



Capacity Development for the Clean Development Mechanism

Lessons Learned in Ghana, India, Indonesia, South Africa and Tunisia



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A c k n o w l e d g e m e n t s

The authors, Lambert Schneider and Katherina Grashof (Öko-Institut e.V.), deserve particular recognition for preparing this study based on a wide range of different documents, actors and experiences, which would have been impossible without their hands-on-experience in capacity development in developing countries.

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Anja Wucke, GTZ



Foreword

Capacity Development means efforts to strengthen the ability of individuals, organisations and societies to put sustainable development strategies into practice. Capacity development is a key factor in successful change processes holding a prominent position both on the international and German development agenda.

With this study we are presenting lessons learned in capacity development for Climate Change and the Clean Development Mechanism. Supporting developing countries in getting access to international carbon markets has been a priority area of the Ministry for Economic Cooperation and Development.

By helping developing country partners cope with the institutional challenges and technical complexities of the CDM we aim to support the successful implementation of the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol. With our support we want to enable developing country partners to benefit from resource mobilisation through the Clean Development Mechanism.

Based on various examples and in-depth discussions with colleagues, this study features practical applicability. I trust it will contribute to more widespread application of the Clean Development Mechanism in Developing countries.

Marita Steinke,
Head of Division
Environment and Sustainable Use of Natural
Resources,
Federal Ministry for Economic Cooperation and
Development

Executive Summary

German Technical Cooperation has supported both the establishment and day-to-day business of Designated National Authorities (DNAs) for the Clean Development Mechanism (CDM) in Ghana, India, Indonesia, South Africa and Tunisia. Joint capacity development activities together with our in-country partners reached out to the public as well as the private sector. This report provides an overview of the process of establishing DNAs and promotion of the CDM in these five countries and summarises practical experiences and lessons learned from the capacity building activities.

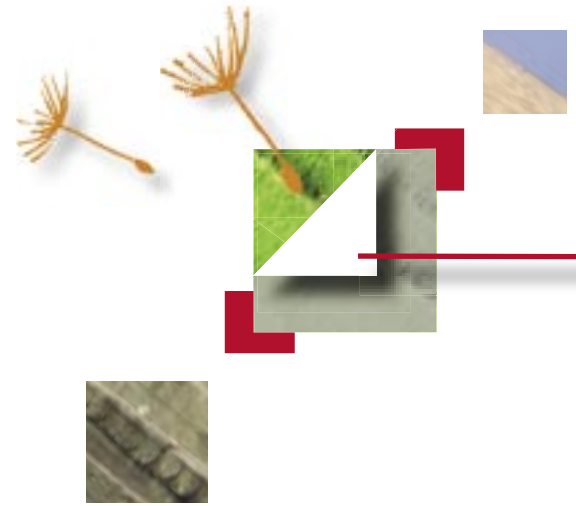
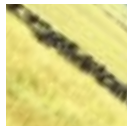
The establishment and proper functioning of a DNA is a key prerequisite for participation in the CDM and is still a barrier to project development in some countries. To establish a DNA, a unit within a government organisation needs to be designated, procedures and sustainability criteria for the assessment of proposed CDM projects need to be established, and the source of financing for the DNA needs to be clarified. Based on the experiences made in the five countries, we recommend that the following lessons learned be considered:

- Ensure broad participation of stakeholders and a common understanding of the CDM and the role of the DNA by all stakeholders. Find a reputable organization to co-ordinate this process.
- Designate an existing organization as the DNA. The DNA should include an interministerial “DNA committee” responsible for final decision-making and an “operational unit” conducting day-to-day activities, including project evaluation.
- Approval procedures should be transparent and easy-to-understand to enhance the predictability of the outcome of the assessment. Provide project developers with the opportunity to put forward a preliminary project submission, to present their project verbally at DNA meetings and to appeal against decisions by the DNA.
- Sustainability criteria should be based on criteria that already exist in-country. It is helpful to cat-

egorise the criteria into environmental, social and economic aspects and to operationalise their assessment by means of indicators which allow for an objective evaluation, possibly using a scoring system. Testing the approval procedures and sustainability criteria against real projects before adopting them officially has proven helpful.

With regard to CDM promotion, sectors with a considerable emission reduction and replication potential ought to be identified first. Especially when financial resources are scarce, it is advisable to focus promotion activities on specified needs. Workshops which target important persons and organisations of the chosen sectors should include a thorough explanation of the advantages, rules and concepts of the CDM.

Only after there is a basic understanding of the CDM promotion activities can turn to supporting the identification of concrete projects and facilitating the development of project proposals in very practical terms. Training activities specifically designed for project developers and CDM consultants can significantly increase the in-country capacity for project development and thus lower transaction costs. Typically, these workshops include the in-depth discussion of project proposals, the estimated emission reductions they are to bring about, methodological challenges and the chances of them being positively assessed by the DNA, validated and registered. Having successful project developers share their experiences, combined with a participatory approach and built upon the knowledge and experiences of the participants will go a long way towards making the CDM work for developing countries.



Introduction

The Clean Development Mechanism (CDM) is a flexible mechanism under the Kyoto Protocol with two objectives: The CDM shall help developing countries in achieving sustainable development and assist industrialised countries in reducing the costs of meeting their emission reduction targets. Under the CDM, emission reduction projects are undertaken in developing countries, with often lower greenhouse gas abatement costs than in industrialised countries. For each ton of CO₂ equivalent that is reduced as a result of a CDM project, a certified emission reduction unit (CER) is issued and can be used by industrialised countries for the fulfillment of their commitments.

All countries wishing to participate in the CDM have to set up a so-called Designated National Authority for the CDM (DNA). The main task of the DNAs in developing countries is to evaluate proposed CDM projects and to issue letters of approval confirming that the project activity is implemented voluntarily and contributes to sustainable development in the host country. Where environmental impacts of the project are deemed to be significant, an environmental impact assessment may also be required. CDM projects can only be registered if the host country has ratified the Kyoto Protocol and approved the project – and if the project has been validated by a Designated Operational Entity (DOE) accredited by the CDM Executive Board.

In some countries, the DNA also promotes the development of CDM projects, e.g. by undertak-

ing capacity building measures, compiling useful information for project proponents or potential buyers of CERs or by holding workshops to raise awareness about the CDM.

The German Technical Cooperation has supported the establishment and work of DNAs in Ghana, India, Indonesia, South Africa and Tunisia. Furthermore, several capacity building activities have been carried out to promote the CDM in the private and public sector.

This report summarises the experiences and lessons learned from the establishment of DNAs and the promotion of the CDM in these five countries. These experiences may prove useful when similar measures in other countries are being implemented. The process of establishing a DNA is in different stages of development in the five countries. For some countries the focus of this report is on the process of institutional setup, while for other countries aspects, such as the application of the sustainability criteria, receive more attention. Table 1 provides an overview on the arrangements for the DNA in the five countries. In all countries, a division of a ministry serves as DNA secretariat. The DNAs examined in this report are hosted by the Ministries for the Environment, with the exception of South Africa. In all countries, the ultimate decision on project approval lies with or is recommended by an interministerial committee.

The table further shows that the DNAs in the analysed countries are not only responsible for

Introduction

Table 1
Overview on the arrangements
of the Designated National Authorities






project approval, but also for the promotion of the CDM in their countries. In most cases, the CDM is promoted by organising workshops for potential project developers, with the aim of raising awareness of the advantages, procedures and requirements of implementing CDM projects.

Project evaluation by the DNA is undertaken in different ways: some countries have set up a technical team, which assesses the projects' contribution to sustainable development but does not have the right to decide on approval. In other cases, the members of the interministerial committee evaluate the projects themselves, or the secretariat assisting the committee carries out the assessment, which then serves as the basis for the committee's decision.

Two of the analysed countries offer the opportunity for a Project Idea Note (PIN) to be submitted, which permits a preliminary project assessment at an early stage of project development. In Tunisia, the submission of a PIN is expected to be mandatory. India and Indonesia require that a Project Design Document (PDD) and supplementary information be submitted immediately. Most of the DNAs publish the submitted PDDs on their website or plan to do this, so that interested stakeholders can view them and submit their comments. The maximum duration of the approval procedure is between six and eleven weeks; however, the country description will show that often the evaluation is completed ahead of schedule. The following section describes for each country the capacity

building activities that have been undertaken, the first practical experiences made, the institutional arrangements for the DNA, the procedures for project approval and the criteria to assess whether a project contributes to sustainable development. Based on this information, we summarise our lessons learned and experiences from the activities in these five countries in the next section. Here, key issues in the course of DNA establishment are identified and common practices are illustrated. The Annex assembles a detailed overview of the sustainability criteria adopted by the five countries, as well as the contact addresses of the DNAs.

¹ In the case of Ghana and Tunisia, the regulations for CDM host country approval have not yet been officially adopted. Some of the information provided here is of a provisional nature.

