



## Financial Mechanism and Technology Transfer for Protection of Global Environment

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*“Today, the global environment cannot be protected barely by formulating laws, it requires finance and technology transfer, the only pillar left if we really want to protect our mother earth”.*

Financial mechanism and technology transfer has become backbone of international environmental law application and policy making in light of sustainable development goals. In a decade the rules on finance and technology transfer have developed significantly. Financial resources and technology transfer were the prime issue at UNCED, it is also included in AGENDA- 21, further in 1992 climate change summit<sup>20</sup> and biodiversity convention including Nagoya protocol 2010, Cartagena protocol contains expressed provision of financial mechanism and technology transfer. This paper aims to cover such provisions and explore the options available that how these two ingredients can be effective in protecting the global environment. Further financial resources and technology transfer occupy central place in legal arrangements of international environmental law at regional and global levels. In this regard experience of montreal protocol provides some grounds for optimism, although issues like climate change adaptation demands financial resources and technical assistance of much greater order of magnitude. As environmental development is intimately related to

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<sup>20</sup>UNFCCC



socio-economic development. This term paper includes legal framework of financial and transfer of technology inclusion as well as institutional frame work under various environmental conventions and protocols. Financial mechanism and transfer of technology is mainly aimed at developing and least developing countries for their sustainable development which can contribute towards the development of global environment as it is the allegation of developed countries that the developing countries industrialization process and economic activities are key cause for degradation of ozone layer and environment. So developed countries have to some extent took initiative to help and assist the developing countries in funding and transfer of clean and so called green technology. As most of the works and strategy with regard to finance and planning is undertaken by UNEP.

**Keyword:** Legal Framework of Financial and Tecnology Transfer Under Inernational Environmental Law

As trend of financial and technological transfer was first started under montreal framework<sup>21</sup> with creation of Montreal multilateral Fund for the Implementation of the Montreal Protocol. The Multilateral Fund was established by a decision of the Second Meeting of the Parties to the Montreal Protocol (London, June 1990) and began its operation in 1991. The main objective of the Fund is to assist developing country parties to the Montreal Protocol whose annual level of consumption of the ozone depleting substances (ODS) chlorofluorocarbons (CFCs) and halons is less than 0.3 kilograms per capita to comply with the control measures of the Protocol. Currently, 148 of the 197 Parties to the Montreal Protocol meet these criteria. They are referred to as Article 5 countries. Multilateral Fund was established by a decision of the Second Meeting of the Parties to the Montreal Protocol (London, June 1990) and began its operation in 1991. The main objective of the Fund is to assist developing country parties to the Montreal Protocol whose annual level of consumption of the ozone depleting substances (ODS) chlorofluorocarbons (CFCs) and halons is less than 0.3 kilograms per capita to comply with the control measures of the Protocol. Currently, 148 of the 197 Parties to the Montreal Protocol meet these criteria. They are referred to as Article 5 countries. The Multilateral Fund is managed by an Executive Committee with equal membership from developed and developing Montreal assists the Committee in this task. Since 1991, the Fund

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<sup>21</sup>1987.



has approved activities including industrial conversion, technical assistance, training and capacity building worth over US \$3.0 billion. The countries. The Fund Secretariat located in Montreal, assists the Executive Committee in this task. Projects and activities supported by the Fund are implemented by four international implementing agencies.

Contributions to the Multilateral Fund from developed countries, or non-Article 5 countries, are assessed according to the UN scale of assessment. As at July 2013 the contributions made to the Multilateral Fund by some 45 countries (including Countries with Economies in Transition or CEIT countries) totalled over US\$ 3.11 billion. The Fund has been replenished eight times: US \$240 million (1991-1993), US \$455 million (1994-1996), US \$466 million (1997-1999), US \$440 million (2000-2002), US \$474 million (2003-2005), US \$400.4 million (2006-2008), US \$400 million (2009-2011) and US \$400 million (2012-2014). The total budget for the 2012-2014 triennium is US \$450 million: \$34,900,000 of that budget will be provided from anticipated contributions due to the Multilateral Fund and other sources for the 2009 2011 triennium, and that \$15,100,000 will be provided from interest accruing to the Fund during the 2012–2014 trienni.

