Creating the foundations for host country participation in the CDM

Experiences and challenges in CDM capacity building

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1. Introduction

When the CDM was agreed at the Kyoto conference, it was a great surprise. For the first time, a market mechanism for a global public good had been created. It allows to bridge the gap between the countries that have agreed to an emissions limit and those that have not. It is voluntary and thus cannot be forced on anyone. However, the CDM is not just about trading greenhouse gas emissions credits. Its equally important target is the promotion of sustainable development of the host countries. Therefore, each CDM project has to be approved by the host country. Ideally, each host country would have defined rules to assess the contribution of projects to its development. As sustainability can be understood in many different nuances, a wide range of rules is conceivable.

As the generation of Certified Emission Reductions (CERs) through CDM projects is happening in countries that are not subject to an emissions limit, there is a strong incentive to artificially inflate the amount of CERs generated. Project developer, host country and investor / CER buyer have an interest to generate as much CERs as possible. This perverse incentive was one main reason for many NGOs to oppose the CDM. The EU took up this criticism and pushed for checks and balances to avoid "tropical air". While the more market-oriented OECD countries did not wish an overly cumbersome procedure that in their view would have stifled the CDM, at COP 7 in Marrakech it was possible to agree to a body of rules that goes a long way in protecting the environmental credibility of the CDM. The Marrakech Accords specify a project cycle with a series of steps that require professional knowledge of all participants.

As the CDM competes with domestic mitigation activities in Annex B countries, with project-based Joint Implementation (JI) and International Emissions Trading (IET), CDM host countries have to find their niche in the global greenhouse gas market. They need a clear picture of their strengths and weaknesses. The elaborate project cycle inevitably causes transaction costs that are higher than those of JI and IET. Mastering each step requires specialisation. A host country that wants to be a competitive provider of CERs should build competence to master all steps to avoid costly outsourcing to service providers from industrialised countries. Obviously, this will be a challenge for many, if not the overwhelming majority of Non-Annex B countries.

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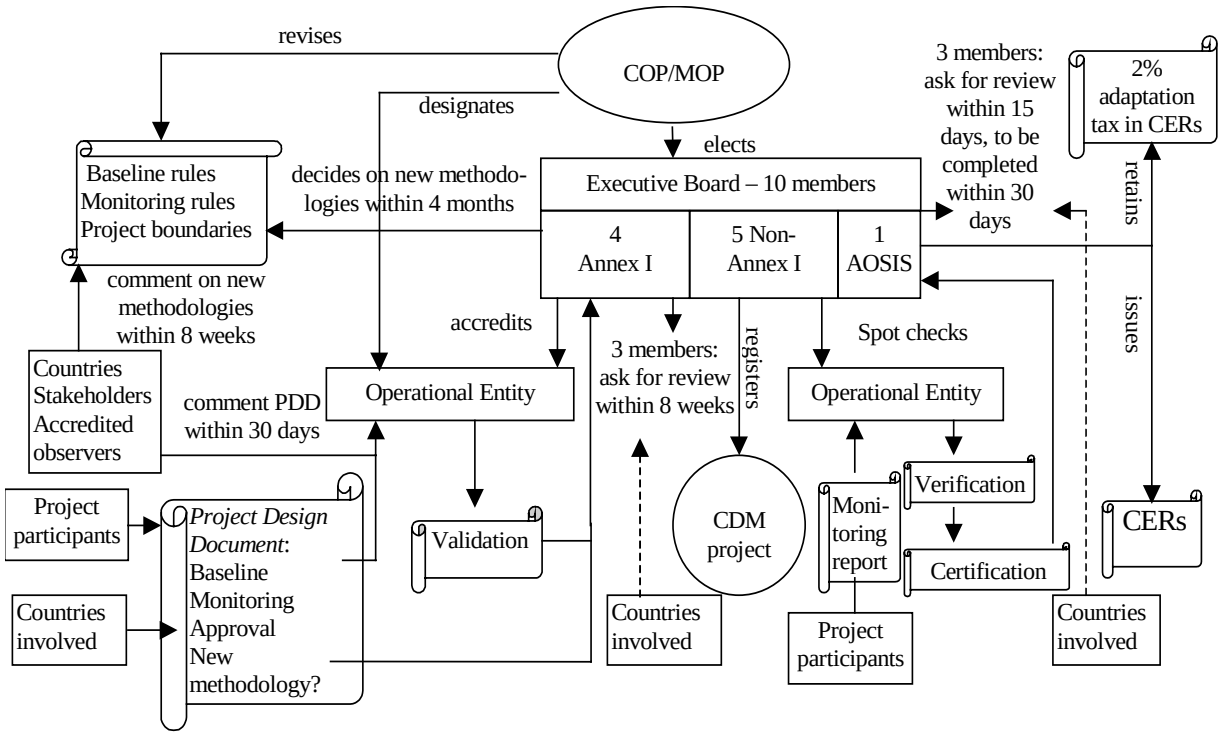
2. Capacity requirements to successfully implement the CDM

