

*A Background Paper*<sup>1</sup>  
**Clean Development Mechanism for Poverty Reduction**  
**in Asia and the Pacific**

**1. Introduction**

The Clean Development Mechanism (CDM)<sup>2</sup> has emerged as an opportunity for both developed and developing countries to promote technology transfer and investments for the reduction in greenhouse gases (GHG) emissions and the achievement of sustainable development goals. The CDM concept originated from the Kyoto Protocol of the UN Framework Convention on Climate Change (UNFCCC), which legally binds developed countries to reduce their GHG emissions<sup>3</sup> at agreed levels. The CDM is a market-based mechanism that induces initiatives in the developing countries to meet the challenges faced by the impending threat of climate change. The CDM became fully operational after the Kyoto Protocol entered into force on 16 February 2005.

*CDM process in brief:* A CDM project activity generates certified emission reductions (CERs).<sup>4</sup> CERs are created through CDM investments and project activities in Non-Annex 1 countries<sup>5</sup> that lead to the reduction of emissions, which otherwise would occur in the absence of the project. Such projects could be developed by a project developer who is either a private or public entity or is the state itself. If the development of a project results in the reduction of one or more out of the six greenhouse gases identified in the Kyoto Protocol against a validated baseline, the credits when produced can be marketed and transferred to Annex-I party, which can be an Annex-I government or an entity operating within an Annex I country. The process is based on the market incentive, being the difference between the cost to the Annex-I party of mitigating through domestic action or through other supplementary mechanisms. All projects must be validated by a Designated Operational Entity (DOE) and approved by the Designated National Authority (DNA). Once validated successfully and approved, the project activity will be submitted for registration by the Executive Board of the CDM.

*CDM Modality:* Until recently, most buyers of project credits have been national governments (predominantly Dutch who have represented 50% of the total demand for credits) and multinational institutions such as the Prototype Carbon Fund (World Bank). Over the years, there are now different sets of players in the CDM market than there were previously, and as a result could be categorized based on their interests and objectives. Due to high uncertainties in the market prices for CERs, the decision to allow the registration of unilateral projects was subsequently taken. This allows developing countries to register CDM projects without Annex-I parties. It is interesting to note that the number of CDM projects without Annex-I investors is increasing in a few developing countries.

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<sup>1</sup> Note: This paper has been prepared as a backgrounder for the IGES-UNDP regional workshop “Developing a Regional Strategy for the CDM in the Asia Pacific Region” on 30-31 March, 2006 in Bangkok, Thailand. During the workshop, deliberations are expected to promote the exchange of information among the Designated National Authorities, government counterparts, UNDP Country Office focal points and IGES researches and support the development of a regional strategy for the CDM.

<sup>2</sup> Article 12 of Kyoto Protocol defines the Clean Development Mechanism (CDM)

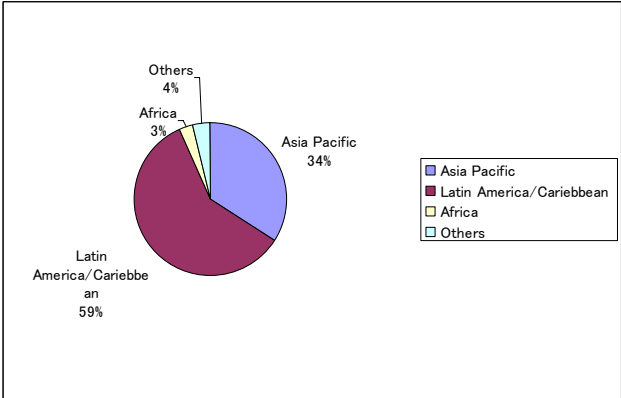
<sup>3</sup> Six gases identified under the Kyoto include CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, PFC, HFC, SF<sub>6</sub>.

<sup>4</sup> CERs are measured in terms of CO<sub>2</sub> equivalent. 1 CER = 1 ton of CO<sub>2</sub> reduced by the CDM project activity.

