

CDM host country institution building

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Abstract

Contrary to earlier forecasts, the global greenhouse gas market will initially be characterised by low prices and a strong competition between the different Kyoto Mechanisms. The CDM involves higher transaction costs than the other mechanisms and has lost a considerable share of its “early start” advantage due to the continuous delays in defining the CDM rules on the international level. Host countries will have to compete intensively for CDM investments. Thus the development of effective institutions is crucial to reap benefits from this market, especially if a unilateral strategy is chosen. Countries should develop approval criteria and sectoral priorities in a broad stakeholder consultation. Moreover, capacity building of local actors, information exchange as well as marketing has to be organised. Experience from several countries shows that clear competencies are crucial to get investor confidence. Long-term professional staff is also an important asset. Fights between ministries will scare off investors. The optimum institution will be a CDM Office that is independent but has full approval powers. A second-best solution is a two-tiered system. A CDM Board with representatives of ministries would define criteria and priorities whereas a CDM Secretariat would evaluate (and possibly approve) project proposals and do outreach and marketing. Small countries would preferably use the existing focal point of the UNFCCC and flexibly involve consultants if project proposals come in. Even under an optimal institutional structure, CDM projects will only be implemented if financing and contractual issues can be resolved.

Key words: CDM, developing countries, institutions, project cycle

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1 Introduction

The Clean Development Mechanism (CDM) will not play a monopolistic role in climate policy. It is just one of several instruments available under the Kyoto Protocol. So far, it is not at all clear whether it will prove attractive enough to investors that may prefer alternatives such as Joint Implementation or international emissions trading. Moreover, given the absence of the US and the weakening of industrialised country emission targets through higher allowances for sinks, the demand for emission reductions abroad will be much lower than originally anticipated. Modelling on the basis of marginal abatement cost curves estimates lead to prices for Certified Emission Reductions (CERs) around 4 €/t; the emerging CDM market quotes prices at this level (Jotzo/Michaelowa 2002). These factors combine with the large scale of intra-CDM competition where over 100 countries will try to market their projects. Moreover, there are many different forms under which the CDM can be implemented – bilaterally, through multilateral funds or even on a unilateral basis.

A developing country wishing to embark on a CDM strategy has to take these circumstances into account. It has to check

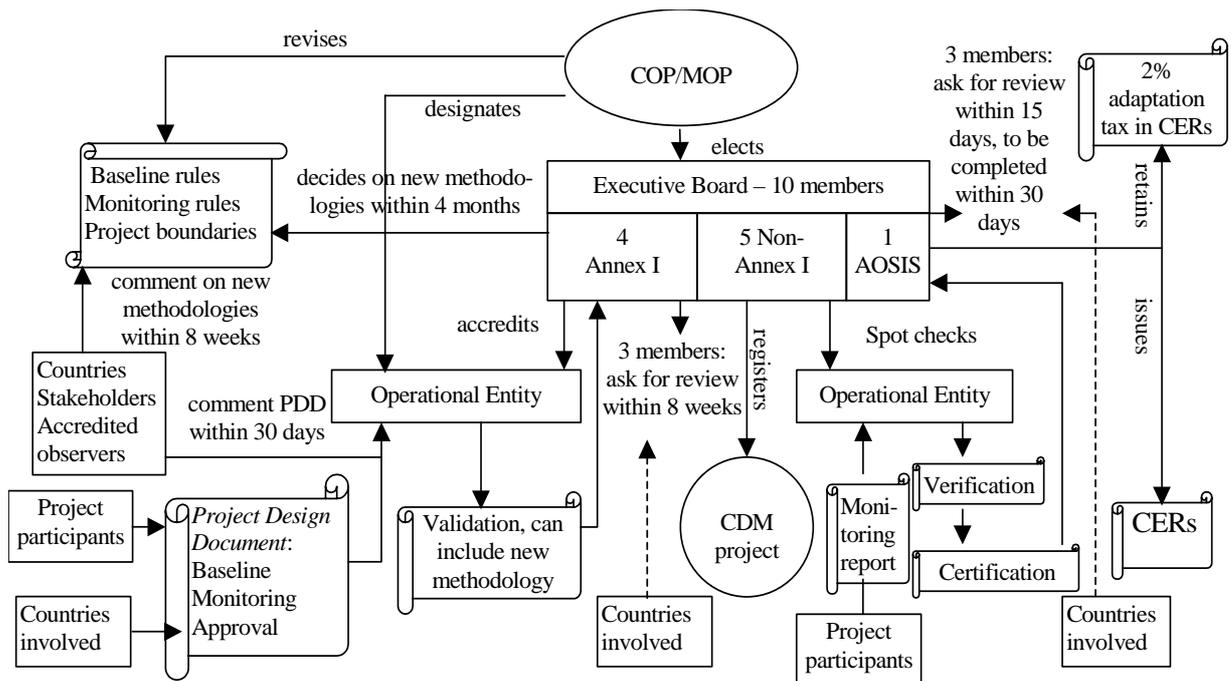
- whether it could offer an attractive supply of cheap CDM projects;
- how the synergy between greenhouse gas emission reduction and national development goals can be maximised
- whether it has enough capacity to sustain a CDM strategy

The importance of information, training, appropriate capacity and institutions for the development of CDM projects is underlined by experience from the pilot phase of Activities Implemented Jointly (AIJ, a CDM precursor without crediting). AIJ projects are concentrated in selected Latin American and Central and Eastern European countries that have developed targeted policies, made use of existing capacities to take on and manage AIJ projects and set up focussed institutions and regulation (Michaelowa 2002). This has helped them to gain first-hand practical experience while moving them up a steep learning curve. So these host countries created a *conducive enabling environment* which is a necessary, but not sufficient condition to attract investors. Especially if a country chooses the unilateral CDM mode, it has to have a solid institutional foundation.