The Marrakech Accords allocate tasks within the CDM project cycle to different players (Figure 1). These tasks require specific knowledge, financial resources and official decisions.

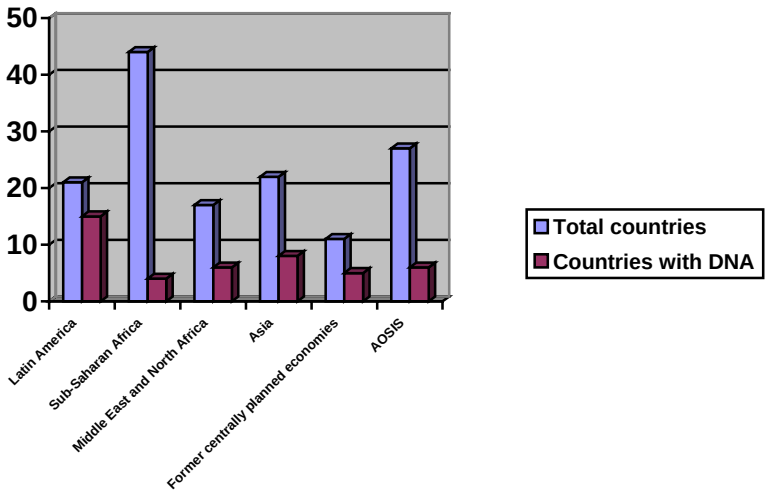
Figure 1: Tasks and actors within the CDM process



2.1. Governments

Host country governments can decide which projects can be forwarded to the CDM Executive Board for registration. The approval decision is done by the "Designated National Authority" (DNA) that has to be notified to the UNFCCC Secretariat. The seemingly simple task of defining a DNA has been complex and time-consuming in many host countries; in the three years since the Marrakech Accords only a third of Non-Annex B countries has notified their DNA. Latin America was leading DNA setup but many of those DNAs are not fully operational (Michaelowa 2003). For a good overview about possible DNA activities and their history in Latin America see Figueres (2002).

Figure 2: DNAs according to region



Another necessary condition for CDM participation is the ratification of the Kyoto Protocol. As the case of Indonesia shows, this is not self-evident, especially if there are interest groups that fear ratification would mean the first step on the path to taking up an emissions target. Both the Indonesian coal lobby as well as forces linked to the oil producing Middle East have been blocking ratification in Indonesia for the last two years.

2.2. Project developers

Project developers have to understand the technical options for greenhouse gas reduction and their costs. Moreover, they should be aware of the issues related to additionality determination (see chapter 8) to avoid that they pursue project ideas that will eventually be rejected because they are business-as-usual. Once a project is registered and starts operating, they should be able to apply a monitoring methodology.

2.3. Consultants

Consultants play a decisive role in writing the documentation necessary for registration of a CDM project. In this context, they have to know the fine print of CDM rules and be able to collect data for determination of the baseline. In the early stage of CDM development, they also have to submit new baseline methodologies. This is an art that requires in-depth understanding of the politics surrounding the CDM, especially with regards to the opinions of the Methodology Panel.

2.4. Validators and certifiers

Validators have to be officially accredited by the Executive Board. The Marrakech Accords define the competences necessary to become a validator. This list is long and essentially limits validation to companies that have accumulated experience in other types of certification. So far, these requirements have been an effective deterrent for

companies from developing countries.

2.5. Financial sector

Banks and insurance companies are important players to enable project developers to undertake a CDM project. So far, they lack knowledge about the CDM which means that they will have difficulties in evaluating requests for loans or project finance.

