



AN INSIGHT INTO INDIAN CLEAN DEVELOPMENT MECHANISM (CDM) PROJECTS

Nanda Dulal Hazra

Assistant professor of Commerce, Tamralipta Mahavidyalaya, Tamluk, Purba Medinipur, PIN-721636

ABSTRACT India places 2nd position after China in respect of registered CDM projects and issued Certified Emission reduction (CER) in the world. Sector wise distribution of CDM projects in the world as well as in India shows that renewable energy sector (wind, biomass, hydro and solar projects) is the most promising sector. CDM helps the establishing country to achieve its emission reduction target by earning CER and the host country to achieve its social, technological, environmental and economic well being. Till the end of June 2016 total registered CDM projects and issued CER in India are 1618 and 213730296 CO₂e respectively. The main problems of Indian CDM projects are lack of transparency of project activities among the general people of the project area, problems in validation of the projects by the DOE and corruption in verification and certification of the CER by the DOE etc.

KEYWORDS : Global warming, CDM projects, Certified Emission reduction (CER) etc.

Introduction:

To fight Global warming Kyoto Protocol was agreed upon under the United Nations Framework Convention on Climate Change (UNFCCC) in 1997 and it came into force in 2005. Kyoto Protocol suggested two types of mechanism namely project based mechanism and market based mechanism. In case of project based mechanism there are Clean Development Mechanism (CDM) and Joint Implementation (JI) and in case of market based mechanism there is Emission Trading or Carbon Trading. CDM is defined in article 12 of the Kyoto protocol, 2005 and it enables Annex I countries to earn CER from project activities in the developing countries in exchange of providing funds and technologies to launch the projects. A party where a CDM project is implemented is called 'Host country'. The Clean Development Mechanism (CDM) aims at a cost-effective reduction of GHG emissions and technology and capital transfer from industrialized to developing countries. Reductions in emissions shall be additional to any that would occur in the absence of the certified project Activity.

The CDM allows Govt. or private entities in developed countries (having emission obligation) to implement emission reduction projects in developing countries and receive credit in the form of CER (1ton of co₂e) which they may use to meet their national reduction target. And the CER received from the host country increase the emission reduction cap of the Annex-I parties. The CDM offers the industrialized countries an opportunity to reduce emission anywhere in the developing world and to use these reductions towards meeting their own GHG reduction commitments. Investment in CDM projects in developing countries by developed countries helps in achieving economic, social and environmental and sustainable developments. It also helps in cleaning land and air, improved land use, employment generation, poverty alleviation, and such other sustainable environment-friendly developmental goals.

An overview of Indian CDM projects:

Analysis of country wise distribution of CDM projects shows that India places 2nd after China in case of approved CDM projects (23.9%) and registered CDM projects (20.97%). India has attracted a large amount of foreign investment in establishing CDM projects and has earned CER from this project. I have analyzed the Indian CDM projects in respect of year wise registered CDM projects, CER issued and sector wise distribution of CDM projects.

Table no.1 Year wise Registration of Indian CDM projects and CER issued

Year	No. of Regd. Projects	Percentage (%)	CER issued
2005	17	1	48230
2006	124	7.6	12950789
2007	161	9.9	21066026
2008	82	5	20117353
2009	94	5.8	18738421
2010	133	8.2	9413729
2011	189	11.6	44790821
2012	569	35.5	35742154

Total up to 2012	1369	84.6	162867523
2013	114	7	26441369
2014	71	4.4	11264557
2015	60	3.7	8946229
2016(1st June)	4	0.3	4210618
Total after 2012	249	15.4	50862773
Grand Total	1618		213730296

Sources: CDM pipeline

Table no.1 shows the year wise distribution of CDM projects and CER issued from the year 2005 to 2016. It also shows the total number of CDM projects and CER issued up to the end of first commitment period 2012 and up to the 2016. Now the total number of CDM projects in India is 1618 up to the 1st June 2016 and total CER issued for the same period is 213730296 units. At the end of the first commitment period total CDM projects registered is 1369 and about 85% in percentage terms. CER issued for the same period is 162867523 units out of 213730296 and about 76% in percentage terms and after the end of first commitment period total CDM projects registered is 249 out of 1618 registered projects and about 15% in percentage terms as well as CER issued after the end of first commitment period is 50862773 units.

Maximum number of CDM projects registered with the Executive Board (EB) in the year 2012 and it is 569 followed by 2011(189), 2007(161), 2010(133), 2006(124), 2013(114), 2009(94), 2008(82) respectively. From the table it is observed that the expectation of non establishment CDM Projects after the end of first commitment period has completely gone as the number of CDM projects is continue to establish after 2012 and within 3.5 years 249 projects has already established.

Table no.2 Sector wise distribution of CDM projects in India

Sectors	No. of projects	Percentage (%)
Renewable energy	1519	74.94%
HFCs, PFCs, SF ₆ , CH ₄ & N ₂ o reduction (Agriculture, Chemical industries, fugitive emission from fuel, fugitive emission from production and consumption of halocarbons & sulphur, manufacturing industries, metal production, mining /mineral production, waste handling & disposal)	114	5.62%
Energy efficiency (energy demand & energy distribution)	318	15.69%
Forestry (Afforestation & Reforestation)	20	0.98%
Fuel Switching	45	2.22%
Transport	11	0.55%
Total	2027	100%

Sources: CDM pipeline

From the above table (no-2) it is observed that about 75% of the total CDM projects in India are in renewable energy sector followed by energy efficiency projects (15.69%), HFCs, PFCs, SF, CH₄ & N₂O reduction projects (5.62%), fuel switching (2.22%), forestry (0.98%) and transport (0.55%) respectively. If we look into the sector wise weighted of CDM projects around the world and India we found some differences. In respect of the world HFCs, PFCs, SF, CH₄ & N₂O reduction projects places in rank second but in India it is in third rank and energy efficiency projects in second rank. In India weighted of the renewable sector and fuel switching sector are more than the world weighted in renewable sectors and fuel switching sectors and weighted of the HFCs, PFCs, SF, CH₄ & N₂O reduction projects in the world is more than the India.