2 Institutional aspects of The CDM rules in the Marrakech Accords

There are several layers of institutions involved in the CDM at different steps (see Figure 1). We will discuss how they relate to host country government institutions and how they can be integrated in national CDM strategies.

Figure 1: Institutions in the CDM maze



2.1 International

2.1.1 Executive Board and panels

The Executive Board (EB) and its panels are at the core of rulemaking. They will try to remain impartial. Countries who fill a seat on the board or have a national expert on a panel will have an advantage as they have first-hand information about the reasons for specific rules and the overall situation for project submission. They can even try to influence the rules in a direction that favours projects in their country. Apart from the countries involved, only EB members can initiate reviews leading to revisions of a validated Project Design Document (PDD) that, if successful, have a strong impact on competitiveness of the underlying project.

2.1.2 Operational Entities

Operational entities (OEs) have to fulfil a long set of criteria which essentially is only possible for highly professional certification and auditing companies. Thus it is no surprise that only 13 companies had asked for accreditation by May 2003, with six companies each from Europe and Japan and only one from outside the industrialised countries. This shows the risk that only few OEs will come from developing countries; some host countries such as Costa Rica are thus contemplating steps to give preference to domestic OEs. A considerable hurdle is the payment of a 15,000 \$ accreditation fee to the EB. While COP 8 decided to reduce the fee payable at accreditation for candidates from developing countries, they have to pay the remainder once their business is established. Countries that start to foster the development of OEs may be able to export services at a later stage. The existence of domestic OEs also gives countries the opportunity to propose new internationally valid baseline and monitoring rules if the links between government and the OEs are strong.

2.1.3 UNFCCC-accredited NGOs

Non-governmental organisations (NGOs) can comment to the validator of a project. A country with many NGOs and a strategic partnership between government and NGOs can arrange strategic commenting stressing the weaknesses of projects submitted by competitors. If these comments enhance the risk of revision of the projects, their competitiveness will be reduced. Of course such a strategy, if perceived as such, risks to engender retaliation.

2.2 Investor country

Both host and investor country have to define a Designated National Authority (DNA) for CDM project approval. This means that also the industrialised country investing in a CDM project will have to define rules and institutions for approval. Host countries should closely follow these developments, especially in countries with whom they have strong economic and cultural ties. For example, Germany is contemplating putting a priority on relations to JI countries; CDM host countries interested in German investments should try to prevent this. A similar issue would be the negotiation of framework agreements as done by the Dutch in the context of the tender programmes ERUPT and CERUPT. Host countries would have to make sure that they are not left behind. This was successfully done by India which originally was to be excluded from CERUPT but lobbied for its inclusion and successfully got 6 projects through the pre-assessment, the highest number of any country.

2.3 Multilateral investors

In the initial phase of the CDM market, the World Bank's carbon finance activities will dominate. They are likely to mobilise 0.5 billion \$ and will be channelled through different ways. While in some countries, the World Bank is open for proposals, in others it has made an exclusive arrangement with a financial intermediary to develop a project pipeline. Authorities should make sure that these agreements are consistent with the overall strategy of the country.

2.4 Host country

Host country institutions have the following tasks

2.4.1 Approval

The main lever a host country has in the CDM context is the approval of a project that has to be done by the DNA. The host country should thus clearly define its criteria. These can address:

2.4.1.1 Sustainable development criteria

Depending on the situation in the country, the criteria set can vary. It may be sensible to choose criteria from the three fields of sustainability: environmental, social and economic. A detailed catalogue can be found in Thorne and LaRovere (1999). Many countries have already defined criteria in the context of the CSD, Agenda 21 and can use them. The weighting of the criteria creates a challenge that has been discussed by Sutter (2002).

2.4.1.2 Sectoral and technological priorities

Sectoral opportunities for CDM projects will differ from country to country. A country already exploiting most of its hydropower and a large potential for forestry projects will obviously prioritise the latter, while a country with inefficient heavy industry and thermal power generation but limited renewable energy potential will prefer energy efficiency projects. So a country should initiate a broad stakeholder consultation with the aim to define priority sectors and project types and revisit this regularly to take changes into account. This obviously will entail conflict between stakeholders that will push project categories that are beneficial to them. An efficient management of such conflicts is key to a successful prioritisation.