	 Ghana¹	 India	 Indonesia	 South Africa	 Tunisia¹
Functions of the DNA	Project approval, promotion	Project approval, provision of information, promotion	Project approval, promotion	Project approval, promotion	Project approval, promotion
Ministry hosting the DNA	Ministry of Environment and Science (MES)	Ministry of Environment and Forest (MoEF)	Ministry of Environment	National Department of Minerals and Energy (DME)	Ministre de l'Environnement et du Développement Durable (MEDD)
Institutional arrangements and decision making	Governing Council for the DNA (representing 5 gov. institutions) or ad hoc committee decides on approval, supported by a secretariat at the MES	National CDM Authority (representing 8 gov. institutions) decides on project approval, supported by a secretariat at the MoEF	National Commission for CDM (representing 9 ministries) decides on approval, supported by a secretariat and a technical team.	Advisory Committee (representing 8 ministries) comments on proposed projects; the final decision lies with the DME	Committee representing 15 gov. institutions and stakeholders evaluates projects and decides on approval
Preliminary assessment by the DNA	Voluntary PIN assessment	No PIN assessment	No PIN assessment	Voluntary PIN assessment	Mandatory PIN assessment
Public consultation	Planned: PDD publication on DNA's homepage and announcement of the project in 2 national newspapers	No specific provision, public consultation is assumed to occur as part of validation	Publication of PDDs on DNA's homepage, submission of comments from the public is possible	Publication of PDDs on DNA's homepage, submission of comments from the public is possible	No provisions yet
Max. duration of evaluation	PIN assessment: 14 days PDD approval: 61 days	PDD approval: 60 days	PDD approval: 77 days	PIN assessment: 42 days PDD approval: 63 days	PIN assessment: 15 days PDD approval: 45 days
No. of approved projects	None	Almost 400	7	15	2



G h a n a

The process of DNA establishment and CDM promotion

Ghana ratified the Kyoto Protocol in May 2003. The Environmental Protection Agency (EPA) of the country has substantially promoted the establishment of the DNA within the country.

Stepwise set-up of the institutional arrangements

Ghana had initially planned to establish a new institution, the Climate Change Commission, to host the DNA. It was proposed that this new institution should have broad responsibilities on climate change in general. For this purpose, draft legislation was prepared in 2004 and discussed with experts of the German Technical Cooperation. A workshop on the process of establishing the DNA, which was supported by the German Technical Cooperation and managed by the EPA, followed in August 2005. Its target group were members of parliament who showed great interest in climate change issues and institution building in Ghana. **In September 2005, the DNA of Ghana was set up** within the EPA, as discussions on the establishment of the Climate Change Commission had not reached a conclusion. By October 2006, the draft legislation for making the DNA operational had not yet been passed in parliament. At the moment, the DNA in Ghana is working on

the basis of ministerial declarations. CDM project evaluation is being carried out by ad hoc expert groups who make recommendations to the CDM Governing Council, which is entitled to take the final approval decision.

Capacity building for the industry

A capacity building workshop for industry representatives was held with the support of the German Technical Cooperation. It included face-to-face discussions and a technical training workshop with decision-makers of companies in the energy, manufacturing, metal, cement, oil and textile industry. The aim of the workshop was to **support the private sector in evaluating their CDM potential** realistically and in drafting PDDs on the basis of existing baseline and monitoring methodologies. A number of promising CDM project types for Ghana were identified, including:

- methane capture from waste waters (industrial and other biomass waste)
- fuel oil consumption reduction by means of waste heat recovery
- industrial boiler efficiency improvements

However, a major barrier to implementation of such projects turned out to be the lack of approved methodologies for these project types. The workshop also revealed that many companies were not



aware that the realisation of CDM projects and the income from the generated CERs might render certain activities profitable which could not be implemented economically without the CDM.



Practical experiences with CDM implementation

No projects have as yet been approved by the DNA in Ghana. The DNA has received four project proposals in the sectors of energy efficiency, afforestation/ reforestation and waste – including one for programmatic CDM –, for which it has already issued letters of no objection. Once methodologies for these project types have been approved by the CDM Executive Board, the DNA will complete the evaluation of these projects. The DNA also expects further renewable energy projects, including biomass and biofuels, as well as afforestation/reforestation projects to be developed, which are attracting more and more interest amongst investors.

CDM project pipeline

A larger project under development is the upgrade of a 220 MW power plant to a combined cycle plant. A methodology for this type of project activity has been approved by the CDM Executive Board. It is expected that the project will lead to an emission reduction of about 600,000 tonnes of CO₂ per year. An air conditioning project developed by the Energy Foundation of Ghana and QualityTonnes aims to ensure that a mandatory efficiency standard is enforced, as the country itself does not have the financial means necessary for compliance control and enforcement of the regulation. The revenues from the project are planned to be used for testing the efficiency of equipment being sold, developing an efficiency label so as to inform customers, carrying out information activities for retailers, etc. However, it is not yet clear whether this project will be eligible for crediting under the CDM, given that COP/MOP1 decided that “programmes of activities” are eligible, but that “policies and standards” are not eligible and an interpretation of the COP/MOP guidance by the CDM Executive Board is still pending.

As a result of the capacity building activities of the German Technical Cooperation, an energy efficiency project involving the replacement of incandescent light bulbs in private households by compact fluorescent lamps was initiated as a joint project of

the Energy Foundation Ghana, Perspectives and OSRAM. The methodology for the project is currently being evaluated by the CDM Methodology Panel. Another project stemming from a capacity building mission plans to reduce emissions from industrial water from palm oil processing plants.

Barriers to CDM project development

Due to its small size, the palm oil processing project encountered difficulties in financing the development of the project - a recurring difficulty for many projects according to the DNA. Private capital is difficult to obtain, especially for rather small CDM projects, which do not generate a large volume of CERs. For example, a biomass combined heat and power project had been planned in Kumasi, where the local project beneficiaries - small industries - were set to provide the initial financing; however, they did not decide in favour of it in the end. The DNA states that even if companies are interested in setting up CDM projects, their capacity to develop PDDs needs to be strengthened. The Dutch-funded NGO SouthSouthNorth is of the view that one or two demonstration projects ought to be implemented so as to convince the Ghanaian industry that CDM offers real economic benefits. Currently, it plans to produce an investors' guide on the CDM in Ghana, which also aims to address barriers to project development and to identify ways in which they can be overcome.

With regard to the low participation of sub-Saharan countries in the CDM, the World Bank's Community Development Carbon Fund, UNEP's Division of Technology, Industry and Economics and the UNEP Risø Centre have started a project on "Carbon Finance for Sustainable Energy in Africa". The one-year project is designed to foster the local capacity of public and private sectors in five countries, including Ghana, in identifying, developing and implementing CDM projects.



Responsibilities, institutional structure and DNA decision making

The DNA is currently hosted by the EPA, which is a subordinate body to the Ministry of Environment and Science (MES). A Governing Council of the DNA has been set up to evaluate proposed CDM projects; its members consist of the chief directors of four ministries (Environment & Science, Energy, Lands, Forestry & Mines, Trade & Industry) and the director of the External Resource Mobilization Division of the Ministry of Finance & Economic Planning. If a meeting of the Governing Council for project evaluation is not possible "due to time constraints"² of the high-level officials, the DNA may convene an "appropriately formed" Ad Hoc Technical Committee of the Council.

Funding for the DNA shall come from different sources: according to the draft legislation, for each project approval, a fee which "shall not exceed \$5,000" can be levied; but funds are also to come from the budget of the MES or from "donations [...] from any source" received by a public institution on behalf of the DNA.

CDM project approval procedure

According to the draft legislation, the project approval procedure should comprise the following steps:

- Voluntary submission of a Project Identification Note (PIN);
- The PIN is evaluated by the DNA within two weeks;
- For the official application, proponents should submit a PDD, including detailed explanations as to why the project fulfils the sustainability criteria (not necessary if environmental impact assessment (EIA) is required);
- The proponent holds a presentation at a meeting of the Governing Council;
- The Governing Council or an Ad Hoc Committee evaluates the project and – within 61 days of the initial submission – decides on approval;
- Project proponents can appeal against a negative decision before the Minister of the MES.

For the host country approval to be granted, the methodologies used by a project need to be approved by the CDM Executive Board; however, the DNA's evaluation can begin prior to this. Validation by the DOE can also take place in parallel. A publication of the submitted PDDs on the DNA's website and an announcement in two national newspapers is planned so as to provide the public with the opportunity to submit comments during the evaluation. But this has not happened yet.

Sustainability criteria and assessment

According to the draft legislation, Ghana follows a **two-step approach** to assess the contribution of a proposed CDM project to sustainable development. In a first step, it is assessed whether the project is not expected to lead to significant

environmental degradation, loss of livelihood or damage to the national economy. If this first cursory evaluation shows that these three requirements are fulfilled, a more detailed assessment is to be undertaken in a second step. Here, the assessment of economic sustainability includes, for example, the project's impact on foreign direct investment, energy costs or technology transfer. Social criteria concern the level of employment, the development of previously underdeveloped areas, etc. Environmental aspects include compliance with national environmental regulations on the one hand and impacts on biodiversity, ecosystems, waste, air quality and the environmental rights of citizens on the other. However, those environmental rights have not been further specified, yet. The DNA **determines whether the project fulfils the criteria on balance**, so that projects leading to negative impacts with regard to certain aspects can still be approved if their positive impact on other aspects is expected to be considerable. For afforestation and reforestation project activities, Ghana has determined a single minimum tree crown cover value of 30 per cent, a single minimum land area of one hectare and a single minimum tree height of five metres.

² These and the following quotations are taken from the draft law on DNA regulations.



India

The process of DNA establishment and CDM promotion

After having ratified the Kyoto Protocol in August 2002, the Government of India set up a National CDM Authority (NCDMA) as the DNA in late 2003 within the Ministry of Environment and Forests (MoEF). However, CDM projects were already being approved before then by an interministerial ad hoc committee which was originally set up to approve projects under activities implemented jointly (AIJ).³ The interest in the CDM was significantly fostered by CER tenders in Annex I countries and an early US capacity building programme in 1999.

The German Technical Cooperation has continuously supported Indian institutions and corporations in tapping the CDM potential, including the DNA, the Ministry of Power, the Central Electricity Authority, the Bureau of Energy Efficiency, the National Thermal Power Corporation, the National Hydro Power Corporation, the Ministry of Steel and the Steel Authority of India. Furthermore, capacity building in the private sector has been strongly supported.