2.6. Lawyers

Contracts with an unusually long duration are characteristic for the sale of CERs. Depending on the financial structure of the CDM project, the type of host country and the greenhouse gas exposure of the buyer, the Emission Reduction Purchase Agreement (ERPA) has to be structured differently. For example, a project with a crediting period of 21 years that takes place in a host country likely to take up an emissions target within the next ten years, the contract has to define what happens when the emission target kicks in. Many buyers do not want to take all the CERs produced by a project but still retain an option for the acquisition of the remainder. Even without such clauses, the contract template developed by the International Emissions Trading Association (IETA) encompasses 27 pages. Lawyers that draft ERPAs have thus to be aware of many issues surrounding international climate policy. So far, only one or two law firms, none of which from a developing country, has this knowledge.

2.7. NGOs

NGOs play an important role in safeguarding the environmental and social integrity of the CDM process. At several levels, they can submit comments. Many host country DNAs hear NGOs when project proposals are submitted for approval. Internationally, comments can be made during a month when a new baseline methodology has been submitted to the Executive Board. Further comments can be submitted to the validator once a project developer has asked for validation. NGOs can access the UNFCCC website to submit comments. However, in the first year of methodology development, NGO comments have been astonishingly rare; most comments came from researchers or consultants. This is most likely due to the low availability of NGO personnel with the necessary technical knowledge. Moreover, if such personnel is available, it would be assigned to more “glamourous” tasks than assessing CDM projects. An exception is the one-man NGO CDM Watch which has been instrumental in coordinating NGO responses to doubtful projects.

3. Donor activities

Many Annex B countries have recognised that the CDM projects will not fall from the sky and thus started programmes to enhance capacity in host countries. These programmes have different target groups and designs.

3.1. Spreading the message

Before the development of CDM projects can be contemplated, the different target groups have to get a feeling what the CDM is and what incentive it offers. All capacity building activities of the late 1990s and many of the currently ongoing programmes concentrated on this aspect.

Funded by Switzerland and increasingly other countries (Finland, Canada, Germany, Australia, Austria, and Italy), the World Bank started its programme of National Strategy Studies (NSS) in 1998 which ran until the end of 2003. This programme was aimed at both CDM and JI host countries; the latter were the focus of the initial years while after 2000, almost all studies were on CDM. It consisted in writing a study estimating the CDM potential of the specific country with the following elements:

- Description of the CDM
- Estimate of demand and supply on the international greenhouse gas market
- Estimate of costs and scope of greenhouse gas abatement options in the host country
- Institutional requirements for CDM
- Description of a project pipeline.

Each NSS would be financed by one Annex B country; the World Bank played a relatively limited role in financing, but asserted an important one when it came to content. After initial experiences with uncoordinated writing of the chapter on the international greenhouse gas market, they hired Swiss consultants Gruetter to develop an easy-to-operate general equilibrium model of the global market. This “CERT model” was useful in giving some idea about market prices and overall demand and prevented wasting of too many precious human resources on guessing about international markets However, in the NSS programme the World Bank also promoted its own agenda, particularly concerning the development of a project pipeline for its Prototype Carbon Fund (PCF). This role of the World Bank sometimes led to conflict with the financing country and to long delays in publication of the studies. Therefore Germany made its financial contributions with the condition that it would retain control over the content and could decide unilaterally when a report would be fit for publication.

Always a team of host country consultants would be in charge of writing the report while consultants from the Annex B country financing the NSS would support them. Often, however, the Annex B consultants played a major role which of course limited the degree of capacity building. They also took the major share of the available funding so that essentially the NSS programme built the capacity of Annex B consultants at least as strongly as capacity of host country consultants.

Usually, a NSS took 18 months to be completed but in some cases it dragged on for three years. Main reasons for delay were insufficient ownership of the host country, conflicts about the allocation of financial resources, lack of competence and slow allocation of experts by the Annex B consultancy. An instructive case is Indonesia that had decided to separate its NSS into an energy and a forestry part. The former was financed by Germany, the latter by Australia. While initially both parts were to be started in early 2000 and published jointly, it became clear quickly that the Australian part would have difficulties. Eventually, the German NSS was published in September 2001 and the Australian one more than two years later.

NSS were done in 16 CDM host countries (see Table 1). Interestingly, smaller countries were quicker in negotiating NSS terms with the World Bank. Larger host countries were sometimes skeptical and the negotiations took long. A prime example is India that only

started its NSS in 2003.

