill in early October 2008. The community says by this date oil had already been pumping into the creek for approximately six weeks. Even then it took Shell over a month to repair the weld defect in the pipeline.

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The second spill occurred in December 2008 and was also the result of equipment failure. It was not capped until February 2009 during which time even greater damage was inflicted upon the creek as crude oil pumped out from the fracture for a period of over two months. The Claimants argued that prior to these oil spills the main river channels in the Bodo creek had no physical trace of oil, were 'near pristine', were rich in fauna and free of hydrocarbons. Following the two spills, in September 2009, a Post Impact Ecological Assessment study[1] of the oil spillages was carried out on the Bodo creek. This found a severe reduction in the abundance of marine life with shellfish no longer present and fish numbers dramatically reduced.

The United Nations Environment Programme's Environmental Assessment of Ogoniland 2011 surveyed pipelines and visited all oil spill sites including the Bodo creek. It found Hydrocarbon contamination in water in some sites to be 1,000 times higher than permitted under Nigerian drinking water standards.

II. THE LITIGATION

II.I. The Forum

Although the damage in this case stemmed from a pipeline in Nigeria where the Claimants were resident, this was a case brought in the Courts of England and Wales. Nigerian cases are notorious for taking significantly longer to be resolved when compared to the Courts in this country. In order to pursue the claim at the High Court of Justice in London, the Claimants commenced an action against not only Shell Petroleum Development Company of Nigeria (SPDC) but also the parent company Royal Dutch Shell (RDS), who had a registered office in London which allowed them to use the route of the English courts. It was eventually agreed between the parties that the claim would only continue against SPDC on the basis that the Shell subsidiary would not challenge the jurisdiction of the English court if the claim against RDS was dropped.

Given the size and complexity of the matters involved in the litigation, the claim was issued in the High Court of Justice in London. The claim commenced in the Queen's Bench Division where the case was overseen by Senior Master Whitaker, but was subsequently

[1] Post-Impact Ecological Assessment study in conjunction with the Centre for Environment, Human Rights and Development by Ecoland Resources Limited.

transferred to the Technology and Construction Court (the "TCC") pursuant to Civil Procedure Rule (CPR) 30.5. Only certain claims can be brought in the TCC following Practice Direction 60, sections 2.1 and 2.2 of the CPR. As the name suggests the claims that are heard at the TCC primarily focus on technology and construction related cases such as claims related to the design of computers, engineering or building disputes. However, they also hear cases relating to the environment including pollution.

The benefits of the TCC are significant. For example, a trial judge was immediately selected to manage the litigation (Mr Justice Akenhead) who quickly proceeded to obtain agreement regarding the trial date to stop the case drifting through the procedural aspects of the court process. Experience in this litigation also suggests that the TCC is a good court for the listing of hearings whether Case Management Conferences (CMC) or emergency applications and it was also far more streamlined when dealing with general case management issues such as having orders sealed or making applications.

II.II. Representative & individual claims

The claims were divided broadly into two parts; a claim on behalf of the Bodo Community and claims brought by individual Claimants (fishermen/ fish traders/ shellfish harvesters/ farmers). The Bodo Community claim sought compensation for loss of the mangroves, clean-up of the creeks, damage to the water sources and damage to religious shrines.

Originally, the community claim was brought simply under the name of the Bodo Community. The Defendant objected to the constitution of the claim in this manner and sought to strike out the claim. SPDC contended that the Bodo Community did not have juridical personality and lacked capacity to bring a claim. The Claimants therefore reformulated the claim as a representative action pursuant to CPR 19.6 naming the King of the Community and the members of his ruling Council of Chiefs as the representative Claimants. It was this claim that was resolved at the conclusion of the action.

II.III. Group litigation orders/ directions

Under the law of England and Wales, parties in cases involving multiple Claimants may bring the action collectively upon a successful application to the Court for a Group Litigation Order (GLO) which is provided for under CPR 19.11. In this case, a GLO was not

granted and instead, the litigation was managed through "group directions." In practice, it was little different to having a formal GLO in place. 15,601 individual claims were joined together and managed under the common heading of "*the Bomu-Bonny Oil Pipeline Litigation"* and a group register existed. A group register is a common feature of a GLO whereby Claimants who meet the necessary qualifying criteria to bring a claim are added to the register which is then served on the Defendant(s).