Support for the Indian DNA

“GTZ CDM-India” was established as the capacity building facility under the Indo-German Energy Programme (IGEN) in 2003, which is being

jointly implemented by the Governments of Germany and India. A ‘Technical Cell’ in the Climate Change Division of the MoEF was established to provide research and technical support to process the host country approval of CDM projects. The technical cell is supported by well-reputed international and national experts whenever the need arises. The objective is to foster high-quality and widely replicable CDM projects in the public and private sector, to gain experience via learning-by-doing and enhance the projects’ chances of being successfully registered by the CDM Executive Board.

Capacity building activities for the private sector

During the first years, the German Technical Cooperation provided free advisory services to the private sector, such as the pre-evaluation of CDM project proposals and the preparation of PDDs and the development of new methodologies. Various capacity building workshops were conducted. About 4000 entrepreneurs were trained to identify promising CDM projects and about 150 consultants were trained to design them. Energy-intensive sectors were covered, such as power, cement, iron and steel, petrochemical, metal, pulp and paper and chlor alkali. As a result, at least 30 CDM projects were initiated. The training enabled several Indian consultants to acquire key CDM knowledge. Moreover, two in-house workshops at one



of the largest private companies in India, Reliance Industries, mobilised a CDM pipeline of several dozen projects which are all developed in-house. Also, chambers of commerce and industry associations were supported by the staff of the Indian DNA and experts of the German Technical Cooperation in developing the carbon market in India and in acting as multipliers in the promotion of CDM.

Special focus on the energy sector

The Indian branch of the German Technical Cooperation is the appointed CDM advisor of the National Thermal Power Corporation (NTPC), India's largest power utility, for the preparation of two important and challenging methodologies, addressing the renovation and modernisation of existing coal-fired power plants and the construction of new, highly efficient (supercritical) power plants. The Indian branch of the German Technical Cooperation also brought together regulators and company representatives to discuss the CER revenue sharing.

Furthermore, the project supported the German KfW Banking Group (German Financial Cooperation) and its local partner, the Rural Electrification Corporation (REC), in implementing the decision that all new projects to upgrade or expand distribution networks in rural areas be scrutinised for CDM benefits.

Another result of the capacity building activities is the preparation and publication of national baseline CO₂ emissions data for the Indian power sector in cooperation with the Central Electricity Authority. This tool provides ready-to-use data for CDM projects displacing grid electricity and associated CO₂ emissions (e.g. grid-connected renewable energy projects and energy efficiency projects reducing the consumption of grid electricity). The database is consistent with existing CDM methodologies. It will be updated annually to incorporate the latest data on the Indian power grid as well as new methodological developments. Furthermore, power tariff regulations were modified to allow CDM projects in the power sector to retain revenues from CDM projects. In the past, some state electricity regulatory commissions had required a reduction of the electricity tariff if the costs for electricity generation were decreased due to the CDM.

Practical experiences with CDM implementation

India has evolved into a major CDM host country. By October 2006, the Indian DNA had approved

³ Projects under Activities Implemented Jointly (AIJ) are emission reduction projects undertaken under the Convention. AIJ projects started already during the 90ies but emission reductions can not be used under the Kyoto Protocol.



391 CDM projects – more than any other country –, which are estimated to generate around 300 million CERs until 2012. More than half of them are renewable energy or energy efficiency projects. Activities which reduce emissions of industrial gases account for approximately another quarter.

By October 2006, UNEP/Riso's CDM pipeline reported that 114 projects had been registered by the CDM Executive Board, 29 were awaiting registration, 313 were in the validation stage, and three had been rejected by the CDM Executive Board. Moreover, India still claims the lead over China in Point Carbon's rating of countries' attractiveness in terms of CDM investments (Point Carbon CDM & JI Monitor, 12 July 2006). Some of the proposed projects are sent back to the proponent by the DNA because of incomplete information or because they did not fulfil the sustainability criteria. According to the DNA, in most cases the documents are then revised by the proponent, resubmitted and then approval can be granted. In frequently issuing approvals within one or two months after project submission, the DNA generally decides fast. Criticism had been aired by NGOs that the DNA is not assessing the sustainability impact of proposed projects with sufficient thoroughness.

Barriers to the development of CDM projects

The DNA perceives the unclear future of the CDM beyond 2012 as an important barrier to the development of more CDM projects in India. According to the German Technical Cooperation in India, the financing of bilateral projects is still a major issue hindering a more robust development of the CDM in India. Often minimal awareness of the CDM among potential stakeholders, such as large public sector undertakings (state-owned enterprises) and small and medium-sized enterprises, constitutes another barrier. However, according to Perspectives, the costs for preparing PINs and PDDs are lower in India than in any other coun-

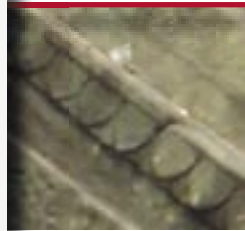
try. The German Technical Cooperation facilitates potential project development by recommending experienced Indian consultants on its Indian website; it has also developed and maintains two websites, one of them is the official MoEF website.⁴

Controversies with regard to several projects

Some Indian CDM projects - like the Bhilangana hydro power project in the northern state of Uttaranchal - encountered major opposition from the local population as well as from environmental NGOs. These stakeholders claim to have not been sufficiently consulted and request that the projects in question should not be validated due to negative impacts on the environment or the additionality not being fulfilled. Point Carbon reported that the quality of some Indian CDM projects had been called into question by potential investors and project participants, arguing that host country approval had been given to projects which clearly did not contribute to sustainable development (Point Carbon CDM & JI Monitors, 10 January and 28 June 2006). Likewise, a CER tender for hydro power plants by the Asian Development Bank (ADB) has led to substantial NGO opposition as stakeholder participation is said to have been deficient. In fact, there seems to be a recurring problem as regards some project developers trying to present approval from the local authorities as sufficient stakeholder consultation, although often no open meeting with stakeholders had taken place (GTZ CDM Highlights, 37 June 2006).

Responsibilities, institutional structure and DNA decision making

The interministerial DNA committee, the NCDMA, is hosted by the MoEF and headed by the Secretary to the Ministry. The MoEF's Climate Change Director serves as the Member Secretary of the DNA. The other seven members are representatives of the Foreign, Finance and Industrial Policy and Promotion Secre-



taries, of the Ministries of Non-Conventional Energy Sources and Power, of the Secretary of the Planning Commission and the Joint Secretary of Climate Change in the MoEF. Alongside project evaluation, the NCDMA supports the generation of sector-specific baseline data and presents Indian projects at trade expositions.

Day-to-day activities like constituting and coordinating committees or sub-groups to examine the proposals are carried out by the DNA's Member Secretary. Currently, the MoEF covers the entire costs of the DNA and no fees are charged for project approval or other services. Similarly, the government of India does not levy a tax on CERs, but may do so in the future once the CDM market has developed further. On a sub-national level, there is some discussion on future taxation of CERs, which has not yet reached a conclusion. Approval for a CDM project from the DNA can also be requested if the project uses a baseline and monitoring methodology still in development; however, approved methodologies are preferred by the DNA. Validation by the DOE can be carried out in parallel to host country approval.

Project approval procedure

For the application, the submission of a PDD and a so-called Project Concept Note (PCN), the country-specific application form, is mandatory; there is no preliminary project review. Furthermore, a clearance of the pollution control board of the Indian state hosting the project needs to be submitted; environmental impact assessments also have to be carried out in advance. Since the start of the Indian DNA in 2003, the approval procedures and criteria have remained unchanged and no revision is deemed necessary by the DNA either.

Submitted applications are circulated to all NCDMA members for comments and evaluation. A meeting of the NCDMA is held once a month, where the project proponents give a brief presentation and unresolved queries and issues are

clarified. If the NCDMA members have no additional queries and are satisfied with the project, the host country approval shall be issued within 60 days. Should the NCDMA members have further enquiries, additional information can be requested from the project proponents. In some exceptional cases, approval was granted on a preliminary basis for a limited period during which the project proponent is required to submit missing information or documents (e.g. the approval of a local forestry authority). If the proponent fails to comply within this period, approval is withdrawn again.

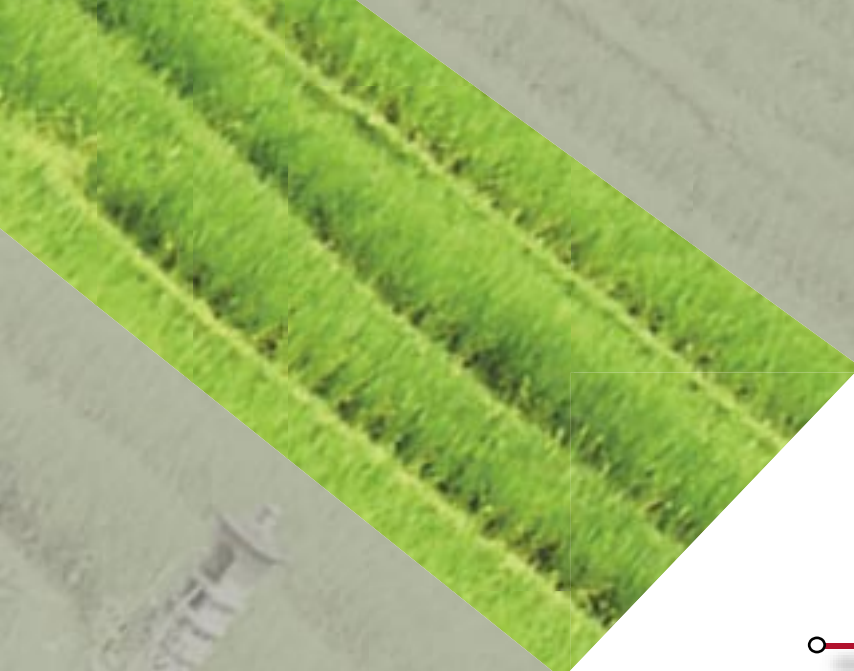
Sustainability criteria

The sustainability assessment comprises indicators regarding the following aspects: Social criteria refer to the alleviation of poverty by generating additional employment opportunities, or a reduction in social disparities. Economic criteria mainly focus on additional investment. Environmental criteria concern the project's impact on natural resources, biodiversity, human health and pollution; technological criteria focus on the development, deployment, diffusion and/or transfer of modern technologies.