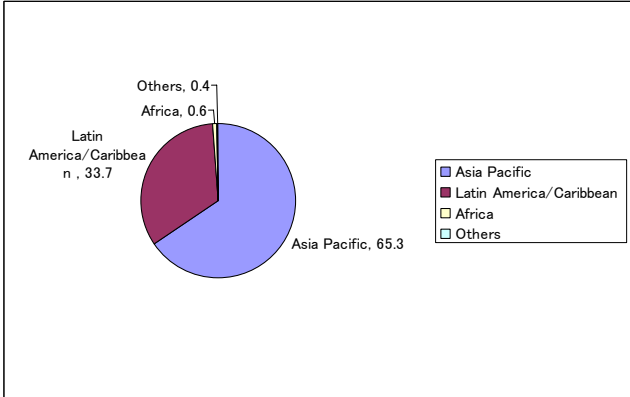
<sup>5</sup> Non- Annex I refers to the developing countries without any commitments to reduce GHG emissions

Compared with other areas, Asia and the Pacific region has been actively engaged in CDM. As Chart 1 shows, almost 35% of the total projects were registered from this region. When it comes to the average annual CERs from the registered projects, those in the Asia Pacific region compose as much as 65% of the total as shown in Chart 2.<sup>6</sup>

<Chart 1: Project Distribution by Region>



<Chart 2: CER Distribution by Region>



**2. The need for linking the CDM to poverty reduction**

The CDM is expected not only to assist Annex 1 countries to achieve their emission reduction targets stipulated under the Kyoto Protocol, but also to be conducive to the sustainable development of host countries listed as Non-Annex 1. However, a consensus is emerging from

<sup>6</sup> Chart 1 and 2 are based on the following table.

Region	Registered Projects	Registered CERs
Asia Pacific	47	25,728,178
Latin America	80	13,296,244
Africa	4	210,416
Others	4	275,795
Total	135	39,375,633

(Source: UNFCCC, <http://cdm.unfccc.int/Statistics/Registration>)

the recent review papers that the CDM has not perhaps been fully exploited by developing countries to benefit beyond those strictly related to climate change, in the areas of economic growth through investment, technological evolution/transfer, poverty alleviation, environmental and human health improvement (IISD, IGES).

Even in the realm of CDM market anomalies, the CDM can be effectively used for addressing poverty reduction issues<sup>7</sup>. It is known that between 1.3 billion people live on less than a dollar per day and have no access to modern forms of energy or energy services. The Asia Pacific region is the home to the majority of the poor as it includes the two most populous developing countries in the world along with thirteen least developed countries and several small island states. Reducing by less than half the number of people living on less than one dollar a day is the overarching first Millennium Development Goal that underpins the other seven MDGs on hunger, illiteracy, gender inequality, disease, environmental degradation and partnerships.

Conventionally, economic development is considered as necessary for poverty reduction. With mounting inequities, increasing disparities between the rich and the poor, degrading environment and aggravating impacts in the forms of disasters, there are phenomenal challenges to conventional development approaches.

Current energy systems that are fuelling the economic growth have not been successful in addressing the basic needs of all people. Worldwide, 2 billion people are without access to electricity and an equal number continue to use traditional solid fuels for cooking (WEA, 2004). Due to the dependence on imported energy, there are issues of energy security that concerns most countries in this region and particularly the poor. Energy is a major contributor to the greenhouse gas induced global warming and associated climate change. A range of social issues, including poverty alleviation, population growth, urbanization and a lack of opportunities for women is closely linked to energy consumption patterns. There is a logical nexus between poverty-energy and climate change-CDM.

Box-1		
Poverty–Energy Interface	Poverty–Climate Change Linkages	CDM–Poverty Nexus
<ul style="list-style-type: none"> <li>• Poor people have limited energy supply options (depend on fuel wood for cooking and carry water/ physically uplift water from natural water bodies – lakes, rivers, streams, wells, etc.)</li> <li>• Poor spend much of their income on energy</li> <li>• Low quality of life due to lack of access to energy services (lighting, water,</li> </ul>	<ul style="list-style-type: none"> <li>• Poor rely on inefficient devices resulting in increased emissions</li> <li>• Poor are most vulnerable to the impacts of climate change (agriculture, health, etc.)</li> <li>• Poor have limited adaptive capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Promote sustainable energy technologies for the poor (e.g. biogas, biomass energy systems, solar PV systems)</li> <li>• Improve incomes through community type energy projects</li> <li>• Develop infrastructure that benefits poor (efficient use of material in housing, roads, alternate fuels for transportation, etc.)</li> </ul>

<sup>7</sup> Poverty is now widely viewed as encompassing both income and non-income dimensions of deprivation, including lack of income and other material means; and lack of empowerment to participate in the political process and in decisions that influence someone’s life. The dynamics of poverty also are better understood, and extreme vulnerability to external shocks is now seen as one of its major future (UNDP, HDR, 1997).