2.4.1.3 Sharing of CERs

Currently, there is a tendency towards CER purchase agreements – both the PCF and CERUPT use those. This means that the project risk remains with the project operator, whereas the buyer gets 100% of the Certified Emissions Reductions (CERs). However, the fungibility of the CERs on the international level now allows host countries to ask for a share of CERs, also given the risk that a project may not be additional. This possibility has already been discussed in detail in Michaelowa and Dutschke (1999). From an efficiency point of view, this may be less attractive than taxing the projects with ordinary profit tax (Loayza and Kaegi 2001). However, if there are difficulties to achieve revenues from profit taxation, an in-kind taxation may be a second-best option.

2.4.1.4 Additionality requirements

A host country should be careful to guarantee additionality of the CDM projects unless it implements unilateral projects. A re-labelling of projects implemented anyway would not bring additional revenue to the country in the case the CERs accrue to the investor. As there is widespread unwillingness to determine additionality on the basis of predefined quantitative thresholds (e.g. for internal rate of return, see Greiner and Michaelowa 2003), qualitative methods are likely to prevail. These however risk to be applied in an arbitrary way. For example, in India an ad-hoc committee decided on “technological additionality” of proposals to CERUPT in the sense that projects using technologies currently not employed in the country were deemed additional.

2.4.1.5 Foreign currency requirements

Many developing countries suffer from shortages of foreign currency. In the context of CDM projects, the import of foreign technology could lead to a pressure on foreign currency reserves, especially if during the course of the project spare parts and services have to be imported.

2.4.1.6 Job loss prevention

A possible barrier to CDM projects can be a requirement that projects shall not lead to job losses. Any modern technology will displace workers due to its more efficient character. However, often more jobs are created through the development effects

induced by the use of the new technology. Thus a rigid job loss criterion only looking at the project itself is likely to prevent most CDM projects.

The process of approval can entail one or several rounds. A pre-screening analogous to the method of the Prototype Carbon Fund at first needs more time and resources but allows the national CDM authorities to concentrate on promising proposals at a later stage. However, a project developer should get the option to submit a fully-fledged version to avoid delays.

2.4.2 Capacity building and marketing

To promote competitiveness of national CDM project proponents and market the national CDM programme to investors, the following services should be developed by national institutions:

Table 1: Services provided by national CDM institutions

Functions	Desired Outputs
Information Database	Projects portfolio Partner matching data Appropriate Technologies data Data CD-ROM
Information Dissemination/Training	Web site development Newsletter Seminars and training manuals
Policy Development Support	Regional networking Consensus building Policy documents
Project Development Support	Project CDM packaging Project documents/updates Standardised methodologies
Operational Entity Support	National Accreditation Seminars
Credit Sharing Support	Model contracts Negotiation capacity
Marketing	Web site hosting Road-shows

Source: adapted from Aslam (1999)

2.4.3 Reporting

Under the Marrakesh Accord, there are detailed reporting requirements for national CDM programmes. They have to give annual reports of CDM project progress in their country.

3 Case studies

Latin America currently has a considerable advance on the rest of the world when it comes to CDM institutions. In May 2003, nine Designated National Authorities

(DNAs) were be found in Latin America whereas only one existed in Africa and two in Europe (Germany and Netherlands).

A wealth of case studies on CDM institutions in Latin America can be found in Figueres and Olivas (2002) but the information has to be assessed critically. In principle, Latin America has a considerable advance on other regions as it already participated strongly in the AIJ pilot phase and could use these experiences for their CDM institution building. Table 2 shows the characteristics of Latin American CDM offices as far as possible; reliable information is hard to come by due to the tendency to obfuscate funding and human capital constraints.

Table 2: CDM institutions in Latin America

Country	Date of setup	Type	Approval competence	Website (last update)	Staff	Funding source
Argentina	1998	Two-tier (govt.)	Env. Ministry	✓2002	1	Domestic govt.
Bolivia	1997	Govt.	Env. ministry	-	0	-
Costa Rica	1994	Inde-pendent	✓	-	3	- 2002 mixed 2002 - private
Ecuador	2000	Two-tier*	Env. Ministry	-	0	-
El Salvador	2000	Govt.	Env. ministry	-	?	Domestic govt.
Guatemala	1996	Two-tier*	Env. ministry	✓1998	3	Private
Honduras	1999	Inde-pendent	✓	✓2002	>1	Foreign govt.
Panama	1999	Inde-pendent	Env. ministry	-	1	Domestic govt.
Paraguay	2000	Govt.	Env. Ministry	-	?	Domestic govt.

Source: own research and informations from text of Figueres and Olivas (2002)

* Independent secretariat but government approval body

The analysis shows that most of the Latin American offices exist just on paper to be activated if by chance external funding or an investor arrives.

I now introduce three case studies from areas that had been reluctant to participate in AIJ.

3.1 Indonesia

For a long time, Indonesia remained critical towards CDM as it felt that there might be a risk of getting drawn into emission reduction commitments at a later stage. Especially the issue of sinks was seen as problematic. On the one hand, Indonesia did not want interference with its domestic forest policy, on the other hand it would have welcomed foreign funds.

