7.1 Introduction to the chapter
The purpose of the study ultimately was to have an understanding of what has happened in the first phase of the implementation of the concept of CDM which has resulted in the development of the huge carbon market. As the first phase would get over by December 2012, it is time for all the stakeholders to introspect to study and understand with an idea of improvising the whole system, so that whenever the next phase or some related concept is implemented; the effectiveness improvises further and the desired objectives are achieved fully.

The suggestions in that direction are listed below, which are a result of the study undertaken by the researcher and the opinions formed during the study and on discussions with various stakeholders and experts in the area of interest.

7.2 General observations
These observations are based on the findings from the primary and secondary data collected

7.2.1 Training & Capacity Building
Any activity that reduces GHG emissions from industrial processes can be taken up under CDM Mechanism. However industries do not take up such initiatives for lack of their financial viability and operational feasibility, where former being the main reason. CDM Mechanism makes such initiatives financially viable. However due to lack of knowledge and understanding of risks related to CDM projects, many organizations don’t take up the projects for GHG emission reduction. Government through NCDMA and UNFCCC can take appropriate measures to address these concerns. If appropriate efforts and sufficient measures are taken for capacity building and training, many projects can be taken up for GHG emission reduction, which can ultimately culminate into successful CDM projects.
7.2.2  **Maintaining integrity of CDM Mechanism:**
UNFCCC has appointed DoE for validation and verification of CDM projects. These agencies recommend whether the said project is eligible for earning carbon credits under CDM Mechanism. However, there is a basic flaw in the system. The fees of DoE are paid by CDM project developers who might pressurize the DoE to approve the project or ignore few drawbacks of the project. DoE being a customer to the project developer faces conflict of interest of going against its customers. This prevalent practice has put integrity and robustness of CDM mechanism at risk. The solution to this project could be changing the payment system to DoE. UNFCC can create a pool of fund from successful project developers and donor nations, which can be used to pay the fees of DoE. In this way, DoE will always answer to UNFCCC and give their unbiased opinions without facing conflict of interests.

7.2.3  **Easing additionality criteria:**
The current additionality criteria are complex and difficult to understand from common public. Easing the additionality criteria for small CDM projects can remove the obstacles, thereby fuelling growth of CDM projects.

7.2.4  **Reducing approval time for NCDMA approval:**
The Host Country Approval (HCA) takes about 2~8 months for approval, which lengthens the time taken to register the CDM project. There is urgent need to reduce the time being taken by NCDMA for HCA. This can be done by outsourcing the approval process to BPO organizations and making the entire process online with specific timeline and dedicated resources.
7.3 **Suggestions to achieve sustainable financing of CDM Projects**

7.3.1 **Project Specific Financial mechanisms/structures for risk minimization**

It is generally observed that off balance sheet structures with no or limited recourse to the parent company is the most feasible structures for CDM projects. At one point the CDM investors were even expected to bring in equity in such projects. However, with the risk profiles of promoters in developing countries and reduction in the size of offset market this has withered away. Now the only option available is through purchase agreements bringing year to year revenue in exchange with the CERs. However, there still are difficulties for investors from Annex I countries in assessing sellers from developing countries with associated high costs. In view of this, the following options could have been considered:

a) **Project Based Investments**

This is the main form in which the CDM investments are expected to take place. Under this mechanism, the investors in Annex I nations might get involved in the project development at various stages, from promotion or at advanced stage near the financial closure. In the initial phase the process of identification of the projects was facilitated by the country government. However, as the sector matures, direct deals between the project promoters and emission reduction buyers also started taking place. In case of project based investments, which may be facilitated by a focal agency in the investing nation, there could be some preference for sectors, e.g. cement, steel etc. Under this structure, the investors would enter into an ERPA with buyer(s) on mutually agreed terms. The project risk could be limited by having recourse to the balance sheet of the promoters.

b) **Formation of Special Purpose Vehicles**

Under this structure, a separate company is promoted for undertaking specific CDM project(s). The CDM investors would have different options. They could invest in a small portion in equity capital, sufficient to possess a voting right, thereby ensuring proper operation of project. Otherwise, they may have an ERPA as in the earlier case.
The difference between the direct investment and SPV is that there may be a limited or no recourse to the promoters’ balance sheet. The major comfort for risk mitigation for SPV projects would come from underlying agreements like PPA for projects selling power to utility grid. This way the technical and financial risks in the CDM project could be mitigated.

c) CDM Funds

Various funds, especially, mutual funds have been working in India for a long time now. There have been examples of special purpose funds as well. However, so far these funds invest in stock market instruments or bonds floated by companies. It may be possible to envisage CDM funds with investment from companies/investors from Annex I nations. These funds, to be managed by professional fund managers, or Trusts with specific objectives, would identify suitable CDM projects based on certain predetermined criteria. This would help understand the Indian market and alleviate the risk.

d) CDM Bonds

Investment banks or securities companies after their due diligence and project risk assessment may structure them and float CDM Bonds, i.e. project bonds with CER units. These banks would sell these bonds to individual investors, or buyers with caps. It may also be possible to prepare portfolios of the CDM bonds to sell as CDM Fund as discussed earlier. As the risk of a portfolio of assets is less than the sum of risks of individual assets, the bond manager would be in a position to spread the risks among the portfolio thereby reducing the overall risk.