UNCED chapter 33 and its agenda 21 deals about institutional arrangement and financial resources mechanism. Convention on biodiversity art.20 deals with financial resources and voluntary contribution along with technology transfer. Art.16 directly talks about access to transfer of technology and strengthening the financial and facilitated under fair and most favorable terms. legislative, administrative or policy measures as appropriate with aim that contracting parties are provided with access to benefit sharing.

Cartegena protocol on biosafety rules also under art.23 technology transfer collaboration and cooperation strengthening sound and viable technology and scientific base to achieve its basic objective under the protocol what it aims for. Art.28 included financial mechanism resources saying developed countries and developing countries and parties to with economic in transition avail themselves financial and technological resources through bilater and multilateral channel.



Nagoya protocol on access to benefit sharing also includes under art.25 financial mechanism and resources for capacity building. It says need of developing countries, least developing countries, small island parties with economy in transition effort to identify and implement capacity building and development requirements.

Bonn guideline under COP-4, says parties are invited to provide financial and technical assistance to support developing countries using cleansing house mechanism. COP decision on global environment facility for implementation of its programme, generating funds for developing countries as operational strategy. Eg. COP-11<sup>22</sup> INDIA decided to support 50 million dollars to strengthen institutional mechanism for environmental development including marine ecosystem.

Intergovernmental framework on climate change under its institutional framework has included the setup for financial and technological assistance set up which has been shown in the form of chart<sup>23</sup>. UNFCCC art.4.7 covers both technology transfer development in respect of developing countries.

### **Types of funds created under international environmental law.**

1. Global Environment Facility- can be described as joint project of UNDP, UNEP and WORLD BANK as it is provided under institutional framework created under UNFCCC.

Global Environment Facility (GEF) unites 183 countries in partnership with international institutions, civil society organizations (CSOs), and the private sector to address global environmental issues while supporting national sustainable development initiatives. Today the GEF is the largest public funder of projects to improve the global environment. An independently operating financial organization, the GEF provides grants for projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and persistent organic pollutants. Since 1991, the GEF has achieved a strong track record with developing countries and countries with economies in transition, providing \$11.5 billion in grants and leveraging \$57 billion in co-financing for over 3,215 projects in over 165 countries. Through its Small Grants Programme (SGP), the GEF has also made more than

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<sup>22</sup>Hyderabad meeting



16,030 small grants directly to civil society and community-based organizations, totaling \$653.2 million.

The GEF also serves as financial mechanism for the following conventions:

1. Convention on Biological Diversity (CBD)
  2. United Nations Framework Convention on Climate Change (UNFCCC)
  3. UN Convention to Combat Desertification (UNCCD)
  4. Stockholm Convention on Persistent Organic Pollutants (POPs)
- The GEF, although not linked formally to the Montreal Protocol on Substances that Deplete the Ozone Layer (MP), supports implementation of the Protocol in countries with economies in transition.

2. **GREEN CLIMATE FUND** COP 16, Parties, established a Green Climate Fund (GCF) as an operating entity of the financial mechanism of the Convention under Article 11. The GCF support projects, programmes, policies and other activities in developing country Parties. The Fund will be governed by the GCF Board. The assets of the GCF will be administered by a trustee only for the purpose of, and in accordance with, the relevant decisions of the GCF Board. The World Bank was invited by the COP to serve as the interim trustee of the GCF, subject to a review three years after operationalization of the Fund. The COP also decided that an independent secretariat will support the operations of the Fund. The COP also decided that the GCF was to be designed by the Transitional Committee (TC). The urgency and seriousness of climate change call for ambition in financing adaptation and mitigation. The purpose of the Green Climate Fund is to make a significant and ambitious contribution to the global efforts towards attaining the goals set by the international community to combat climate change. The Fund will contribute to the achievement of the ultimate objective of the United Nations Framework Convention on Climate Change (UNFCCC). In the context of sustainable development, the Fund will promote the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries to limit or reduce their greenhouse gas emissions and to adapt to the impacts of climate change,



taking into account the needs of those developing countries particularly vulnerable to the adverse effects of climate change.<sup>24</sup>