The financial crisis in 1997 and the ensuing political turmoil relegated climate change issues to a back seat. Only in 1999 some interest re-emerged and was catalysed through the Climate Change Programme of the German Agency for Technical Cooperation (GTZ). German development cooperation with Indonesia is strong and GTZ has a permanent office with a staff of 50 at Jakarta. Environmental policy and even some climate change-related cooperation has always been an important part of GTZ activities. Thus the links to the Ministry of Environment are strong and the idea of a National Strategy Study (NSS) was quickly endorsed. The NSS was done within 18 months and now an institutional follow-up is starting. The following institutional issues arise:

3.1.1 Coordination among ministries

Indonesia has a high number of ministries. The Ministry of Environment has a relatively weak position. The interministerial exchanges during the NSS were limited. Only slowly, other ministries realise that the CDM could be relevant for them. For example, the Ministry of Energy has now set up a CDM task force. It will be difficult to get an efficient approval system if powerful ministries try to appropriate the issue. In the national CDM Board, however, all ministries that could block the implementation of a CDM project have to be represented.

3.1.2 Continuity of personnel

While at the beginning of the NSS the assistant minister and the higher levels of the Ministry of Environment were not much interested in the CDM a change of persons led to a highly proactive stance. Unfortunately, another change brought back less active people. For a functioning CDM approval process, personnel continuity is indispensable. This argues for a CDM Secretariat with permanent staff not seconded from ministries.

3.1.3 Different levels of institutions

In Indonesia, the competence of local government has recently been greatly expanded. However, local governors did not participate in the NSS. It is crucial that they have a representation in the National CDM Board, maybe on a rotating basis.

3.1.4 Inputs by companies

While the state-owned electricity and oil and gas companies were relatively disinterested in the CDM despite a huge potential, the Geothermal Association immediately grasped the chances the CDM can offer and very actively participated in the NSS. There should thus be an opportunity for proactive companies to have a word in determination of priority areas and technologies. Interestingly, several geothermal projects from Indonesia have been submitted to CERUPT and the PCF and two approved under the former programme.

3.1.5 Inputs by NGOs

Without a very knowledgeable NGO, the Indonesian NSS would not have been a success. Often in developing countries, NGOs have the best information about climate

policy and will be instrumental in starting a stakeholder dialogue as well as international contacts. It can thus make a lot of sense to entrust a NGO with running the CDM Secretariat.

3.1.6 Institutional recommendations in the Indonesian NSS

The NSS recommended that the institutional CDM arrangement should be independent from the political situation and the associated uncertainties. In so doing, the role of the private sector and non-governmental entities should be enhanced, while limiting governmental agencies at the minimum inasmuch as government role is absolutely necessary. As part of this effort, capacity building for the private sector and non-governmental entities was therefore crucial. The Designated National Authority for the CDM should be established by Presidential Decree and comprise two units: the National CDM Board (the 'Board' and a National Clearinghouse (the 'Clearinghouse'). It would closely cooperate with the National Committee on Climate Change. The members of the Board should represent as wide a range of stakeholders as possible. The likely composition would include officials from the State Ministries for Environment, Energy and Mineral Resources, Forestry, Transportation, and Finance, representatives of local government and relevant representatives from the private sectors, non-governmental organisations and community groups. It would act as a focal point for the national CDM program, define national sustainability criteria and approve nominated CDM projects as well. The Clearinghouse would do the day-to-day operation and provide a library and Internet-based database on CDM related activities that are accessible for public use. It would do outreach and capacity building, especially in the context of developing domestic certification expertise. The appraisal process will require an Environmental Impact Assessment (EIA), which includes a Social Impact Assessment (SIA). The Clearinghouse will hold a public hearing to provide an opportunity for presentation of a number of projects proposals. Public appeal shall be decided by the Board. The Clearinghouse should evaluate the validity of the appeal; if the appeal is valid, re-evaluate the project proposal and implementation plan and assess any new facts that are revealed during the appeal process. A public hearing will be held, to allow all affected parties to present their case. Should the appeal be upheld the project can be halted or modified

In a questionnaire respondents were asked to indicate the importance they perceived on a variety of issues/indicators grouped under four headings. These four groups were as follows:

- Sustainable development indicators
- Sector priority
- Project type
- Institutional design for CDM

65% of the 52 responses came from government departments/institutions, 27% from the private sector, and the balance from universities, NGOs, and representative of local government.

Except for sustainable development indicators, where most respondents agree on the significance of major items, distribution of responses for other issues have been skewed, seemingly towards the field of expertise of respondent. Thus, a particular energy project type, for example, could be indicated as both least important and most

important, depending on the background of the respective respondent. For the detailed results see Table 3

Table 3: Indonesian stakeholder priorities concerning sustainability criteria, sectoral priorities and institutional issue