In addition to the contribution of the project to sustainability objectives, the NCDMA assesses the probability of successful project implementation. The NCDMA also assures that CERs are not purchased from official development assistance (ODA).

For afforestation and reforestation project activities, India has determined a single minimum tree crown cover value of 30 per cent, a single minimum land area of 0.05 hectares and a single minimum tree height of five metres.

⁴ www.cdmindia.com and www.cdmindia.nic.in



Indonesia

The process of DNA establishment and CDM promotion

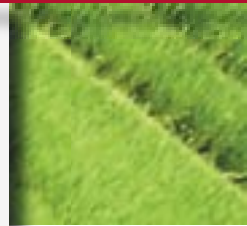
The Indonesian DNA was officially set up in June 2005 with the assistance of the German Technical Cooperation. In 2000 and 2001, a National Strategy Study (NSS) on the CDM was carried out to prepare Indonesia for participation in the CDM. The NSS was partly supported by the German Technical Cooperation. As an important consequence of this work, the interest of the Indonesian government in the CDM was awakened and a regulation on the establishment of the DNA was drafted in 2003. Indonesia did not, however, ratify the Kyoto Protocol - a necessary precondition of the country's participation in the CDM - until June 2004. After ratification, it still took more than a year for the formal decision on the DNA regulation to be signed by the Minister of Environment. This indicates that there was substantial debate on the establishment of the DNA.

CDM institution building

For the purpose of establishing the DNA, CDM institution-building activities were carried out once the NSS had been completed. These activities were conducted by Pelangi, an Indonesian policy research organisation, on behalf of the German Technical Cooperation. As in many other coun-

tries, it took some time before sufficient political support for the CDM was gathered from some of the governmental institutions. Identifying individuals within the government who were prepared to actively support the implementation of CDM turned out to be crucial, especially since support from the private sector was initially relatively low. When the establishment of the DNA finally made it on to the governmental agenda, substantial debate on sustainability criteria was taking place within the ministries. Several inter-ministerial meetings and workshops were held within the course of a year with the aim of determining a set of national sustainable development criteria approved by all ministries involved. The private sector, university and NGO representatives were also consulted. Before the DNA was officially launched, the approval procedure was tested during a workshop in order to assess whether the functions and tasks of the DNA and its organs were suitably designed.

To promote the development of CDM projects, a CDM training event was organised by the German Technical Cooperation to increase the capacity of potential consultants in preparing PDDs and in applying the criteria and indicators for national approval by the DNA. The German Technical Cooperation is also assisting the DNA as part of the Indonesian-German Environmental Programme by providing consultancy services to the DNA.



Practical experiences with CDM implementation

By the end of October 2006, eight CDM projects had been approved by the DNA. The PDDs and approval letters for these projects have, for the most part, been published on the DNA's website. Up to now, no CDM project proposals have been ultimately rejected in Indonesia. Since the beginning of 2006, the DNA has received eight new project applications, half of which need to be supplemented by additional information before the evaluation process can begin.

Barriers to CDM project development

According to the DNA, the barriers to CDM project development include a lack of awareness about the advantages of the CDM and a lack of recognition of climate change as an important issue. Moreover, the DNA views that project developers require additional support in identifying CDM projects within their operational activities and in covering the transaction costs for project development. The fact that most of the communication on the CDM takes place in English has not caused any major problems so far, given that the current projects are rather large and have often been developed with international partners. However, it may turn out to be problematic for smaller projects developed by small and medium-sized

enterprises. The translation of methodologies into Indonesian would be helpful in this respect, but the DNA does not, unfortunately, have sufficient resources for this at present.

Strategic Capacity Building

Under a private public partnerships programme (PPP) supported by the German Technical Cooperation, Perspectives and Pelangi are undertaking CDM capacity building activities in Indonesia. These included a series of workshops for companies from the power, forestry and agriculture sectors which aimed to raise the awareness of CDM. At least three professional consulting firms were founded in Indonesia as a result of this project, which provide CDM-related services, such as the development of PDDs. A telephone marketing mission which targeted plant operators covered by the EU emissions trading system was conducted. Discussions with potential CER buyers and project developers from all over the world took place in the course of several carbon expositions. These activities aimed to increase awareness within the CDM community about the Indonesian CDM market and the in-country service providers. A bilingual (Indonesian and English) CDM website was created.⁵

⁵ <http://ppp.cdm.or.id/>

CDM project potential

Having been in operation for a year, the DNA observed that a network of representatives from NGOs, universities, private companies, development agencies, international research institutions and governments of Annex I and Non-Annex I countries has evolved to support the CDM in Indonesia. According to the New Energy and Industrial Technology Development Organization (NEDO)⁶ based in Japan, there is significant interest in biomass and biogas to electricity projects. Municipal waste treatment, biofuels and geothermal projects also have great potential, the latter especially with regard to the volume of CERs. The production of biofuels from palm oil plantations under the CDM has recently raised concerns by NGOs, since such projects are considered to be one of the drivers for the destruction of Indonesia's forests and peatlands, resulting in considerable emissions of carbon dioxide. For renewable electricity projects, NEDO perceives a need for more reliable framework conditions, e.g. with regard to rules for grid access. Overall, NEDO expects Indonesia to have the capacity to host two percent of the global CDM project volume.⁷

Responsibilities, institutional structure and DNA decision making

Indonesia has set up a National Commission for CDM (NCCDM) as the Designated National Authority by decree of the Minister of Environment. The NCCDM comprises nine members who represent the higher ranks of nine ministries.⁸ A secretariat located within the Ministry of Environment supports the NCCDM. A technical team, consisting of representatives from the nine ministries assembled in the NCCDM and one NGO representative, undertakes the evaluation of the proposed projects. For this purpose, experts assigned by the NCCDM can be asked for comments. A stakeholder meeting can be convened to discuss contentious projects; as of yet this has not been regarded as necessary.



For transparency reasons and to support project developers in finding investors or CER buyers for their projects, the DNA publishes potential projects, including participant contact information, on its homepage. Any interested person can submit a potential project in the form of a PIN or in less elaborate form to the DNA secretariat. If it is found to be reasonably feasible, it is published in the list of potential projects. In general, DNA funding comes from the Indonesian government.

Approval procedure

Indonesia has a one-step approval procedure, which comprises the following stages:

- Project proponents submit a PDD, accompanied by an EIA report if required⁹
- The secretariat publishes project submissions on the NCCDM website. Comments from stakeholders can be submitted via the website
- In the course of 21 days, each technical team member evaluates the project and submits his or her evaluation report
- The NCCDM meets and decides on final approval or rejection, at the latest 77 days after submission by project proponents, unless revisions are deemed necessary
- The project proponent may appeal against the

decision of the DNA pursuant to general administrative law.

It is not necessary for a project to have already been validated by a DOE when it is submitted to the DNA. No fees are levied on project proponents.

Sustainability criteria and scoring system for indicators

Indonesia has established four categories of sustainability criteria for project evaluation: environmental, economic, social and technological criteria.¹⁰ While the first three categories shall be assessed for the project region only, technological evaluation is undertaken on a national level. In order to evaluate the four criteria, 17 indicators have to be assessed separately.

Environmental criteria focus on the conservation of ecological functions and biodiversity, health protection and compliance with environmental, health and safety regulation and regional planning. Economic criteria refer to the preservation of the local community's income, public service and employment level. Participation of the local community is key to the social criteria. Another is to avoid conflicts among communities. The technological criteria concern the avoidance of experimental or outdated technologies and of technological dependence on the know-how of foreign parties.

In the NCCDM's project application form, the proponent is required to justify in detail how the sustainability criteria are fulfilled. Fulfilment of the sustainability indicators is rated from 1 to 5. The overall score of the project has to be at least 3.5 on average. With regard to this rating procedure, an update of the DNA's website is needed. Many sustainability indicators are formulated using negative expressions (e.g. "not imposing any health risk"), so that projects can be approved which do not, as a minimum requirement, diminish the status quo.

The Indonesian DNA states that it is satisfied with its approval procedure and that no changes are



Indonesia

foreseen in the approval framework. However, the DNA is considering the addition of a set of special sustainability indicators adapted to specific project types in order to facilitate and standardise the approval requirements for these projects.

The minimum values for forestry projects in Indonesia are 0.25 ha for the area coverage, the crown cover of the area should be at least 30 per cent and the tree height at least 5 metres.

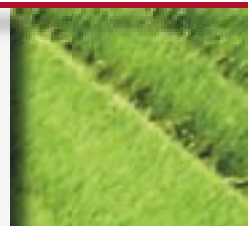
⁶ NEDO has supported a great number of CDM feasibility studies in many countries and set up a branch office in Jakarta in 2000. NEDO is also active as a sponsor, cooperation partner and organiser of conferences and training seminars.