3. **GLOBAL COMMON TRUST FUND** is the notion of creating fund for financing the repair<sup>25</sup> as the common responsibility to save the environment. The supporting system is voluntary contributions made by the nations. Its fund is utilized for financing the to repair the damage caused to the environment as this is emerging notion under the environmental framework which is an appreciated attempt to save the environment.

4. **The Clean Technology Fund (CTF)**, one of two multi-donor Trust Funds within the Climate Investment Funds (CIFs), promotes scaled-up financing for demonstration, deployment and transfer of low-carbon technologies with significant potential for long-term greenhouse gas emissions savings. Channelled through the African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank, and World Bank Group, the CTF finances 12 country programmes and one regional programme.

### **Technology Transfer and the Environment**

The aim Technology transfer is the term by which any country having expertise in technology But under environmental law transfer of technology means transfer of technology in environmental sound manner such as transfer of green and clean technology to developing nation by developed nation generally in order to contribute towards eco-friendly sustainable development such that environment cannot be adversely affected. Developing countries are essential players in environmental conservation. It has been recognized that transfer of technologies between countries should emphasize the transfer of environmentally sound technologies. For example, the Intergovernmental Panel on Climate Change (“IPCC”) has identified national governments and certain international agreements as key elements of an effective, environmentally-sound technology transfer system. Transfer of renewable energy sources, and low greenhouse gas emitting engines and generators are initiatives promoted by Global Environment Fund under the auspices of the IPCC. Transfer of these and other technologies that reduce pollution to land and water or reduce consumption of natural

<sup>24</sup>Green climate fund objective.

<sup>25</sup>Christopher d stone, Defending the the global common





resources may require skilled intellectual property negotiators to effectuate. As efforts to ensure environmentally-sound technology transfer continue to grow, developing countries will increasingly be called upon to navigate thickets of intellectual property rights in order to license and access the relevant technologies. Countries may need to conform their policies and regulations accordingly. As such, developing countries could benefit greatly by having access to professional assistance from intellectual property professionals experienced in technology transfer. For technology transfer under international environmental law various factors are taken in to account such as *firstly*, feasibility of technology, *Secondly*, impact of technology on environment and human health, *thirdly* its applicability and efficiency as per the investment and finally it must be environmentally sound in its application. As we can see the impact of bt. cotton, bt. brijal issue in india that how use of biotechnology technique can have adverse impact. So, biotechnology transfer is guided by cartegena and Nagoya protocol.

IPCC Special Report on Methodological and Technological Issues in Technology Transfer Examines the role of technology transfer in addressing climate change and puts it in the framework of sustainable development.<sup>26</sup>Technology Transfer Can Bring Benefits in Reducing Greenhouse Gas Emissions and High Death Rate from Solid Fuel Use.

**BALI ACTION PLAN 2007- It also talks about shared vision, mitigation, adaptation technology role and financing. 2012 Cancun agreement exclusively dealt with finance, technology and capacity building approach.**

In current regime protection of environment and combating climate change is solely dependent on green technology and climate resilient approach as multilateral environmental treaty are now moving towards trade, based collaboration focusing of green technology and clean technology to reduce carbon emission targets. As whole world is conceiving under Paris Agreement 2016 creation of global 100 billion fund for global climate change resilience. As under the established notion that that developed countries are under the common responsibility to help under-developing countries and least developing countries to held in terms of supplying technology transfer. As it serves two purposes first one is for

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<sup>26</sup>Ipcc report



global climate action and second one is to build market economy for global commons such that both environment and development can move together.