Sustainability criteria	Importance		
	High	Medium	Low
No adverse environmental impact, Environmentally sound technology transfer, Stakeholder participation, Socio-economic consideration	>75%	<20%	<10%
Capacity building improvement, Local economic benefits	>70%	<25%	<10%
Community Development program, Employment increase, Equitable distribution of benefits	>50%	<35%	<10%
Respect of ulayat's right (land tenure), Use of implementable technology, No net increase in external debt burden	>40%	<40%	<15%
Increase in foreign currency reserves	29%	33%	19%
Sectoral priority			
Energy demand in transport, Energy demand in industry	>60%	<20%	<20%
Fossil energy supply	51%	15%	17%
Renewable energy supply, Forestry	>40%	<25%	<25%
Energy demand in households	31%	24%	22%
Agriculture	22%	28%	25%
Project type priority			
Fuel Switch	78%	8%	15%
Efficiency Improvement in Industry, Waste management, Provision of public transport, Improvement of fuel efficiency of cars, Efficiency Improvement in refineries, Reduction of gas flaring, Biomass energy	>50%	<25%	<40%
Small hydropower, New, highly eff. gas power station, Use of gas as transport fuel, Photovoltaics, Geothermal, Solar thermal (small scale), New, highly eff. coal power station, Insulation of commercial buildings	>40%	<30%	<40%
Replacement of inefficient electric motors in industry, Large hydropower, Sequestration of CO ₂ in empty oil and gas fields, Replacement of inefficient AC, Efficiency improvement in existing fossil power stations, Wind energy, Reduction of electricity transmission and distribution losses, Replacement of incandescent light bulb with fluorescent lamps, Coal predrying, Waste methane capture and utilisation	>30%	<35%	<50%
Use of biofuel in transport, Wave power, Reduction of deforestation	>20%	<25%	<65%
Reduced impact logging	19%	7%	74%
Reduction of fluorised gases in aluminium production, Better feed for livestock to reduce methane, Insulation of residential buildings, Less-methane intensive irrigation for rice cultivation	<10%	<30%	<90%
Institutional competence with			
Min. of Environment	90%	8%	2%

Min. Energy & Mineral Resources	48%	46%	6%
Min of Forestry, CDM Secretariat, BPPT (Office of Technology Assessment)	30-40%	<40%	<50%
Min of Agriculture, Min of Industry & Trade, National CDM Board	20-30%	<30%	<50%
Min of Sea Exploration & Fisheries, Min of Settlement & Infrastructure, Agency for Foreign Direct Investment	10-20%	<35%	<60%
Min of Foreign Affairs	5%	43%	53%
Coord. Min of Economic Affairs, University	0%	<50%	<70%

3.2 Morocco – the leader in Africa

Morocco is a country with negligible domestic fossil energy sources but a high potential for renewable energy generation. It is thus well-placed for CDM projects. GTZ has collaborated with Morocco for more than a decade in research on and development of renewable energy sources. In 1999, it started capacity building on development of criteria for sustainable development and national CDM institutions. This led to a relatively broad stakeholder dialogue and the formation of a critical mass of people aware of the CDM. Another boost for the issue came through the hosting of COP 7 which led to an expansion of the staff and also the reputation of the Ministry of Environment. Companies developed CDM portfolios for presentation to potential investors during COP 7. Unfortunately, the terrorism scare led to the cancellation of participation of many business representatives; thus the COP 7 marketing effort was less effective than planned. The portfolios have since been presented to missions from investor countries such as Canada.

3.2.1 Coordination among ministries

As in Indonesia, the Ministry of Environment has a relatively weak position. There have been considerable interministerial exchanges. However, ministries were struggling about the competencies related to CDM approval. Nevertheless, Morocco was the first African country to define its DNA in autumn 2002.

3.2.2 Continuity of personnel

A very active official coordinating all climate change related activities of the Ministry of Environment was transferred to another issue. Thus for some time, CDM-related activities slowed down only picking up again when the preparations of COP 7 started.

3.2.3 Different levels of institutions

Due to the centralised nature of the Moroccan government, once a decision is taken its implementation on lower levels should not pose big problems. So far, local authorities have been supporting CDM activities planned in their municipalities.

3.2.4 Inputs by companies

The state-owned electricity company has so far undermined attempts for CDM projects in the electricity sector. This is due to the fact that it wants to avoid to nurture

competitors for the impending liberalisation of the electricity market despite a strong need for additional generating capacities. Other state-owned enterprises such as the phosphate mining company are more open because they hope to reduce operating costs and get foreign capital.

3.2.5 Inputs by NGOs

The Moroccan NGOs are relatively weak and also did not profit very much from COP 7. Thus in contrast to Indonesia, they have not been able to build up a knowledge base.

3.2.6 Criteria suggested by Moroccan stakeholders

In the criteria-setting and institution-building exercise, a set of criteria emerged of which I will list the most relevant (see Table 4).