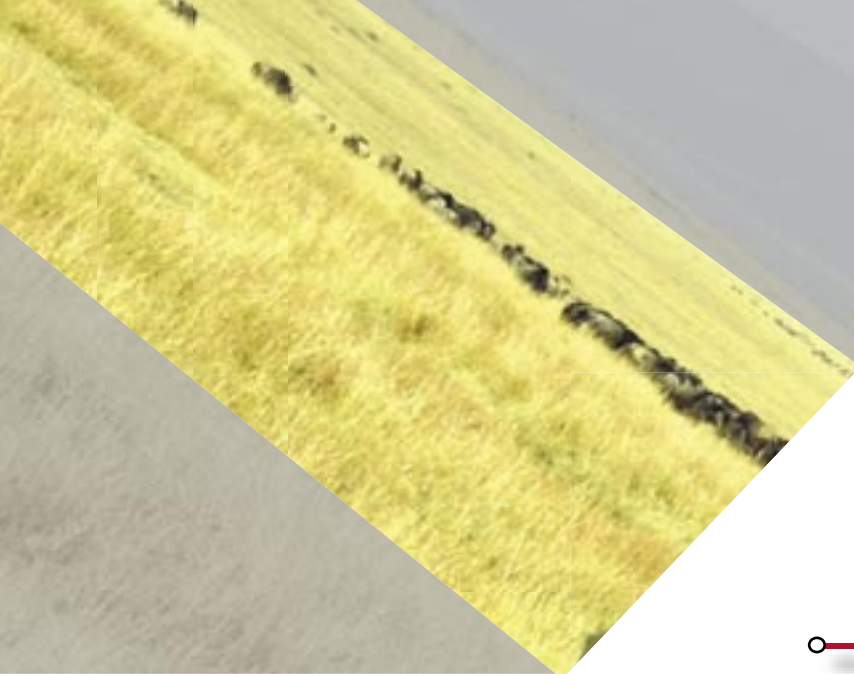
⁷ NEDO 2006: CDM Development in Indonesia - Enabling Policies, Institutions and Programmes, Issues and Challenges, 2006 (Second Edition).

⁸ These are the Ministry for of Environment, Energy and Mineral Resources, Forestry, Industry, Foreign Affairs, Home Affairs, Transportation, Agriculture and National Development Planning.

⁹ Forestry projects additionally require that a recommendation from the Ministry of Forestry be submitted.

¹⁰ Although the DNA sometimes states that it evaluates the "sustainability additionality" of a project, the term is actually meant to signify the contribution of the project to Indonesia's sustainable development. The DNA does not, therefore, evaluate whether the project would have been implemented if the CDM had not existed.





South Africa

The process of DNA establishment and CDM promotion

South Africa's DNA was created in late 2004. The Dutch-funded non-governmental organisation South-SouthNorth (SSN) assisted South Africa in setting up necessary institutions for the country's participation in the CDM, with support from the German Technical Cooperation, the Danish International Development Agency (DANIDA) and the Norwegian Aid Agency (NORAD). Palmer Development Group also played a significant role in the establishment of the DNA.

CDM institution building and definition of approval criteria

In the beginning of the process, it was intended that the National Department of Environment and Tourism (DEAT) – the national focal point for climate change and a long-term driver in the process of establishing the DNA – hosts the DNA. Supported by SSN, the department conducted an initial public stakeholder process on the establishment of the DNA. Consensus was not reached on the set-up of the DNA, particularly due to the considerable debate on the sustainability criteria. This could have reduced enthusiasm within DEAT in terms of proceeding with setting up the DNA, which was then offered to other ministries.

One of the issues that illustrate the difficulties around the discussion on sustainability criteria was the question of how to deal with potential job losses in South Africa as a result of CDM projects. Representatives from domestic and international industry had argued that modernisation and efficiency improvements often lead to a reduction in employment and as such should not be deemed a negative project impact. Labour and NGO members contended, however – especially taking into account the country's unemployment level – that it would be unfair for South African workers to lose their jobs in order to enable industrial countries to achieve their emission reduction targets. Alongside discussions centring on sustainability criteria, there was a long-standing debate within the government as to which department should host the DNA.

While the issue of where the DNA should be located was being debated in government, an informal group of representatives from industry, civil society and the labour movement managed to come close to reaching consensus on a scheme for assessing the contribution of proposed projects to the sustainability objectives. SSN helped to facilitate these discussions. When the Department of Minerals and Energy (DME) was finally appointed by the cabinet to host the DNA, it commissioned SSN and Palmer Development Group to jointly develop a draft regulation for the DNA, which was once again discussed with stakeholders.



South Africa

Practical experiences with CDM implementation

South Africa's first CDM project – a low-income housing energy project – was registered by the CDM Executive Board in August 2005. This project is also the first project that has been registered using the Gold Standard, and the first CDM project in Africa. By September 2006, 15 projects had been approved by South Africa's DNA and 18 PINs had been evaluated as positive; one project was rejected because it did not fulfil the sustainability criteria. By the end of October 2006, four South African projects had been registered by the CDM Executive Board, accounting for about 157.000 CERs per annum.



International position of the country and barriers for CDM project development

According to Point Carbon, South Africa has managed to successfully promote itself as a relatively reliable location in which to spend money on carbon reduction schemes, contrary to the rest of

the continent (Point Carbon CDM & JI Monitor, 10 January 2006). However, in contrast to the fact that the country has long been seen as the most attractive CDM host in Africa, given its strong dependence on coal and its differentiated industrial sector which allows for many different project types to be developed, the CDM has not yet 'taken off' as expected.

The South African DNA observes a decreasing but still considerable lack of awareness among potential CDM project developers with regard to the CDM in general and to project development. There are a number of legal barriers to municipalities being project developers (like the prohibition of contracts which exceed 3 years), which are currently being addressed. Furthermore, it is unclear whether CERs will be subject to taxation; a study on the issue has been commissioned in cooperation with the DNA. According to the DNA, a number of potential project developers have declared that they would prefer to wait until this question has been clarified. The DNA emphasises that the CDM still requires considerable awareness-raising activities. It has advocated an adaptation of national regulations currently impeding CDM projects and has engaged in the organisation of workshops and meetings of (potential) project developers. In this context, inviting more experienced project developers to explain key difficulties in setting up projects to an interested audience and how they can be overcome turned out to be helpful.



SouthSouthNorth assumes that, currently, CDM projects are less attractive than other investment options and that in the absence of clear signals of a long-term carbon market this will prevail. Another reason that is occasionally mentioned is the low electricity price level, which provides a low incentive for energy efficiency projects.

Responsibilities, institutional structure and DNA decision making

The DNA was established as a directorate within the DME. It consists of three people. The Director General of the DME is vested with the ultimate DNA authority. A Steering Committee for the DNA representing ten ministries¹¹, acts as a surveying and advisory capacity to the DNA. Financing for host country approval comes from the government. In addition, a CDM Promotion Sub-Committee has been set up. This committee meets at irregular intervals and comprises representatives of different government departments, potential project developers and NGOs. The committee's task is to support the DNA in its promotional work.

Two-step approval procedure

The approval procedure comprises the following stages:

- Project developers may submit a voluntary Project Identification Note (PIN)
- The DNA conducts an initial evaluation and answers within 30 working days
- For the official approval, project proponents should submit a PDD, justify why the sustainability criteria are expected to be fulfilled, and explain who the projects' beneficiaries will be
- When the project has completed the DOE validation process, the DNA publishes the PDD on its website
- Two to three people from the DNA directorate



in the DME evaluate the project and may ask for additional information; the result is transferred to the Committee

- The Committee gives its recommendation
- The DNA (ultimately the Director General of the DME) takes the final decision on whether to approve the project or not
- Maximum duration of the approval: 45 working days
- Project participants can appeal against the approval decision¹²

If there is disagreement between the Committee and the DNA as to whether a project should be approved or not, the latter convenes a meeting where the contested questions can be discussed. The reasons for the DNA's final decision need to be communicated to the project proponent in a transparent manner. No fees are charged for host country approval. Project validation by the DOE can take place in parallel and does not have to be completed

before the application for host country approval is submitted. However, it is necessary that the baseline and monitoring methodology used has already been approved by the CDM Executive Board at the moment of application. This is because the DNA wants to assure that there is a high probability that the project will be implemented if it is approved.

Sustainability criteria and their assessment

South Africa's sustainability criteria are based on the National Environmental Management Act and comprise environmental, economic and social aspects. Environmental criteria concern the quality of the local environment, biodiversity, the usage of and impacts on the local community's access to natural resources. Economic criteria regard the project's impact on existing economic activity in the area, energy costs, foreign direct investment and the transfer and deployment of local technology and knowledge. Social criteria refer, on the one hand, to the project's contribution to national, provincial or local development or sectoral objectives (such as the local provision of basic services or renewable energy targets); on the other hand, they concern employment, social equity and poverty alleviation.

Sustainability criteria are not assessed separately, but the DNA determines whether the project supports sustainable development in the country on balance. A project needs to have a positive impact in at least one of the sustainability aspects and can be neutral in the other two; however, if it has a negative impact in one of the sustainability aspects, it is rejected. In some instances, the DNA finds it difficult to legally justify its decisions, given that the decision could be later questioned in court. Currently, there are plans to revise the sustainability criteria to address this issue and enhance the legal robustness of the DNA's decisions; aside from this, no changes have been made to the host country approval framework since the DNA was brought into being.



South Africa

South Africa will communicate the thresholds for the definition of afforestation and reforestation project activities to the UNFCCC by the end of 2006. They have already been fixed in the process of a stakeholder and expert meeting held by the DNA.