Group directions also set out the generic issues in the litigation such as determining which areas were affected by the first and second spills. Costs sharing provisions were also provided for whereby the costs generated by the generic issues (for example the provision of expert reports) would be shared between the individual Claimants in the event Claimants were unsuccessful in their claims. This mechanism allows each Claimant to be responsible for his share of the generic work conducted on behalf of the cohort as a whole.

Obtaining a GLO or requesting group directions is advantageous for a number of reasons. Such an approach provides a much needed framework for cases involving very many thousands of Claimants and often complex issues which would otherwise allow the litigation to become simply unmanageable. Importantly, group litigation allows Claimants to pursue relatively complex and therefore costly cases which may otherwise fall foul of the new proportionality principles post the April 2013 rule changes whereby the costs incurred by legal teams must be proportionate to the damages of the Claimant. In cases such as this, it would be extremely difficult to pursue a claim for a single individual who had only suffered modest losses. This case involved multifaceted issues which required extensive expert evidence in 16 fields and was rigorously defended by the Defendant.

The cold reality of the world post the rule changes therefore, is that an individual with a claim similar to this case, would not be able to bring such a claim in the Courts of England and Wales unless he had suffered substantial losses or was part of a larger cohort. The costs of investigating and proving his losses would simply obliterate any award of damages, even though they could be potentially significant to the individual concerned.

II.IV. Lead Claimants

Aside from the obvious costs/ risk sharing benefits of managing individual claims as a group, a significant advantage of group litigation is the provision for the selection of lead

Claimants. Such cases are selected by both parties to exemplify their respective positions on the individual claims. The cases are run as individual claims would be and often include fully pleaded particulars of claim, schedules/ counter schedules of loss, medical reports (if required), witness statements and requests for further information. Lead Claimants allow for the identification of key strengths and weaknesses in each other's cases and can ultimately therefore, result in a clearly identifiable 'average' value per case of the litigation.

II.V. Costs

Although this case pre dates the costs changes that came into force on 1st April 2013, including the requirement to prepare costs budgets, the parties agreed that nevertheless cost budgets should be prepared and exchanged. Costs budgets were effectively exchanged quarterly in this case and included accounting for the past quarter as well as setting out the anticipated costs for the next. Budgeting for a case of this size with a large team was no easy feat but the benefits were considerable.

For the first year of costs management, costs issues were regularly raised. For example, in November 2012, in a costs hearing covering various issues, Master Hurst assessed the hourly rates proposed by the Claimants. Examining hourly rates pre any detailed costs assessment was unusual but extremely useful as it allowed the Defendant to have a clear idea of the Claimants' legal costs.

Dealing with costs points as and when they arose was helpful as it allowed the parties to air any issues whilst they were pertinent in the litigation with thoughts and evidence on the same being contemporaneous rather than saving such questions/ issues for the end of the litigation some two or three years later. Dealing with costs issues in this manner ultimately allowed the parties to reach an agreement on legal costs at the same time as an agreement was reached on damages saving months if not years, debating costs post settlement or trial.

III. KEY ISSUES IN THE CASE

Following any jurisdictional arguments typically the next stage of litigation of this nature will focus on the liability of the Defendant. However, Shell made an early admission of liability prior to the action in the English courts being issued. Following an investigation

into the two oil spills involving Shell, Government bodies and members of the community it was clear that both oil spills had been caused by equipment failure.

The pipelines were 50 years old which meant that they had been subject to serious erosion and thereby a tendency to fracture. Shell were unable to argue to the contrary and they admitted that they were strictly liable for the two oil spills and that they were therefore liable to pay compensation under the Nigerian Oil Pipeline Act 1990.

Despite Shell affording an early admission of liability for the oil spills a number of contentious issues remained in the case. Effectively these issues focused on the quantum of the case although there were still some arguments over the extent of Shell's admission of liability. The primary key issues in the case fell under the following broad categories:

i. Pipeline integrity and oil spill prevention;
ii. Illegal activities by third parties;
iii. Volume and extent of the First and Second Spills;
iv. Clean-up and remediation

III.I. Pipeline integrity and Oil spill prevention

The Claimants' asserted that the Defendant's oil spill prevention measures were entirely substandard, being well below the measures taken to prevent oil spills in other areas of the world. The Claimants' pleaded case was that the number of oil spills reported on the Bomu-Bonny 24" pipeline (the pipeline on which the oil spills took place) between 2001 and 2012 averaged at least 2.6 spills per year, 344 times greater than the European average in the same period and 78 times worse than the European average in the 1970s. SPDC disputed this and asserted that they complied with Nigerian legislation on pipeline maintenance and oil spill prevention.