Table 1: NSS completion

Year	Country
1998	Argentina
1999	Uzbekistan
2000	Colombia, Kazakhstan
2001	Bolivia, Indonesia I – Energy, South Africa, Zimbabwe
2002	Egypt, Thailand
2003	Chile, Indonesia II – LULUCF, Peru, Uruguay,
2004	China, India, Vietnam

The NSS programme was an important catalyst for CDM institution building in host countries but it became obvious that it would not be sufficient. Moreover, many UN organisations were in dire straits because of funding cutbacks and looking for new opportunities to show their necessity. So a donor competition started which involved UNCTAD, UNDP, UNEP and UNIDO. Moreover, several Annex B governments started their own efforts (see Table 2). Even nowadays, these efforts go on despite having been superseded by targeted institution building and project development support.

Table 2: CDM awareness building programmes

Agency	Name	Duration	Host countries	Comments
UNCTAD	Carbon Market E-Learning Center	2001-ongoing	Not specified	Online, fee-based training course on CDM. Dubious quality and semi-commercial character
UNDP	RAB	1999-2002	Algeria, Morocco, Tunisia	Workshops, development of project pipeline
UNIDO	Concept for Developing National Capacity to Implement Industrial Clean Development Mechanism Project in Africa	1998-2001	Ghana, Kenya, Nigeria, Senegal, Zimbabwe	Evaluation of CDM potential in industrial sector
UNIDO	Capacity Mobilization to enable Industrial Projects under the Clean Development Mechanism	2001-2002	Indonesia, Malaysia, Philippines, Thailand, Vietnam	Evaluation of CDM potential in industrial sector
EC ASEAN Energy Facility	CDM-ASEAN	2003-2005	ASEAN	Two regional workshops, background papers
EU Commis-sion	CAPSSA	2001-2002	South Africa, Senegal, Zambia	Workshops, small strategy studies, development of sustainability criteria
EU Synergy		2003-2004	China	Workshops
EU Synergy	IRIS	2003-2004	India, Morocco	Workshops
EU		2004-2006	Caucasus, Central	Workshops, strategy studies

TACIS			Asia	
IGES (Japan)	ICS	2003-2006	Cambodia, India, Indonesia, Philippines	Well-funded programme aiming to expand to other countries. Workshops outside the capital and organised by different organisations. Focus on waste management, renewable energy, and small-scale projects.
UK		2003-2004	India	Workshops
USAID		1998-2000	India	Workshops and US study tour with industry leaders

A common feature of all these programmes was the writing of studies and the holding of general CDM workshops. The most effective of these programmes was the US effort in India. It involved secondment of two US experts to the renowned Indian research institute TERI. They focused on the Indian industry associations with which they did several CDM workshops. The apex of that programme was the sending of a 50-strong Indian company CEO delegation to Washington which was received by Vice President Gore in the White House! Afterwards, CDM awareness of Indian business was extremely high and it was instrumental in changing the negative attitude of the Indian bureaucracy towards CDM. The only flaw was that the US programme had spread the impression that CDM revenues would amount to billions of $ that could be reaped easily. For those donors arriving in India after the Marrakech Accords, this impression did not facilitate their work.
At the other end of the effectiveness scale were the UNIDO efforts. A lot of money was spent on studies on the CDM potential in the industrial sector in African and ASEAN countries without any follow-up. In Indonesia, the study was written by a notoriously unreliable consultant of the local coal industry!

3.2. Supporting institutions

After the Marrakech Accords had been agreed and it became clear that many countries had problems in setting up their DNAs, the focus of donor activities shifted. From 2002 onwards, several activities focused on DNA building (see Table 3).

Table 3: CDM institution building programmes

Agency	Name	Duration	Host countries	Comments
UNDP/UNEP	RAB	2003-2004	Morocco	Follow-up of earlier programme, now centered on making approved DNA fully operational
UNEP	CD4CDM	2002-2005	North Africa and Middle East: Egypt, Jordan, Morocco Sub-Saharan Africa: Cote d'Ivoire, Mozambique, Uganda Asia: Cambodia, Philippines, Vietnam Latin America: Bolivia,	Largest CDM institution building programme to date. Intense preparation of stakeholders on national and regional level.