¹¹ National Department for Minerals and Energy, Environmental Affairs and Tourism, Water Affairs and Forestry, Foreign Affairs, Trade and Industry, Agriculture and Land Affairs, Transport, Science and Technology, Health, and the National Treasury.

¹² First, they may lodge an appeal with the Minister of the DME, who will verify whether the DNA's decision was taken in accordance with approval procedures; he or she will notify the project participants within 60 days. Next, project proponents can request that the appeal be heard before an administrative court.



Tunisia

The process of DNA establishment and CDM promotion

Tunisia ratified the Kyoto Protocol in 2003. The DNA was formally established as an interministerial committee, comprising members of six ministries, in late 2004 upon the decision of the Minister for the Environment and of Sustainable Development (Ministère de l'Environnement et du Développement Durable, MEDD). A secretariat – also called National CDM Bureau – to support the committee was established under the auspices of the General Director of the Environment and the Quality of Life, which is part of the MEDD.

The membership of the DNA committee was not yet finally decided upon at that time and a DNA website was not yet available. Recently, the committee was extended to also include the Ministries of the Interior and of Transport, public enterprises, the banking sector and associations of the (craft) industry and commerce. The reason behind this decision was to raise the awareness of the opportunities offered by the CDM and to associate a large number of actors who could support the implementation of the CDM in the country.

Tunisia has adopted a strategy to accelerate the development of CDM projects in sectors such as energy, waste management, industrial processes and

afforestation/reforestation. As part of this, a three-year capacity building programme by the German Technical Cooperation was initiated in January 2006 in Tunisia. The objective of this programme is to position Tunisian project developers on the international carbon market and to facilitate the establishment of transparent and efficient CDM project approval procedures.

Development of a system for project approval

Several capacity building workshops have already been held, which addressed the role of the DNA and which have resulted in a proposal for procedures and criteria for project approval. As a result of these activities, a new project approval system is close to being launched. The fact that the Kyoto Protocol came into force in 2005 and that over 30 promising projects were apparently ready for DNA application in Tunisia also pushed the debate on.

The first workshops organised by the German Technical Cooperation for the members of the DNA focused on enhancing knowledge of the CDM, since some DNA members had not been involved in climate change or CDM issues before.



It was also important to convey the idea that as a DNA member it is not enough to observe the discussions and report the results to one's own ministry or organisation, but that active participation of each member is required. A team of a Tunisian and an international CDM expert moderated the workshops. A participatory approach was followed, rather than having the rules developed by external expertise. It was a new and interesting experience for some participants to be able to jointly discuss regulations, especially in an interdisciplinary team of representatives from different ministries and other stakeholders. Important input was provided by a member of the DNA in Morocco, who presented the procedures and criteria adopted there and the experiences gained since then, and who was able to comment on the suggestions for Tunisia from a different perspective.

Whilst the CDM experts simultaneously provided expertise and moderated the discussion in the first two workshops, it was decided that the two roles be separated for the third workshop, with the aim of increasing the decision-making capacity of the group. The approval of concrete CDM project proposals was tested as part of the workshop, using the criteria that had been developed up to then. The institutional arrangements, approval procedure and sustainability criteria which were developed during the workshops are expected to be officially approved in late 2006 and will be applied by the DNA thereafter.

Capacity building to promote CDM projects

As a further part of the German Technical Cooperation project in Tunisia, four workshops were carried out to build capacity in the private sector. The workshops targeted the national waste management agency (ANGeD), the national electricity and gas utility (STEG), a chemical enterprise (GCT) and the broader private and public industry as well as consulting firms. All workshops addressed how to determine a baseline, prepare a PDD and the necessary documentation with regard to host country approval in accordance with the recently developed procedures and criteria. The workshop for STEG focused on wind and small hydro power projects, so that STEG can now examine the development of a number of CDM projects.

The capacity building workshop for GCT concentrated on fuel switch and the destruction of N₂O, while the workshop addressing the industry sector and consultants placed special emphasis on wind energy and combined heat and power generation. During the latter, it became clear that consulting firms represent important actors in respect of the promotion of the CDM in Tunisia. At the moment it does not seem very probable that industry enterprises will start developing CDM projects on their own initiative. However, short and regular workshops with consulting firms should be con-

templated in order to foster the interest of this group as well as its capacity to take the initiative. These workshops could provide an opportunity for discussing current projects, case studies and for exchanging experiences with regard to the realisation of CDM projects in Tunisia. The activities of the German Technical Cooperation project also include support in the set-up of the DNA website, which is supposed to go online before the end of 2006.

Practical experiences with CDM implementation

Since the establishment of the DNA in 2004, two letters of approval have been issued for two waste management projects; one of them – a landfill gas recovery and flaring project for nine bundled landfills – was registered by the CDM Executive Board in October 2006. The PINs of another two projects were evaluated and received preliminary approval. However, these CDM project applications were not subject to the procedures and criteria described below, since the latter were developed in spring 2006 and have yet to be officially adopted.

The evaluation of the use of the new rules will reveal whether there is additional need for institutional capacity building. However, raising awareness and increasing the knowledge of potential project developers with regard to CDM projects are indeed important tasks in supporting the implementation of the CDM in Tunisia. Larger companies like STEG or the GCT are currently building up their own expertise as regards the development of CDM projects, since they have personnel with the necessary qualifications. Small and medium-sized enterprises tend to rely on consulting firms. Generally, the available methodologies are well suited to the portfolio of potential CDM projects in Tunisia. Suitable methodologies are not yet available for some project ideas which are being developed at the moment (solar heating of warm water for sanitary use and improved energy efficiency of street lighting).

However, a considerable barrier to the implementation of energy projects is the lack of a guaranteed feed-in tariff for electricity producers who want to sell power to the national power company. A “task force” of the Ministry of the Industry and Small and Medium-Sized Enterprises (SMEs) is currently working on this issue, in particular to foster electricity generation in combined heat and power plants. The electricity generation projects which are currently being investigated (combined heat and power and wind energy) are therefore designed to only cover the power needs of the project participants and do not rely on the sale of surplus electricity.

According to the representative of the German Technical Cooperation project in Tunisia, the most significant potential lies in the sectors of energy (wind energy, energy efficiency, combined heat and power generation and substitution of heavy fuel oil), waste and afforestation/reforestation. It is expected that mostly projects in the energy sector will be submitted in the near future due to CDM promotion activities, which the National Energy Management Agency (ANME) has been carrying out in recent years. Up to the end of 2006, about ten PINS are expected to be submitted; the PDD development for these projects still needs some time.

Responsibilities, institutional structure and DNA decision making

The Tunisian DNA secretariat is hosted by the MEDD and is represented by the General Director of the Environment and the Quality of Life. The DNA committee, which is responsible for taking the final decision on project approval, consists of 15 representatives of nine ministries¹³ and six other bodies¹⁴. The member institutions have one vote each; decisions are taken by the majority of the members attending the meeting. The committee is headed by the Minister of the MEDD. This ministry also bears the expenses of the DNA.

As some DNA members from the private sector may also be CDM project proponents themselves, a suggestion was made during the workshops that the respective DNA member may take part in the evaluation and discussion of his or her project, but shall abstain from voting in such cases; this suggestion will probably be adopted during one of the next meetings.

According to the draft regulations, a project proponent has to submit a PIN (in French or Arabic) for an initial review. The initial review shall be completed within 15 days. An English PDD is required for the final project approval, accompanied by a PDD summary in French or Arabic, to comply with the period of approval, even when the committee members carrying out the evaluation do not speak sufficient English. Project proponents can verbally present their project to the DNA secretariat. If necessary, the DNA can request additional information. Every committee member evaluates the project and the secretariat calculates the overall score. The approval decision is to be taken within 45 days, no fees are levied. The DNA is supposed to ensure that stakeholders have been consulted by the project proponent; however, the DNA assumes that it is the task of the DOE to examine whether project proponents have appropriately considered any stakeholders' comments.

Tunisia plans to use a detailed multi-criteria approach, with four groups of criteria (economic, social, environmental and strategic). Each group has a different weight: economic criteria are weighted at 28%, social at 22%, environmental at 29% and strategic ones at 21%. For each group, three to four equally weighted indicators are used to evaluate the fulfilment of the criteria. Each indicator is to be assessed with values from zero (no contribution) to ten (strong contribution).

The economic criteria include, for example, an assessment of the project's payback period or the impact on the national balance of payments. Social criteria evaluate the number and kind of jobs cre-

ated or the project's impact on capacity building. Indicators of the environmental criteria focus on the amount of avoided greenhouse gas emissions and on the reduction of air, water or soil pollution. The strategic criteria concern the long-term impact of the project, e.g. regarding the dependency on energy imports, the technological position of the country and contribution to the development of international partnerships.

All of the members attending a DNA meeting will rate the project; the average is then calculated, taking into account the weighting factors. If the project scores at least 1.5 out of ten on average, then approval is granted. With this threshold being close to the lowest possible ranking, it seems likely that all projects will receive DNA approval in practice.

Tunisia has not yet defined the thresholds for the definition of afforestation and reforestation project activities.

¹³ Ministry of Environment and Sustainable Development, Interior and Local Development, Finances, Industry and SMEs, Development and International Cooperation, Agriculture and Water Resources, Transports, Trade and Handicraft, External Affairs.

¹⁴ The Central Bank, the national electricity and gas company STEG, the National Energy Management Agency ANME, the Tunisian phosphate manufacturer Groupe Chimique, the Tunisian Union for Industry, Trade and Handicrafts and the Tunisian Union for Agriculture and Fishery.