The Claimants argued that the Defendant failed in a number of ways to protect their pipeline and prevent oil spills. The Claimants' argued that it was generally accepted industry standard to have a number of measures in place to reduce the risk of an oil spill happening and to have early warning measures in place. For example, leak detections systems that monitor the flow and pressure of a pipeline leading to quick response in the event of a leak. Well heads and other infrastructure such as manifolds are heavily fortified and protected in other countries around the world. Furthermore, the Claimants argued the ability to be able to

quickly isolate or shutdown a pipeline remotely in the event of a spill is a norm in most oil producing countries.

III.II. Illegal activities by third parties

Although causation was not an issue, the Defendant's case was that a large part of the damage had been caused by subsequent oil spills that were as a result of sabotage to the pipeline for which they argued they are not liable. Under the Oil Pipelines Act 1990 ("OPA") oil companies are liable to pay compensation for damage caused by oil spills where the oil spill is the fault of the oil company. However, where the oil spill has been caused by third parties, such as through deliberate sabotage, the oil company is liable to clean-up the oil spill but not pay compensation. Evidently this was an appealing route of argument for the Defendant and part of their Defence blamed subsequent oil spills for the damage caused to the Bodo Creek. The Claimants argued in response that despite there being other oil spills, the initial damage had arisen as a result of the two 2008 oil spills and any subsequent damage was immaterial.

III.IV. Volume and extent of the First and Second Oil Spills

The Defendant disputed the start date of the First Spill and argued that for both spills the pipeline had been isolated and therefore oil had not been flowing through the pipeline during large periods of the leaks. Both spills were not fixed for at least around two months so if the Defendants had made good these assertions it would have led to a greatly reduced volume of oil that had been spilt. The Claimants argued in reply that the start date of the First Spill had been much earlier and they held a video made by Bodo Community members which showed the oil coming out of the pipeline during the period that the Defendant claimed it was isolated and had no oil travelling through it. The Claimants asserted that the isolation had been ineffective due to the isolation process being faulty.

Due to these areas of disagreement the total volume of oil released into the environment from each spill differed widely from each party's perspective. The Claimants argued that the total volume of oil spilt as a result of the First Spill had been in the region of 280,000 barrels of oil whereas the Defendant put the figure at only around 1% of that figure. Furthermore, the size of the area impacted by the two spills was greatly different on the arguments of each party. The Defendant claimed that only 36 hectares of the Bodo creek was

impacted by the two spills despite it being a tidal area, although they reserved the right to amend these figures after reviewing expert evidence. The Claimants asserted that the area impacted was far greater and at least 1000 hectares of mangrove had been heavily impacted and a further 5,500 hectares had been moderately impacted.

III.V. Clean-up and remediation

Under Nigerian Law oil pipeline operators are required to respond to an oil spill by commencing recovery of the spilled oil within 24 hours of an oil spill and to commence clean-up and remediation to return the environment to its original state. It was the Claimants' case that no effective clean-up or remediation had taken place at any time after the 2008 oil spills when the case was issued in the High Court and England in 2011 or subsequently. The Defendant responded by asserting that they had in fact cleaned up the area impacted by the oil and had been prevented from remediating due to the impact of other oil spills. Both assertions were strongly denied by the Claimants who provided strong evidence to refute the claims. In any event, the Defendant remained liable for clean-up and remediation of other spills from their pipeline so the point was largely irrelevant.

IV. TRIAL ON PRELIMINARY ISSUES OF LAW

A legal hearing began on 29th April 2014 to determine the key legal issues to be considered in one of the largest ever environmental law cases. The preliminary issues hearing was the first time Shell had had to face formal Court proceedings in the UK for its environmental record in the Niger Delta. During the week long hearing 8 preliminary issues were examined by the Court with two former Supreme Court Judges from Nigeria (Justice Oguntade for the Claimants and Justice Ayoola for the Defendant) giving evidence.