			Ecuador, Guatemala	
World Bank	CF Assist	2003-	Not specified	Training modules for establishing DNAs; book on legal issues
DANIDA		2003	Malaysia	Support for the Energy Secretariat of the DNA
GTZ	CAPP	2002-2006	Indonesia, Mongolia, Tunisia	Local consultant works with ministries and other stakeholders until DNA is agreed

The institution building programmes show that host country ministries often feel CDM could bring them new possibilities to collect rents from the private sector. Therefore, interministerial conflicts arise who will be in charge of the DNA and whose desk(s) project proposals will have to pass. It is key to have a local consultant who understands this political game and manages to minimise the possibilities for rent seeking. The German programme in Indonesia benefited from such a well-connected consultant; still it took more than a year to get the formal decision about the setup of the DNA.
Many host countries do not understand the long-term institutional commitment necessary to develop a consistent CDM strategy. They hope that donor funds will pay for the operational costs of the DNA. Only rarely, they try to assess the level of costs involved. In Indonesia, the German programme stressed the need for a calculation of the DNA budget which came to 180,000 $ per year and suggested a fee of 0.5% of expected CERs be levied from project proponents.

3.3. Supporting project proposals

For those host countries that have set up their DNAs, the challenge is to get project proposals developed. Particularly those funds or Annex B countries that want to procure CERs have been less than happy with the slow pace of project development and the low share of attractive proposals among the project idea notes (PINs) submitted. The first entity to make this experience was the World Bank's PCF that visibly had difficulties in finding enough interesting proposals. Only about 10% of the PINs were followed up.
The Dutch were the first to launch a tender for procurement of CERs. Their CERUPT programme subsidised the cost of PDD development. However, the Netherlands discontinued CERUPT after one round because they felt it was too inflexible. CERUPT essentially built the capacity of Annex B consultancy companies and did not help host country companies. Last year, DANIDA started a similar programme in Thailand. Canada subsidised some small-scale PDDs in India but the subsidy was not sufficient to finalise them. Other procurement programmes (Austria, Finland, Sweden) do not subsidise PDDs at all. The Japanese NEDO has consistently financed CDM feasibility studies over the years but the transformation of those studies into CDM proposals has been very difficult. Most studies were done by Japanese consultants so that the capacity building component is rather limited.

Table 4: CDM project development programmes

Agency	Name	Duration	Host countries	Comments
EU Synergy	Business	2004-2005	Israel, Jordan,	Development of 20 project

	opportunities for CDM project development in the Maditerranean		Lebanon, Malta, Morocco, Syria	idea notes (No PDDs!), regional workshops
Canada	-	2003	India	Subsidisation of six small-scale PDDs
DANIDA (Denmark)	-	2003-2004	Thailand	Tender for for project proposals. Selected proposals receive subsidy for PDD development and negotiate ERPA.
GTZ (Germany)	CDM India	2003-2006	India	Tenders for project proposals. Selected proposals receive subsidy for PDD development.
NEDO (Japan)		1999-2004	Not specifically targeted	Support of feasibility studies; more than 150 studies have been supported.
SENTER (Netherlands)	CERUPT	2002	Not specifically targeted	Selected proposals receive subsidy for PDD development and negotiate ERPA.
Netherlands	SouthSouth North	2001-2004	Bangladesh, Brazil, Indonesia, South Africa	Unique efforts of horizontal capacity building through exchange of experience between four host countries. Project proposals suffer from being small and partly very complicated.

3.4. Future directions

After establishment of a DNA and support of the first PDDs within each promising project category, CDM capacity building has other promising targets.

3.4.1. Sustainability criteria

Astonishingly, host countries so far have put relatively low importance on defining criteria that CDM project proposals should fulfil regarding their contribution to sustainable development. This may be due to the fact that stakeholders interested in sustainable development often have no clout in government decisionmaking in developing countries. Donors interested in an environmentally and socially credible CDM thus should try to strengthen those stakeholders and support the elaboration of criteria. The German programme in Indonesia has put a strong emphasis on criteria definition. In this context, the methodology developed by Sutter (2003) can nicely be applied.

3.4.2. Specific training courses for project developers and consultants

As the methodologies become clearer, project developers and consultants have to be trained in depth. Detailed, multi-day training courses for the most attractive project types should be developed and implemented. This can only be done once a country has defined the priority sectors. SouthSouthNorth has developed a modular programme for training courses including a very nice role-play where participants learn to understand the interests of the different stakeholders.