<p>etc.)</p> <ul style="list-style-type: none"> <li>• Poor in rural as well as urban areas do not have access to basic social amenities (water and sanitation, health, education, etc)</li> <li>• Poor infrastructure access limit livelihood options – lack of energy for food processing, cold storage facilities, etc.</li> <li>• Low incomes and lack of purchasing power lead to slow rate of investments</li> <li>• Limited institutional capacity to deal with energy delivery issues and increasing energy prices</li> </ul>		<ul style="list-style-type: none"> <li>• Create enabling environment for inducing CDM investments for poor (sectoral CDM projects; partnerships with communities)</li> <li>• Widen energy choices for long-term stability (reduced energy price shocks) and improved income sources</li> <li>• Reduce inequities through greater access to modern infrastructure for the poor</li> </ul>
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As the goal of the CDM is to contribute to the sustainable development of host countries and provide a cost-effective avenue for emission reductions, fully exploiting the CDM’s potential for development dividends requires careful integration of two sets of objectives; those of the private sector guided by the bottom line and those of the developing countries guided by their development priorities and emphasis on poverty reduction (IISD, 2005).

**3. Challenges and Opportunities**

Despite the progress made on the CDM front with greater awareness, institutional preparedness and increased market activity, the CDM is far from delivering its full potential (World Bank, 2005). The CDM market has largely evolved with a short-term vision as against the envisaged broad-based, long-term sustainable development. Unless the CDM facilitates mainstreaming climate change issues into development agendas of developing countries, it will remain as another instrument to benefit few market players without social commitments. However, to ensure that the CDM contributes effectively towards sustainable development, there are a number of challenges that must be addressed such as:

Stakeholders’ Profiles: Although CDM allows for public sector institutions to participate, CDM has been mainly driven by the private sector. Now, there is a growing interest among public institutions to tap CDM for leveraging additional resources and integrate climate change concerns into their plans. Hence, efforts are required to synergize public, private, NGO, and civil society partnerships and activities.

Institutional and regulatory frameworks: Strengthening National CDM Authorities (NCA) or the DNA would be a key to successful steering of CDM project activities. Given the coordinating role of the DNAs/NCA, they would have to establish adequate monitoring and review mechanisms. As the market is expanding, there are already technical and legal concerns that are

evolving. There may be a need to assess long-term institutional framework and capacity development interventions.

Sustainable Development Contributions: Clearly, the mandate to define what constitutes sustainable development rests with the host developing or Non Annex-I country. However, there is a need to introspect the implications of defining this criterion on the quality and volume of the CDM projects. The current small scale category of projects has also not contributed to this goal adequately.

Leveraging: CDM allows for leveraging not just financial resources in the form of increased revenues from CERs generated but also partnerships. Partnerships further bring ideas, innovations, knowledge and opportunities. Even though the CDM is emerging, it is important that these partnerships forge greater exchange of experience, knowledge and other resources. A coordinated effort to leverage CDM resources for national and regional priorities would be desirable. Consensus building and advocacy for streamlined and effective CDM processes may be attempted as part of active participation in international meetings of the Parties or other relevant debates. There is also a need to link CDM activity with the ongoing ODA supported activities.

Information dissemination, awareness and outreach: There are several barriers to CDM implementation that directly or indirectly can be attributed to the lack of knowledge, experience and information on CDM. There a greater need to expand outreach activities through documentation and dissemination of best projects (with increased sustainable development benefits). Strategies to support upscale successful pilots/ CDM projects with poverty reduction have to be evolved. The myth that large scale projects have better tradeoffs and small scale/rural development projects have high transaction costs have to be removed by creating enabling environment that induces CDM investments in small scale projects for poverty reduction.