CONVENTION ON BIODIVERSITY- **in its text under art.16** Each Contracting Party, recognizing that technology includes biotechnology, and that both access to and transfer of technology among Contracting Parties are essential elements for the attainment of the objectives of this Convention, undertakes subject to the provisions of this Article to provide and/or facilitate access for and transfer to other Contracting Parties of technologies that are relevant to the conservation and sustainable use of biological diversity or make use of genetic resources and do not cause significant damage to the environment.

2. Access to and transfer of technology referred to in paragraph 1 above to developing countries shall be provided and/or facilitated under fair and most favourable terms, including on concessional and preferential terms where mutually agreed, and, where necessary, in accordance with the financial mechanism established by Articles 20 and 21. In the case of technology subject to patents and other intellectual property rights, such access and transfer shall be provided on terms which recognize and are consistent with the adequate and effective protection of intellectual property rights. The application of this paragraph shall be consistent with paragraphs 3, 4 and 5 below.

3. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, with the aim that Contracting Parties, in particular those that are developing countries, which provide genetic resources are provided access to and transfer of technology which makes use of those resources, on mutually agreed terms, including technology protected by patents and other intellectual property rights, where necessary, through the provisions of Articles 20 and 21 and in accordance with international law and consistent with paragraphs 4 and 5 below.

4. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, with the aim that the private sector facilitates access to, joint development and transfer of technology referred to in paragraph 1 above for the benefit of both governmental institutions and the private sector of developing countries and in this regard shall abide by the obligations included in paragraphs 1, 2 and 3 above.





**5. The Contracting Parties, recognizing that patents and other intellectual property rights may have an influence on the implementation of this Convention, shall cooperate in this regard subject to national legislation and international law in order to ensure that such rights are supportive of and do not run counter to its objectives**

**NAGOYA PROTOCOL-2010 n art.23 describes about technology transfer, c Collaboration and cooperation describes about technology transfer and its character under the environmental law.**

In accordance with Articles 15, 16, 18 and 19 of the Convention, the Parties shall collaborate and cooperate in technical and scientific research and development programmes, including biotechnological research activities, as a means to achieve the objective of this Protocol. The Parties undertake to promote and encourage access to technology by, and transfer of technology to, developing country Parties, in particular the least developed countries and small island developing States among them, and Parties with economies in transition, in order to enable the development and strengthening of a sound and viable technological and scientific base for the attainment of the objectives of the Convention and this Protocol. Where possible and appropriate such collaborative activities shall take place in and with a Party or the Parties providing genetic resources that is the country or are the countries of origin of such resources or a Party or Parties that have acquired the genetic resources in accordance with the Convention. In this we can analyse that environmental technology transfer lays stree on environment sound technique and ecofriendly methods beneficial for all biodiversity including flora and fauna.

### **Conclusion**

From the above it is clear that international environmental law cannot move without financial and technological transfer set up. As the emerging needs and challenges of fuel consumption to food from the limited available natural resources can only be satisfied with the help of efficient technology with environment sound manner and yes, the importance of finance cannot be negated as it is the moving force without which economy cannot run. From the above mentioned legal framework it is clear that effician financial mechanism can generate revenue which can contribute to more clean and green technology research beneficial for the



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global environment such biotechnology advancement resulted in attainment of food security use high yielding varieties has solved the problem of hunger but at the same time check and balance should also be kept in mind that it may not seriously affect the global environment as such framework is available under Cartagena protocol on biosafety issue. As harmful technology transfer can also lead to disaster so more concrete institutional set up required to monitor issue of finance and technology transfer under international environmental law. Each convention emphasizes on its own subject in matter of financial mechanism and technology transfer. It establishes following funds such as (a) Montreal protocol multilateral fund (b) Wetland conservation fund (c) World heritage fund (d) UNEP environment fund (e) Global environment facility (f) Ozone trust fund. In this way we can see how international environmental law utilizes the basics of combination of financial mechanism and technology transfer for effective sustainable development of economy keeping importance of biodiversity.



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