7.3.2 Banks

With reference to the above it can seen that there is a wide scope for designing innovative financial products. Like in any business, it is imperative for the banks to design and innovate different products to cater to the prevailing demand. It is imperative that banks’ understanding of CDM projects although growing needs a
further boost. Many of the institutions like IDFC and its subsidiary IDECK, ICICI Bank, IL&FS, IREDA, HUDCO, PFC as well as a few private banks like Bank of Baroda, were the frontrunners in these programs. However, involvement at higher levels of management is essential. Many banks have begun financing renewable energy and energy efficiency projects, but they still lack awareness about structuring them as CDM projects. However, many banks especially the private banks need to orient to the business of financing CDM type projects. In this connection, besides the capacity building, two major actions are suggested. First the Reserve Bank of India should co-ordinate with the proposed CDMNA in preparing and linking the credit manual that the banks could adopt. This manual could define in explicit manner the requirement for the bank officials to look into CDM type projects. This could also mean standardizing the risk assessment procedures of all the banks. This would go a long way in standardizing the system and enable the CDM investors to compare and rank different CDM projects. Second, the Indian Banks Association may prepare a common position of banks and financial sector on various requirements, e.g. accounting standards for treatment of the CER assets (this would implicitly involve the Institute of Chartered Accountants of India and the Dept. Of Company Affairs, Min. of Finance), concessions on stamp duties and taxes on the CER revenues etc. This exercise would streamline the inflows of the CDM investments.

Further banks could have taken active role in the capacity building of CDM. It may be noted that all the major private banks have their well established staff training colleges. The bigger banks like SBI group, Bank of India etc. have an elaborate training infrastructure. The RBI has in addition established a Banker’s Training College. There are also some specialized institutions like National Institute for Bank Management at Pune. All these institutions could be networked into training programmes directed at informing them trends in risk management tools, climate change related risks to their portfolios in the light of future scenario of targets, market mechanisms – CDM in particular and also project structuring for qualification as CDM. The banks have been looking for investments into the
clean energy and technology projects. It may be worth while for the bilateral agencies to develop programs for the bank officials at various levels from operating level to policy/decision making levels. Further from banks point of view, investment in these projects can be a part of priority sector lending, which could have further boosted the bank’s interest in financing CDM proposals.

7.3.3 Insurance Companies

The insurance industry in India need to prepare for developing specific products for CDM projects on the one hand and incorporate concerns on environmental sustainability of industrial and urban activities being covered by them. Project insurance is slowly picking up especially with the presence of several multinational insurance companies, who offer such products in their home countries. The insurance industry could develop CDM insurance which can cover the loss of business cover to these projects.

7.4 Role of Government of India

In the light of developments on CDM project promotion in India the following suggestions are made:

7.4.1 CDM – National Authority (CDM NA)

- The CDM NA should have high independence and approval authority, which would allow transparent and speedy decision making. The NA should have a small full time secretariat staffed by professionals from the fields of energy, environment, finance and urban sectors.
- As far as possible the bureaucrats posted at the DNA should have understanding, interest in the field and should at least serve three years in the place. The above mentioned secretariat would offer continuity to the decision makers.
- The decision making must be time bound as in the case of FIPB. Automatic approval should be accorded to the projects if specific deadlines are not kept.
• CDM NA should not devote a great deal of effort to assess the financial viability of the projects. Since CDM is a market based mechanism, the promoters (sellers of credits) and buyers would naturally go through these issues. Moreover, the domestic lenders and investors would also take care of the economic feasibility aspects.

• The current trend at the CDM EB is to review new methodologies. The additionality definitions mainly depend on the local situation in the HC. Therefore, provision of data for EB-approved baseline methodologies becomes very crucial. The key departments that collect the data (CEA, planning commission, industry associations) may format the data suitably and post it on the CDM NA website. For ensuring the correctness of data, GOI may even consider third party validation of the data.

• The underlying projects for CDM projects are generally based on RE, energy efficiency or urban sector waste recovery/minimization concepts. Moreover; since the CERs have value only for investors in the developed countries, they will have to be “exported”. Under the existing rules, the revenues from the categories of projects and exports are generally tax exempt. In view of this, there is no logic for taxing the CER revenue. Therefore, it is suggested that the CER revenue should not taxed, at least while the concessions to the power sector or conservation projects are available.
7.4.2 Private sector/Project promoters

In order to improve the chances of qualifications of their projects, the following suggestions are made to the promoters:

- The estimation of additionality should be done in accordance with the methodologies cleared if available or else must be conservative. As such, it is advisable to be on a conservative side while estimating additionality.
- It is advisable to appoint knowledgeable professional consultants to prepare the baseline and PDD documentation as they are expected to be up to date on the developments.
- Promoters must also keep the time frame in the mind while developing CDM projects.
- Carbon purchase contracts are crucial for proper implementation and transfer of CERs to the Annex I party interested in the project. In order that the carbon transactions do take place, the ERPA has to be on an even keel and spell out an equitable and fair understanding between the parties. The promoters and consultants have to be careful while drafting clauses especially those dealing with penalties, force majeure, liquidated damages, and termination. It is important to specify and include the basic documents relating to the projected sale of carbon. These may include the validated PDD, baseline and other related documents.

7.5 Chapter end-note

This chapter has presented in a systematic manner all the recommendations and suggestions based on the various tools of analysis, review of available material on the subject and discussions with experts in the field of CDM. These would help the policy makers in framing the rules and regulations for future schemes in similar field and improve the effectiveness.