#### **4. Partnership between UNDP and IGES**

The UNDP Regional Centre Bangkok (UNDP-RCB) provides policy advice, capacity development and knowledge management support to thirty-six countries through UNDP twenty-five country offices in the Asia Pacific region. IGES, as a research institution, also aims at conducting policy-oriented, strategic researches on various issues relating to global environmental issues in the Asia Pacific. Therefore, the two organizations share a commonality in the nature of activities, which is the basis of the workshop.

In particular, as a result of three years of capacity-building activities with the aim to promote the CDM in China, India, Indonesia, the Philippines and Thailand, IGES CDM Programme has recognized the importance of strengthening the linkage of the CDM to the sustainable development of host countries because there are many projects planned under a national development plan, which are eligible to be implemented under the CDM. On the other hand, the UNDP RCB has an interest in the CDM as a means to promote local economic growth through access to energy services.

While IGES is in a good position to provide updated information on the CDM as well as to share country-specific information on CDM implementation, UNDP RCB's wide network with developing country governments and accumulated expertise on the poverty-energy nexus make it

possible to discuss a feasible regional strategy to strengthen linkage between the CDM and poverty reduction among the Asia Pacific countries.

## **5. A Role for UNDP**

UNDP recognizes climate change as a major sustainable human development challenge. In view of the complexity and interdependency of development, economic, social, technological and environmental sectors and issues, it proposes identifying pathways that integrates these issues more holistically to benefit the poor. UNDP has recently launched the (Millennium Development Goal) MDG Carbon Facility to:

- create a differentiated carbon-market product that provides a clear set of MDG and sustainable development benefits, including multiple environmental benefits;
- leverage the existing UNDP network, technical expertise, and project management capabilities to provide an integrated package of project management and technical services to project developers that will facilitate the delivery of quality projects; and,
- increase access to carbon finance for a broader range of developing countries and a greater diversity of project types

At the national as well as regional level, UNDP has been supporting development programmes. In the area of CDM, UNDP's support have included "learning by doing" capacity development, strategic programming, institutional capacity development, public-private partnerships, hosting and participation in international forums and generation of knowledge products. Several lessons from UNDP' activities reinforce the need to intensify efforts to streamline and strategize CDM and carbon finance for achievement of poverty reduction and environment goals.

Complementing the efforts to operationalize the MDG Carbon Facility, it is proposed that the current regional energy programme supported in eighteen countries for poverty reduction could pilot as a catalyst for:

- Establishing synergies between poverty reduction goals and CDM – sectoral CDM for livelihood creation.
- Mobilizing CDM partners for poverty reduction leading to increased investments in small scale bundling projects.
- Developing capacity to steer CDM activities for scaling up CDM and poverty reduction projects and mainstream into national programmes/plans.
- Promoting new technology transfer, diffusion of innovative and sustainable technologies and support sustainable technology market transformation.

A review of the challenges and opportunities in the CDM sector at the regional level to achieve the short term GHG reduction targets as well as the long term goals of poverty reduction and sustainable development may be imperative at this stage. The proposed regional strategy for supporting poverty reduction through CDM would a step in the way forward.

## 6. A Role for IGES

IGES's CDM Programme has been conducting capacity building activities for the effective implementation of the CDM for the last three years in Cambodia, China, India, Indonesia, the Philippines and Thailand. It has mainly supported the targeted countries to set up national institutional arrangements, including the formulation of sustainable development criteria and national approval procedures, using model projects.

Throughout the activities, the CDM programme has found that there are many projects that are not only conducive to sustainable development, particularly poverty reduction, but also eligible for CDM. However, due to the lack of sufficient attention to and low profile of the mechanism among government officers in general in developing countries, many promising CDM projects remain untapped.

There are several good examples of CDM projects conducive to poverty reduction, such as a biogas project in Nepal, a solar cooker project in Indonesia and a biomass heating project in Moldova. They are providing various tips, clues and suggestions on how to efficiently and effectively convert the existing project ideas into CDM projects. So far, the CDM Programme has identified that issues of CER calculation, methodology, monitoring, stakeholder coordination are critical.

IGES's CDM Programme is to assist Non-Annex 1 countries to promote collaborations with Annex 1 countries under the CDM, by providing them with expertise and knowledge to re-examine project ideas planned under a national development strategy and make them CDM projects.

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