Lessons Learned



This section summarises the lessons learned from the establishment of DNAs and the promotion of the CDM in five countries. Based on these experiences, we illustrate advantages and disadvantages of different approaches and provide practical recommendations on how to establish an enabling framework for the CDM in other countries.

The process of DNA establishment

Since the DNA is responsible for the host country approval of CDM projects, the establishment and proper functioning of the DNA is a key prerequisite for participation in the CDM. In many host countries, the process of establishing a DNA has been complex and time-consuming. Whilst the modalities and procedures for the CDM were decided upon at the Seventh Conference of the Parties in Marrakech in 2001, only a third of the developing countries had notified their DNA three years later. Although by September 2006, 88 out of 148 developing countries who ratified the Kyoto Protocol had formally established their DNA, many of these DNAs are not operational. The lack of a DNA or the lack of clear approval procedures and sustainability criteria is still a major barrier to project development in a number of countries. In this regard, the establishment of DNAs in all developing countries will also enable more countries to benefit from CDM projects.

The following steps are necessary to establish a DNA and to make it operational:

- An organisational unit in an existing or new institution or government agency needs to be designated as the DNA and notified to the UNFCCC secretariat. Staff has to be assigned to the DNA.
- Procedures for the assessment and approval of proposed CDM projects need to be established and the responsibilities for project evaluation and final decision-making need to be allocated.
- Sustainability criteria for the approval of projects have to be set up.
- The source of financing for the DNA, e.g. through fees for project approval, needs to be clarified.

In the following, we summarise lessons learned from putting the process of DNA establishment into action and undertaking these four steps.

How to get the process of establishing a DNA started

At the very beginning of the process, it is important to find a reputable institution which already has knowledge of climate change and CDM issues at its disposal and is able and motivated to organise the process of establishing the DNA. This could be the UNFCCC focal point. But independent organisations that cooperate with the UNFCCC focal point are also well suited. An institution with a CDM leadership in the country or even dedicated individuals with good contacts to governmental au-

thorities can substantially assist the establishment of the DNA and the promotion of the CDM.

Once an institution has been assigned to organise the process, we recommend that a series of workshops be held where all relevant stakeholders are provided with information about the CDM and the role of the DNA. All aspects of DNA establishment in the country can be discussed in these workshops. We recommend that all relevant stakeholders, including governmental authorities, industry representatives and NGOs, be involved at an early stage of the process, in particular when the approval process and the sustainability criteria are being developed. The views of NGOs often turned out to be very helpful in keeping the sustainability goal on the agenda, when business interest risked dominating the debate. On the other hand, the consultation of industry representatives helped to achieve a simple approval system and sometimes accelerated decision-making.

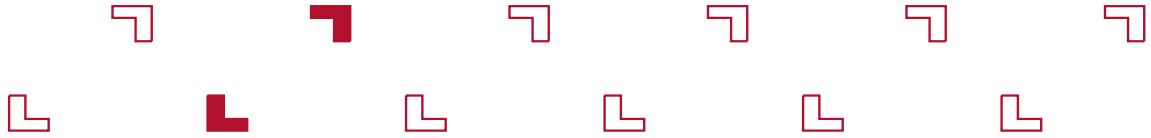
For a successful and constructive process it is important that all relevant stakeholders develop a common understanding of the CDM and the role of the DNA. This ensures that all governmental institutions have the same basis in discussions and understand the benefits and opportunities provided by the CDM. This proved to be very important as regards the active support and involvement of all relevant governmental institutions, which, in some cases, were not aware of the opportunities of the CDM or were initially not committed to supporting the process. Moreover, a common un-

derstanding of the tasks of the DNA is important because otherwise ministries may send representatives to the DNA committee who may be neither sufficiently acquainted with the CDM nor be allowed to take decisions without consulting their ministry. This can considerably delay the approval of projects.

The recognition of the importance of the CDM not only in the institution responsible for climate change but in all ministries and by all persons involved in project approval has played an important role in the capacity building activities of the German Technical Cooperation in Tunisia. Collectively discussing and deciding on tasks, rules and criteria for project approval not only facilitated the establishment of the project approval system but also ensured a common understanding.

To reach a common understanding, the benefits of the CDM and the role of the DNA could be explained in detail during the first workshop, e.g. by providing examples of projects in the country and of the establishment of the DNA in another country. Furthermore, a time schedule for the set-up of the DNA and the issues of subsequent workshops could be agreed upon during this first meeting.

Ensuing workshops could focus on which institution should be designated as the DNA, how the approval procedure should work and what sustainability criteria should apply. Allowing someone without vested interests but who has knowledge of



change management and participatory instruments to moderate the workshops has proven useful.

Finally, testing the developed regulations and criteria for different project types has turned out to be helpful. Testing the approval procedure can demonstrate that some criteria may be difficult to apply or are ambiguous and should be revised or clarified.

Which institution should be designated as the DNA?

Predominantly, the DNA was established within the ministry responsible for climate change issues, usually the Ministry for Environment. This makes sense for most countries. However, this has not always been an easy and straightforward decision. In some cases, disagreements within governments about competencies regarding CDM or the question as to in which ministry the DNA administration should be situated significantly delayed the establishment of the DNA, either because several institutions wanted to host the DNA - or the opposite.

In all of the countries analysed here, the DNA is a government department within an existing institution, such as the national focal point for the UNFCCC. Experiences made by the countries under discussion indicate that it makes sense to designate an existing institution as the DNA and not to establish a new institution. Even in India, the country with most CDM projects worldwide, four to five persons working within an existing institution are sufficient for the tasks of the DNA to be accomplished.

In the process of designating an institution, it is important to emphasise that hosting the DNA will not entail additional income for the nominated ministry or person and also that the task is unlikely to lead to a significant increase in the reputation of the ministry. This is particularly important in the case of disagreements between ministries as to which one should host the DNA.

What is a good institutional set-up for the DNA?

Experiences gained up to now show that for countries with a considerable CDM potential it makes sense for the tasks of the DNA to be divided between a “DNA committee” and an “operational unit”:

- The DNA committee is usually responsible for the final decision-making as regards project approval and other policy-related issues. It consists of representatives from ministries, and in some cases, non-governmental organisations, industry, the financial sector and academic institutions.
- The operational unit, often also referred to as secretariat, conducts day-to-day activities and serves the committee, for example by assessing proposed CDM projects. It consists of permanent staff. The resources of small countries with a limited CDM potential may be overstretched if they want to set up a DNA secretariat.

The breakdown of tasks has turned out to be helpful, since it ensures both a broad participation of relevant stakeholders in decision-making and that the necessary knowledge and institutional capacity is available, because of permanent staff in

the support unit. In some cases, project evaluation is undertaken by a third institution, a technical team consisting of lower-ranking representatives of the ministries who are part of the DNA committee. We recommend that the operational unit carries out the project evaluation. In this way, personnel continuity and a good level of knowledge can be more easily guaranteed and no meetings of – potentially even high-ranking – technical team members need to be convened. Alternatively, an interdisciplinary technical team can be chosen, consisting of experts from different ministries.

Project evaluation may require significant technical understanding of the project, especially when it comes to assessing the sustainability impacts of the projects. This could lead to the DNA being overly dependent on the explanations of the project developers and being restricted in forming its own impressions. If the evaluation is carried out by the operational unit, external experts may be called in for difficult cases (whose independence from the project proponent has to be ensured), as is currently being discussed in South Africa. If a technical team is responsible for project evaluation, it is advisable to let its composition be adapted according to the type of project under evaluation. Usually, the final decision is taken by the DNA committee, based on the assessment of the operational unit or technical team.

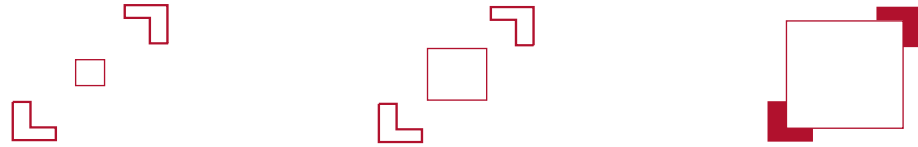
In defining the modalities of the DNA committee, the following issues are particularly important:

- The level of ranking of committee members is a tricky issue which cannot be answered easily. The members should have the necessary rank to ensure political support and acceptance of the committee's decisions. However, if their position is too high, they can lack the technical understanding needed and committee meetings can become prohibitively difficult to convene due to the limited availability of its members, which can result in delayed project approval.

Lessons Learned

- Depending on the tasks of the committee, its appropriate composition and size need to be defined. As a minimum, it is recommended that those ministries be engaged which are involved in climate change issues and are responsible for the most important CDM sectors, typically energy, industry and forestry. If regional or local authorities have considerable competences in the country, it should be examined whether they should be represented in the committee as well, e.g. on a rotational basis to ensure their cooperation with regard to CDM implementation. The representation of some governmental and non-governmental institutions is also recommended for the purposes of participation and transparency. However, as can be seen, the committee can become quite large, which increases the transaction costs of project approvals and can make it difficult for meetings to be arranged and serious discussions to be conducted. The nomination of the persons who should represent these institutions can also take considerable time. Also, the size of the country and the expected number of CDM projects should play a role in considering the size of the committee. In many cases, less than ten members seem sufficient.

Besides the regulatory function (project approval), many DNAs also have a promotional function. This can, for example, include promoting the country as a host of CDM projects for foreign investors, facilitating participation in the carbon market and supporting negotiations between local sellers and international buyers of CERs.