3.4.3. Baseline data collection

With a growing number of accepted baseline methodologies, data needs to calculate a baseline scenario correctly become clearer. It is obvious that some data could be centrally provided by the DNA, for example electricity grid emission factors for the operating and build margin (for a discussion of the underlying concepts see Chapter 8). Collection of these data by the project developers would cause high transaction costs and involve unnecessary repetition. While some countries (India) already have high-quality raw data available on websites, other countries have not managed to collect them despite long efforts (China). Future capacity building could thus focus on assistance in data collection and continuous updating.

3.4.4. Training of domestic Operational Entities

So far, of 20 submitted applications for the status of Operational Entity (OE), only two come from Non-Annex B countries. This means that industrialised country fee levels have to be expected for validation and verification even if these OEs set up branches in some host countries. To keep some of the value added within the host country, capacity building could support the setup of OEs, especially in countries that have a flurishing certification industry.

4. Challenges

Five-year experience with CDM capacity building shows a lot of challenges that have to be overcome to make the programmes really effective.

4.1. Workshop tourism

The number of CDM workshops held globally since Kyoto must now have reached more than hundred, not including the side events at the UNFCCC negotiations. This has given rise to several undesirable consequences. Many developing country and also Annex B CDM experts spend their time in giving presentations at these workshops instead of working on the development of project proposals or institutions. Moreover, participation in such workshops often gets a rent-seeking character as host countries send unprepared representatives that pocket the daily subsistence allowance and are not interested in the content. This sorry state of affairs can be alleviated by the following action:

- Workshops should no longer be held by each donor separately, but coordinated in

advance. This coordination should be done through donor meetings at each session of the UNFCCC negotiations.

- Workshops have to be thoroughly focused on hitherto not involved target groups and should be held in locations where no workshop has been held so far.
- Regional workshops can reduce travel needs

Ideally, one or two events worldwide could be used to train DNA officials and Operational Entities. PointCarbon's and IETA's Carbon Market Fairs would be ideal as most DNAs will anyway be represented there to market their countries.

4.2. Printed CDM manuals

Several capacity building programmes have developed a printed CDM manual. The widest distribution is achieved by the CD4CDM guide (UNEP 2003) which has been translated into Vietnamese and Khmer. UNDP (2003) and UNCTAD (2002) are other attempts. The problem with such material is that it becomes obsolete very quickly and users are not aware of that. I would prefer a web-based manual that is constantly updated and could also be shared by different capacity building initiatives. Obviously, it would cost more than a one-off printed guide, but the benefits for host countries would be much higher.

4.3. Donor competition

As shown above, many donor programmes are active in the same countries and with similar targets. Resources could be spent much more efficiently if donors would either pool their resources or clearly separate tasks. While it is clear that those countries looking for CERs will not coordinate their procurement, at least the underlying capacity building can be coordinated. Otherwise, we may see the perverse outcome that the same project proposal is subsidised several times by different donors.

4.4. Sourcing cheap CERs

Some donors are doing capacity building only because they see it as necessary condition to procure cheap CERs. Of course, host countries recognise this fairly quickly and become wary about the donor's intentions. The Danish programme in Thailand has stalled over this issue; Japanese activities are often viewed with some degree of uneasiness. German capacity building has always profited from the fact that it could credibly say that it is not interested in buying CERs.

4.5. Weaning host countries from foreign aid

There is a distinct danger that host country institutions become dependent on capacity building funds from abroad. This is already visible in the case of Cambodia, which had been involved in three capacity building programmes and whose DNA staff is very clear that they would have to close down immediately if these funds stopped. So any capacity building programme must have a component developing own sources of CDM institution funding

5. Conclusions

Capacity building is a necessary, but not sufficient condition for a flourishing CDM. Over the last seven years about 20 million € have been spent to support awareness generation of CDM, the setup of Designated National Authorities, development of sustainability criteria and subsidise Project Design Documents. Several large programmes have just started and so a further expansion of capacity building can be expected, focusing on in-depth training of project developers, consultants and financial sector representatives. Collection of data to determine baselines and help to frame discussions about sustainability criteria are other relevant topics. While initially multilateral programmes prevailed, bilateral activities have superseded them. This is due to the fact that several Annex B countries see capacity building as important step towards the procurement of CERs. Expressed as a share of the current CDM market volume of about 600 million €, capacity building activities cost between 5 and 10%.

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