Amongst the issues considered was the question of whether SPDC could be held accountable to pay just compensation for damage caused by oil from its pipelines that has been released as the result of illegal bunkering and/or illegal refining illegal from its pipelines. The ruling on this point was 'no' "*strictly speaking*" but that, *"it is conceivable however that neglect by the licencee in the protection of the pipeline… which can be proved*

to be the enabling cause of preventable damage to the pipeline by people illegally engaged on bunkering which causes spillage could give rise to a liability."[2]

This was a significant finding for the Claimants as it paved the way for the Claimants to be able to lay the blame at the door of the Defendant for the subsequent spills arising from bunkering (which is where oil is stolen from the pipeline). Bunkering is a serious issue in the Niger Delta and is thought to be one of the primary causes of much of the environmental devastation visible in some areas today.

Another important point considered was whether the Oil Pipelines Act (the OPA) effectively excluded common law causes of action. The Defendant argued that the OPA provided an exclusive code for compensation for people affected by oil spillages, which therefore, precluded any common law causes of action. Comparatively, the Claimants argued that common law causes of action existed in negligence, nuisance (both private and public) and in Rylands v Fletcher.

The Judge found in favour of the Defendant on the point. His reasons were as follows[3]:

a) *"There is a sufficiently comprehensive code within the OPA to cover the key aspects of the whole process involved in the pipelines.*

b) *There is a wide and comprehensive provision for compensation. That provision goes in most respects wider than the common law with primarily a causation test for injurious affection and damage, albeit that neglect is required under one head. For instance, the test in Section 11(5)(b) does not have the "economic loss" limitations present in the tort of negligence. It is therefore much more generous overall for the victims than the common law in many respects. In this context, it is of course correspondingly more restrictive and onerous on the licence holder than under the common law.*

c) *There are substantial differences between the statutory scheme and the common law both in terms of substance and in terms of procedures. The statutory scheme goes much wider in terms of liability (both as to scope and to*

[2] Bodo Community v Shell Petroleum Development Company of Nigeria Ltd [2014] EWHC 1973 (TCC), ¶93.
[3] Op Cit, Bodo Community v SPDC [2014] , ¶64.

what has to be established) than the common law. The statutory regime is compensatory in nature and therefore excludes any entitlement to aggravated, exemplary or punitive damages otherwise available under some of the common law remedies. There is a much wider range of potential claimants (based largely on the causation test). The procedures were novel (and sensible). Taken overall, the differences are substantial albeit that if one looks at some of the individual differences (for instance, payment of compensation in instalments) they are not on their own substantial enough.

d) *There could be a form of chaos or setting at nought if both common law and statutory regimes co-existed with, for instance, there being no or only a restricted res judicata regime in place for the statutory claim but a fully rigorous res judicata regime deployable for the common law claim. There could be some very real tension if the court thought that on a valid statutory claim the compensation should in total or in part be paid to the local headman but this policy would be defeated if there was a parallel valid common law claim pursuant to which no such provision could be made."*

Arguments were also raised as to the heads of loss that could be claimed. The Judge found that a type of compensation known as 'wayleave damages' could not be ruled out in considering this issue. If there had been injurious affection to land interests, it was, according to his Lordship *"at least conceivable that, if no other basis of assessment can be made, some form of "just" allowance might be for what Shell might have had to pay a willing owner/tenant by negotiation so to speak for polluting the land."*[4] Wayleave was an important point for the Claimants.

Under traditional land value models, compensation arises for the lost value of the land through considering for example, its rental value; but in a community like Bodo the land has no direct value with their being no market for it and therefore, such models are more difficult. The 'wayleave damages' route was therefore a very helpful alternative method for determining this loss.

[4] Op Cit, Bodo Community v SPDC [2014], ¶145.

V. THE OUTCOME

With trial listed for May 2015 and expert and witness evidence exchanged, the parties agreed to enter into a last ditch attempt to resolve the case and so potentially avoid the need for a lengthy battle at trial. Bodo community representatives, SPDC in-house counsel and both parties' lawyers entered into a formal mediation process in London in December. After three days of discussions an offer that the community representatives and their lawyers felt was fair and could take back to the community for agreement was made. Leigh Day representatives flew to Bodo with the Community Representatives to present the offer to the Bodo leadership and 15,601 individuals.