Problems of CDM projects in India:

1. Lack of transparency: CDM projects in India are mainly surrounded among the project developer, host country Government and International bodies i.e. UNFCCC. The general people of this particular project area are not well aware of this project regarding its local impacts and how they will be benefitted from this project though public hearing or public consultation is mandatory about such CDM projects. Government and local people are unaware of process of CDM project. Consultation is mere formality at project development stage. Even Ministry of Environment & Forest (MOEF) is not aware on financial transactions relating to the data of CER earning and selling.

2. High percentage of rejection of project by EB: A serious problem of Indian CDM projects is the high percentage of rejection of CDM projects that have already approved by the NCDMA, by the Executive Board (EB) of UNFCCC. Actually in most of the cases the NCDMA does not verify in details the project proposal as submitted by the project proposer whether it full fills the entire underlying criterion for becoming a CDM projects. For this reasons up to 2008 EB rejected 44% of the approved CDM projects of India. Again up to 2012 total approved CDM projects in India was 2195 out of which only 827 were registered by the EB till the end of 2012. In percentage terms it was only about 38% of the approved projects. Again up to 1st June 2016 total approved Indian CDM projects were 2939 out of which only 1618 projects were registered by the EB. And in percentage terms it is only about 55% of the approved projects.

3. Problems in Validation of Project by DOE: Validation is a process of independent evaluation of the proposed projects activity by an external auditor known as Designated Operational Entity (DOE), which is hired by the project participants. They must evaluate the PDD in details and ensured that the project fulfill the relevant criterion for becoming a CDM projects. Actually after getting the host country approval the project proposer needs to validate the project by an accredited international organization known as DOE before it submitted to EB for its registration. At this stage the DOE verify and certify that whether the project full fills the sustainability and additionality clause or not. They verify and certify that whether the project uses efficient and clean technology or not that is resulting in reduction of carbon emission and this criterion is known as sustainability on the other hands they also verify and certify that the said projects will be unviable to implement without carbon credit revenue. This key requirement is also known as the additionality clause. The several studies show that actually the DOE relies on the project developer's claim regarding the sustainability and additionality criterion fulfillment without verifying physically and independently.

4. Regional disparity of CDM project distribution: Another important problem of Indian CDM projects is the establishment of the CDM projects in some selected specific states. These projects are not spread all over the country. State wise distribution of approved CDM projects shows that about 56% of the projects are located in five states namely Maharashtra, Gujarat, Tamil Nadu, Karnataka and Rajasthan respectively. So, the benefits sustainable development of having CDM projects are enjoyed by some selected state not by whole of the country.

5. Corruption in Verification & certification of CER by DOE: After registration of the projects by the EB projects must be monitored according to the methodology as given in the PDD. The data recorded in monitoring stages must be verified and certified regarding its correctness by DOE which is accredited by the EB. After getting the certificate from the DOE, CER is issued to the project developer. The problems arise in this stage due to falls certification of the DOE. . In November 2008, a Norwegian CDM project validation company,

DNV, was suspended for certification. This company verified several CDM projects in India. In 2010, the executive board suspended TÜV SÜD, a German validation company. "TÜV SÜD has been giving positive validation opinion even though there were concerns about additionality.

Conclusions:

Following conclusion can be made from the above discussion relating to the Indian CDM projects-

- i. CDM projects are helping India to achieve social well being, environmental well being and technological well being.
- ii. The main strong point of India regarding the CDM projects is proactive National CDM Authority.
- iii. The main flourishing sector for CDM is renewable energy.
- iv. The main problems of Indian CDM projects are lack of transparency of project activities among the general people of the project area, regional disparity in project distribution, problems in validation of the projects by the DOE and corruption in verification and certification of the CER by the DOE etc.

References:

1. FICCI (2012), "Indian CDM pipeline Analysis- An Analysis of the Portfolio of CDM Projects from India".
2. Joseph B. Gonsalves,(2006), " An Assessment of Projects on the Clean Development Mechanism (CDM) in India", United Nations Conference on Trade and Development (2006, 19 oct).
3. N.D.Hazra, (2013), "Global warming and CDM projects in India: Some Issues", Edulight, Vol-2, Issue-4, PP-99-104.
4. P.G. Babu, K. S. Kavi Kumar, and B. Saha, (2003), "Clean Development Mechanism: Issues and Options in India and Global" Climate Change.
5. Rita Roy Choudhury, Pranav Patel, Padma Wangmo,(2012), "Impacts,Governance and future of CDM project, Indian industry perspective",FICCI.

Websites:

6. www.cdmindia.gov.in
7. http://www.iges.or.jp/en/cdm/report_cdm.html#reject
8. www.cdmrulebook.com
9. www.unfccc.int
10. www.cdmpipeline.org