Table 4: CDM criteria discussed in Morocco

Criteria type	Criterion
<i>General</i>	Correspondence with the national development strategy
	Protection of the natural resource bases
	Protection of food autonomy
	Protection of energy autonomy
	Secure energy supply at lowest cost
	Construction and upkeep of basic infrastructure (energy and transport)
	Help in fight against drought
	Improved competitiveness of companies
	Short- and long-term positive effects
<i>Social</i>	Job creation
	Positive effects on the population
	Significant enhancement of human capacity
<i>Technological</i>	Mature technology
	No import of obsolete technology
	Effective transfer of technology without restrictions
	No obligations towards the investor country other than CER transfer
<i>Sectoral priorities</i>	
1	Energy supply
a	Renewables
b	Fuel substitution
2	1. Energy efficiency
a	Biomass use
b	Fossil fuels
3	Transport
4	Water provision / irrigation
5	Waste
6	Industry
7	Forestry

3.3 India

India is a country which is believed to be one of the most important CDM hosts. Thus it has been target of a number of capacity building efforts from Annex B countries, particularly the U.S. and Canada. However, for a long time the principal stance of the Ministry of External Affairs that aimed at an equitable per-capita distribution of emission rights prevented a positive official position towards the CDM. Even approval of AIJ projects proved to be difficult. This cautious attitude changed in 2000 when a cabinet decision endorsed the CDM. India became the country with the highest number of proposals (six) that passed the initial screening under the first round of the Dutch CERUPT proposal in spring 2001 of which finally five were selected. The hosting of COP 8 provided a further boost to CDM activities in India with a large number of CDM side events organised by Indian NGOs and representatives of private companies.

3.3.1 Central ministries and agencies

The proliferation of ministries (in total there are over 40 ministries in India) makes a coordinated CDM approach very difficult. So far no DNA has been set up despite announcements that this would be done before COP 8. Now a cabinet decision is prepared but it is likely that the DNA will only be defined after Russian ratification of the Kyoto Protocol. The cabinet position of 2000 on the CDM outlines a market-based approach but says that each ministry should set up its own priorities and criteria. The nodal ministry is the *Ministry of Environment and Forests* (MoEF). While professing a very open approach on CDM, its activity is seen as somewhat lacklustre. It has a rough set of guidelines on its website but does not intend to develop very specific ones.

The *Ministry for Non-Conventional Energy Sources* (MNES) so far has been the most active ministry concerning CDM. It has pushed through the CERUPT applications very quickly. Project selection was ad-hoc, some biomass projects were rejected due to perceived low supply of biomass in the area. It has a long project pipeline (250) from past GEF outreach that could be used for CDM purposes. Being aware of the high costs of renewable energy projects, it wants to avoid opening up of the CDM market to cheaper options that could relegate the RE sector to a niche position. Thus it is against a clarification of criteria and application rules.

The *Ministry of Power* has now realised that CDM could play a major role in energy efficiency programmes. It has concerns about the additionality of retrofits and the agency CENPEEP (16 people) that should do those is rather slow.

The Ministry of External Affairs has an interest to tax CER production. The Ministries of Coal and Oil and Gas so far have not been active in the CDM debate to any significant extent.

3.3.2 Continuity of personnel

A pertinent problem is the rotation of ministry officials which prevents a long-term accumulation of experience. Still, some “CDM champions” continue to influence the debate even after changing their assignment.

3.3.3 Different levels of institutions

India is a federal state. States have a decisive role in approving investments. Only projects in oil, steel, coal, chemicals, fertilizer and forestry are seen as federal subjects. There is a general feeling that CDM awareness on the state level is still low but some

reform-minded states such as Madhya Pradesh see the chances CDM offers. Madhya Pradesh organised a CDM workshop and is planning to implement an CDM cell in the state Pollution Control Board.

Some municipalities are aware of the CDM through the Cities for Climate Protection Campaign of ICLEI. A project portfolio is being developed for the cities of Calcutta, Hyderabad and Vadodara

3.3.4 Inputs by companies

In contrast to the glowing media reports on the 100 billion \$ CDM potential (Anon. 2002), the private sector in general is very much aware of the current market situation and even questions whether it makes sense at all to develop CDM projects given the high transaction costs. It also asks for clearer rules. There are no clearcut sectoral priorities, proposals come from a wide variety of sectors with some focus on biomass energy. No foreign investors are seen to be interested in direct CDM project equity. Some observers think that only industry pressure on government can lead to sensible rules. An opportunity was seen in using the energy audits that are phased in in the next years as preparation for CDM project proposals.

The three big umbrella associations CII, ASSOCHAM and FICCI all see the business opportunity. In the past they have sponsored various CDM workshops. CII has built manpower under past donor programmes and would be well-placed to coordinate industry responses via its cells promoting energy efficiency as well as the cell looking at energy production. Also sectoral associations are interested; e.g. the *Cement Manufacturers' Association* already has a GHG inventory programme. Some observers suggest that a capacity building effort should target sectoral "champions" that then solicit a response from their "followers" by organising workshops. This has already been applied in the cement industry. The oil and gas sector lags strongly behind other industries as awareness for CDM options is concerned. Only the largest companies in the field (BG, GAIL) have heard about it and have just started to assess business implications. They still think that any increase of natural gas usage can be made into a CDM project. There is no activity whatsoever in gas flaring reduction linked to CDM.

A plethora of consulting firms senses a lot of business opportunities but only a few really understand the business. While the majors are marketing their services aggressively to public and private stakeholders, their competence is doubtful. Companies that have been involved in past climate-policy related donor programmes have a good understanding. This applies especially to subsidiaries of US companies that were specially promoted under the US capacity building programmes but currently have problems in finding other contracts.