The offer on the table was for £35 million to be distributed amongst the individuals and a further £20 million to be set up as a trust fund and used for community development projects. With separate discussions regarding clean-up and remediation progressing well it was agreed to stay that part of the claim for 2 years so that if the clean-up and remediation was not forthcoming or was not done to a sufficient international standard the Claimants would have the opportunity to return to court regarding the matter. The settlement offer was overwhelmingly accepted and Leigh Day staff commenced meeting with around 15,000 individuals for them to sign an agreement accepting the offer.

VI. FUTURE LITIGATION – WILL THE ATTITUDE OF OIL COMPANIES IN THE NIGER DELTA CHANGE?

The acceptance of the offer was a historic moment both in Nigeria and globally. This was the first time that Shell had been successfully sued in a foreign jurisdiction regarding environmental damage in Nigeria. In a country that has been ravaged by oil spills we would hope that this result would encourage Shell to bring about a more fair and speedy route to compensating local people in the Niger Delta impacted by the oil. In a country where most oil spill litigation is tied up for 20 to 30 years the fact that people were here able to receive compensation so quickly after the spills was of great value. Furthermore, to our knowledge this was the first time in Nigerian history that thousands of affected individuals would receive compensation directly into their bank accounts described as a truly historic moment.

It is too early to say what wider impact this will have on SPDC's operations in Nigeria. Since the 2008 oil spills and the involvement of Leigh Day and the British courts,

there has been an improvement in oil spill response times and there seems to be an understanding from Royal Dutch Shell (RDS) that they cannot allow the errors of the past to continue. However, there are still hundreds of spills every year in the Niger Delta – over 200 spills by SPDC alone in 2014[5] – so there is still a very long way to go. Unfortunately one very important case is unlikely to change operations over night.

There is certainly scope for further actions against SPDC and RDS in the future although there are reports in Nigeria that Shell are attempting to sell their on-shore assets. Further actions are largely limited to SPDC and RDS in the British courts. There are reports of actions against Chevron and Agip in the US and Italy but no successes to date. Even if actions against all of the foreign operated oil companies in Nigeria were successfully brought it still leaves the Nigerian oil companies which seem able to act with effective impunity.

Ultimately, for the oil companies to change it would take strong action by the Federal Government. This appears an unlikely path for the country to take. History suggests the non-regulation of the oil companies will continue unabated.

VII. HOW WILL THE COMPENSATION BENEFIT THE COMMUNITY?

The £35 million individual compensation was divided between the 15,601 individuals which meant that they received approximately 600,000 naira (circa $3,000) each. In a country where over half of the population live on $2 per day[6] this is a life changing amount of money. The individuals who have received this compensation are mostly fisher folk who have lost a stable way to make a living. They have not been able to diversify because they lived a hand to mouth existence and did not have the capital to make a change. The compensation will enable them to put a roof over their head, invest in a new source of livelihood, put their children back in school or buy a motor for their boat so they can travel away from the oil spills to fish.

It will also have a secondary impact on the community as people are investing in improvements to their homes or buying a motorbike which will provide employment to the

[5] Shell Nigeria, *Oil Spills in the Niger Delta: Monthly Data for 20140*, (February 20, 2014), https://www.shell.com.ng/environment-society/environment-tpkg/oil-spills/monthly-data.html, (Last visited on: March 5, 2015).

[6] Central Intelligence Agency, *Country Comparison to the World*, (2013), https://www.cia.gov/library/publications/the-world-factbook/fields/2046.html, (Last visited on: March 17, 2015).

builders, carpenters and mechanics of the community. It will reinvigorate and stimulate the spirits and economy of Bodo.

The £20 million set aside for the Bodo Community as a whole is to be held in a trust fund to be used for community development projects for years to come. Such projects might be to build a better health centre, provide scholarships for children who cannot afford school fees, or improve community infrastructure generally. It will provide a spring board for the community to be able to fund projects and the money should last for many decades. The trust fund will be overseen and managed by a group of trustees and projects will be presented to the community so that the spending of money is carried out in a transparent way.

Overall, the case has brought about major change to Bodo. The community is thriving again and people can think about their future. Due to the level of damage the environment will take many years before it is returned to its pre spills state. However, the individuals who have suffered so much due to the pollution of their environment at the hands of one of the world's largest multinationals now have the means to survive more comfortably in the meantime.