Only some semi-public financial institutions currently know about CDM. Among them, only the Indian Development Finance Corporation (IDFC) that finances infrastructure projects and has a development-focused approach is actively pursuing CDM as a business opportunity. It has negotiated a contract with the PCF where IDFC provides bankable projects from its general pipeline to the PCF. IDFC prepares the Project Design Document but is not involved in negotiations of the emission reduction purchase agreements. The first project is a landfill gas utilisation in Lucknow; a similar project in Chennai has failed due to the assertion of the local Pollution Control Board that landfill gas use amounts to "incineration" which is prohibited. In contrast to IDFC, ICICI Bank sees its role as an intermediary and provider of securitisation.

3.3.5 Inputs by NGOs

Indian NGOs and research institutions are very well developed and have been among the most vocal in the CDM debate on a global scale. The Centre for Science and Environment (CSE) has consistently opposed the CDM arguing that an equitable allocation of an emissions budget is a necessary condition for any market mechanisms. This position has strongly influenced Indian government thinking. The Indira Gandhi Institute for International Development thinks along similar lines but would endorse the CDM if it really brings development benefits. The research-oriented organisations The Energy Research Institute (TERI) and Development Alternatives (DA) support it and are interested to become CDM consultants, the latter focusing on small-scale projects.

4 Experiences with donor-funded capacity building

The following general problems of capacity building can be distinguished and are underlined with examples:

- 1) Donor competition
- 2) Concentration on uncoordinated workshops without follow-up
- 3) Use of a high share of available funds for consultants from investor countries
- 4) No funding for institutions building

Donor competition is a strong feature of the World Bank National Strategy Study (NSS) programme. Donors are fighting for the most interesting countries that promise a high CDM potential. In the context of the Indonesian NSS which was allotted to Germany, suddenly Australia offered money to fund a separate forestry NSS when Indonesia did not like the German reticence concerning CDM and forestry. The Indonesians grasped the opportunity and colluded with the World Bank without consulting with the Germans. Of course, coordination of the two studies has proved to be almost impossible. Similar things have happened in China with the Swiss and the Germans vying for the study and Japanese funding other studies with similar scope. Of course donor competition always leads to waste of resources, as host country representatives will appropriate rents e.g. by getting paid twice for the same work.

The past years have seen a proliferation of workshops organised by U.N. organisations, international organisations like OECD and investor country governments. There has not been any coordination of these workshops. While in the beginning, workshops may have been useful to spread the general idea about the Kyoto Mechanisms, now their added value becomes lower, especially as there is no specialisation on sectoral and technology issues.

A deeply engrained problem is the use of capacity building funds for consultants from the investor countries. In the NSS programme, more than 50% of available funds is plowed back into the donor countries as consulting is tied to the donor country. Some host countries such as the Philippines rejected a participation in the NSS programme for this reason. An even more drastic example is the Japanese AIJ programme where 15 million \$ have been invested in over 100 "feasibility studies" (NEDO 2000) that have so far brought forth only one or two AIJ projects. Of course the money was tied to Japanese consultants. Experience from Uzbekistan shows that the Japanese were parachuted into the country and that the studies were not at all brought to the attention

of the relevant stakeholders. Moreover, tying has led to the selection of consultants that are not necessarily of international reputation.

Very often, there is no mainstreaming of CDM capacity-building efforts with donor development projects in an host country.

The AIJ phase has shown the lack of institutions to be the major barrier to project implementation. So far almost no investor country money has been used to fund institutions. The three person Costa Rican AIJ office which has done pioneering work concerning the implementation of AIJ projects and strongly influenced CDM negotiations did not receive any capacity building money and had to survive by renting out consultancy services. While UNEP financed a big feasibility study for a Central Asian CDM office (Aslam 1999), it has not offered money for the actual setup. UNIDO has done several studies on CDM institutional needs in African countries but nothing to spur actual implementation. The UNEP 12-country programme started in 2002 has learned from these failures and aims at concrete institution-building.

Of course, there are also positive examples from current capacity building. The NSS programme has managed to start know-how transfers between host countries by exchange of experiences in well-structured workshops. It have been clearly instrumental in getting host countries to define a clear CDM negotiation position and to have a clear view about sectoral priorities. Some national programmes such as the United States Initiative on Joint Implementation (USIJI) have developed a multi-step programme leading from long-term missions to hands-on training of host country stakeholders, for example in India. The U.S. delegated two experts for a full year to the renowned research institute TERI to work on CDM issues and liaise with industry representatives through focused, small workshops. Afterwards, they invited a delegation of high-ranking industry representatives to a workshop in Washington where institutional issues were discussed. The currently high awareness of Indian industry can be traced back to these efforts that unfortunately ground to a halt after president Bush announced his opposition to the Kyoto Protocol. The German capacity building programme in Indonesia, India and Tunisia takes a long-term view to develop CDM institutions, preferably by developing domestic capacity through provision of long-term domestic personnel resources.

Summing the experiences, host countries have to develop a national strategy as starting point to inform stakeholders about CDM potential and define priority sectors. Investor country consultants should only be used as “kickstarter”. Donor funds have to be untied to select consultants in an open international tender procedure. Whereas capacity building linked with specific projects can play an effective role it needs to be complemented, and superseded by “programme capacity”, i.e. focussed “host” country CDM programs which can lead to a range of multi-sectoral projects.

Even if capacity building has been successful in the institutional context, this does not assure that CDM proposals are developed by the host country’s private sector. This needs a motivational push through public policies and regulations; an information assessment support system and an active outreach pull provided by experts who seek consultancy opportunities (TERI 1997). This is particularly important if small enterprises or the informal sector are to be reached.

5 Institutional recommendations for host countries

5.1 Ideal solution: independent CDM Office as one-stop-shop

Experience from the most successful AIJ host countries shows that it is imperative to have a single unit responsible for the solicitation and approval of projects. It must have full decision autonomy and professional, permanent staff as it is the case in Costa Rica (for a detailed description see Figueres and Olivas, p. 33-36). Thereby, it can avoid a blockade through conflicting interests of different ministries that affected several AIJ projects in Eastern Europe and led to high transaction costs for project developers (Lile et al. 1998). It could be operated by a private body or NGO. The learning curve of such a CDM office would be very quick and its efficiency high if bolstered by incentive structures, e.g. a transaction fee dependent on the time taken from submission of documentation to issuance of the approval. Of course, spot checks by the state audit office would be necessary to avoid kickbacks and other irregularities.

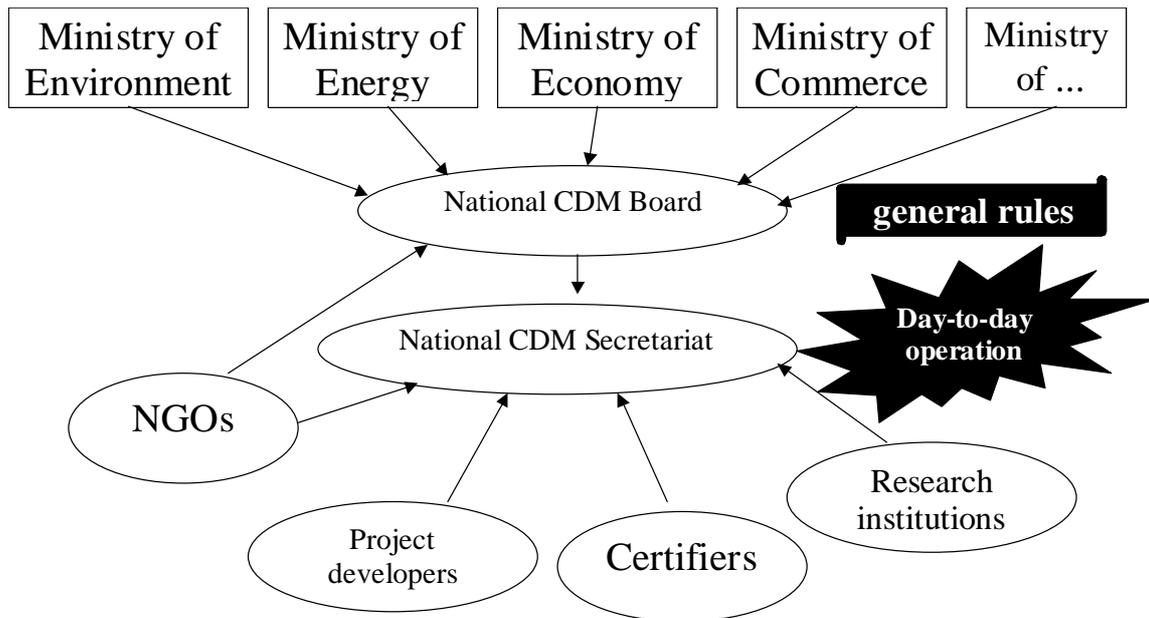
5.2 Second-best solution: National CDM Board with CDM Secretariat

In countries where the ministries cannot pass the approval competence to an independent office, a two-tiered organisation may be most appropriate. All ministries deemed relevant have a seat on the National CDM Board that defines the criteria and sectoral priorities. The Secretariat, which preferably is a private institution/NGO, has professional staff and evaluates project proposals. There are now two options

- The Secretariat has approval power and notifies the Board. A quorum of Board members can ask for a revision
- The Secretariat sends positively evaluated proposals to the Board and the Board approves them

The Secretariat does all capacity-building and marketing-related services listed in Table 1.

Figure 2: Two-tiered institutions



5.3 UNFCCC National Focal Point as solution for small countries

In countries that may get a single-digit number of CDM projects, the UNFCCC National Focal Point should become the DNA. If unexpectedly the number of proposals rises, external consultants can be hired as is currently the case in Cambodia.

6 Conclusions

Even if a host country has many attractive CDM project opportunities, it will not necessarily mean that many projects will actually be implemented. An effective national institutional structure is necessarily to harness the CDM potential and attract investors. At the outset, a country should develop a clear understanding about its approval criteria and sectoral as well as technological priorities. In this process, the competitive nature of the CDM should be kept in mind. Moreover, all stakeholders have to be effectively integrated in this process. Current institutions as well as donor capacity-building programmes have many flaws that can still be corrected before they hamper CDM implementation. Particularly long-term personnel continuity is a major problem that has to be addressed.

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