In South Africa, considerable emphasis was placed in the beginning on separating the regulatory functions of the DNA from the promotion of the CDM. The objective was to prevent conflicts of interest when deciding on project approval. The DNA today states that over time it became clear, however, that this was a rather theoretical concern. Likewise, the DNA now engages in considerable promotion and awareness-raising activities and can benefit from its existing contacts, e.g. with successful CDM project developers. While the institutional separation of the two tasks may have a positive side, the CDM promotion was considered important and it was considered preferable that the DNA also promotes the CDM.

How should procedures for project approval be designed?

In setting up the procedures for project approval, we recommend that particular attention be paid to the following aspects:

- The procedures for project approval should be transparent and easy-to-understand. To reduce the risks of project development, it is important that project proponents can predict to a certain extent whether a project will be granted approval by the DNA or not. Therefore, the type of required documentation and information to be presented when submitting an application to the DNA should be clearly communicated, e.g. on the website of the DNA. Project proponents will also greatly appreciate being informed in advance of the expected duration of the approval procedure.
- It is advisable to let the validation of projects by the DOE be carried out in parallel with the evalu-

ation by the DNA. Compared to a consecutive approach, this saves time and enables the crediting period of the project to start earlier. The same applies for baseline and monitoring methodologies: in case they have not been approved by the CDM Executive Board yet, this may be pursued in parallel with evaluation by the DNA.

- We recommend giving project proponents the possibility of presenting a preliminary project submission – usually in the form of a PIN – to reduce the initial transaction costs of project development. Especially in countries which have little experience with the CDM (and therefore a higher reluctance to the first CDM projects being developed) it seems advisable to allow for a preliminary project evaluation at an early stage. Here, not only can deficiencies with regard to the project's performance against the sustainability criteria be detected, but also the DNA can point out other issues with regard to project validation or registration which the proponent can then address early on. However, the presentation of a PIN should be voluntary for project proponents in order to avoid delays in project approval.

- The following generic scheme for project approval has been adopted by many countries and can be recommended generally: a PPD and additional, country-specific documents have to be submitted and are evaluated by the operational unit of the DNA or a technical team, whose recommendation is then passed on to the DNA committee for final decision-making. The total approval procedure takes no more than two to a maximum of three months in most countries.

■ We advise countries to allow the project proponents to verbally present their project to the operational unit or technical team undertaking the evaluation. In this way, open questions can be promptly addressed and potential misunderstandings be avoided. Such a meeting is also a good opportunity for inviting stakeholders who could take part in the meeting and make their comments heard.

■ Most of the countries provide for the right to appeal against the decision of the DNA, often, as a first step, at the responsible ministry and, as a second step, at an administrative court. While this opportunity has not yet been used and may never be used in most countries, it contributes to the approval process being carried out in a correct and fair manner.

What is important when defining sustainability criteria?

The project's contribution to the national sustainable development criteria is the most important prerequisite for the project's eligibility to the CDM. The DNA has to review the project and assess whether it fulfils the national sustainable development criteria, public participation requirements or other legal requirements such as environmental impact assessments.

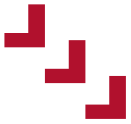
In some countries, criteria for sustainability have already been developed for other purposes than those concerning CDM. It is preferable to start with these criteria, which in many cases will have gathered some legitimacy and reached some degree of common understanding, than to develop new ones from scratch. In Indonesia, for example, sustainability criteria were based on the sectoral sustainability criteria of several ministries. Generally, sustainability criteria ought to be defined by a large spectrum of stakeholders in order to ensure a broad acceptance of approved CDM projects in the country.

Lessons Learned

Generally, we recommend that sustainability criteria are categorised into environmental, social and economic aspects. The impact on the technological development of the country, which constitutes a separate criterion in some countries, can safely be subsumed under the economic criteria so as not to attach too much weight to economic aspects, compared to the social and environmental goals of sustainable development.

These criteria have to be operationalised using quantitative or qualitative indicators which allow for a clear evaluation of the submitted projects, without leaving too much room for personal interpretation. If criteria are formulated in an overly vague fashion without any indicators, the probability of approval is less predictable for the project proponent and the outcome of the assessment is more likely to be coloured by the subjective interpretation of the person carrying out the evaluation. Moreover, this also constitutes a disadvantage for the DNA since arbitrary criteria involve the risk of decisions being appealed at a later stage. Taking into account the experiences made in the analysed countries, rather detailed criteria are clearly preferable, as long as they cover all types of CDM projects which have to be evaluated.

A numerical scoring system with a minimum threshold that needs to be reached seems to be most appropriate to measure the project's performance against the sustainability criteria. However, it has to be ensured that the minimum threshold is high enough to prevent projects with a low sustain-



ability contribution being approved. It is also advisable that the decisions are justified, in particular in the case of negative decisions. It seems useful both for project proponents and for the DNA that proponents be required to elaborate upon the project's contribution to the sustainability criteria in the national DNA's application form with regard to every indicator. On the one hand, this encourages proponents to carry out an evaluation of the project's performance themselves against the sustainability criteria; on the other hand the evaluation by the DNA is facilitated.

How should project approval be financed?

Financing of the DNA needs to be constantly ensured to provide for a stable host country approval system. While it may be costly and not an overriding priority in a developing country to defray the DNA's expenses, none of the analysed countries – with the exception of Ghana - has decided to charge project developers for host country approval. In several countries, this idea was contemplated but abandoned for the time being so as not to create any additional transaction costs in the early market development process or due to the inability of earmarking revenues from fees for the financing of the DNA.

CDM promotion

Several types of capacity building activities can be envisaged for the promotion of project development. Which types of activities are most effective, depends considerably on the extent to which CDM implementation has advanced in a country.

At the very beginning, it is recommended that the sectors be identified which have a large mitigation potential and are especially promising for the CDM in the country, for example, because of

their importance as regards national sustainability objectives. This could also include the identification of single projects or project types with a high replication potential. With limited resources, capacity building efforts should focus on these sectors. In Indonesia, South Africa and India, National Strategy Studies have been carried out for this purpose.

Once promising sectors and project types are identified, the focus of capacity building often turns to the establishment of the DNA and the project approval system, since PDDs cannot be submitted to the Executive Board for registration without formal host country approval. Nevertheless, it is advisable that raising awareness on the opportunities of the CDM already be started in parallel with the establishment of the DNA in order to show potential project developers in the country that 'CDM is real' and that it can deliver tangible revenues. The existence of a promising pipeline of projects within the country can constitute a strong incentive for a timely set-up of the DNA and has, for instance, sped up the process in Tunisia. The initial expectation that project proposals would largely be submitted as a matter of course was not fulfilled.

Once the establishment of the institutional framework in the country is underway and key CDM sectors have been identified, the focus of CDM promotion activities can turn to supporting the identification of concrete projects and facilitating the development of project proposals in very practical terms. Training activities specifically designed for project developers and CDM consultants – as conducted in India, Indonesia, Ghana and Tunisia – can significantly increase the in-country capacity for project development and thus help decrease dependence on expertise from industrial countries and reduce transaction costs. At these capacity building workshops, the following activities are regarded as particularly helpful:

- A thorough explanation of the basic principles of the CDM, including the concepts of baseline identification, additionality, project boundaries, leakage, etc.
- An explanation of the CDM market and the financial benefits of the CDM.
- Presentation of all steps that are necessary to develop a CDM project in very practical terms, including the location, where all relevant information can be found.
- Discussion of project ideas of the workshop participants with a view to identify the emission reduction potential, methodological challenges and to assess whether a project idea appears to be feasible or not.
- Reporting on experiences from project participants on projects that have already been registered.
- Workshops focusing on specific sectors can help to explain the relevant baseline and monitoring methodologies and address specific questions and issues.

Several DNAs publish submitted PDDs on their websites for public perusal. While the publication was initially intended to invite comments from public stakeholders, the number of submitted comments has remained relatively low. However, the capacity building function of publishing PDDs cannot be underestimated. The South African DNA, for instance, has noticed that the published

PDDs are widely read and used as models for the development of other PDDs.

Several countries, including Indonesia, have mentioned difficulties in the development of small-scale projects, mainly due to their comparatively higher transaction costs. This barrier may be tackled by either bundling several projects in one single PDD or by establishing “programs of activities” where a program manager undertakes emission reductions in multiple small installations or households. In these cases, only the manager of the CDM program needs to be fully aware of all CDM requirements and the small installations or households can benefit from the CDM program through financial or other benefits. Several methodologies for programs have been submitted to the CDM Executive Board recently, including two demand-side energy efficiency improvements in Ghana. Such methodologies could help to broaden the sectoral scope of CDM projects.

In larger countries, another important area for capacity building activities is assistance in the collection and continuous updating of data for baseline determination in specific sectors, such as the development of grid electricity emission factors.

Theoretically, the set-up of in-country DOEs could reduce validation and certification costs. However, it may be difficult for new DOEs to achieve a significant market share as currently just three DOEs reside over 75% of the market.

Annex I Sustainability Criteria in Detail

Ghana

Step one: threshold criteria (only if the projects scores no for every question, the assessment shall proceed to step two)

Does the proposed CDM Project result in significant increased environmental damage/degradation?

Does the proposed CDM Project result in significant loss of employment or livelihoods?

Does the proposed CDM Project significantly harm the economy of the country?

Step two: general criteria (criteria are assessed on balance)

Economic

Impact on economic growth and stability (e.g. foreign exchange requirements)

Impact on existing economic activity in the area

Impact on the cost of energy at the national level or to local beneficiaries

Impact on leveraging foreign direct investment

Positive or negative implications for the transfer of technology to Ghana

Demonstration and replication potential

Alignment with local and national developmental objectives, including sectoral priorities and programmes of the Government of Ghana (e.g. renewable energy targets)

Impact on the provision of, or access to basic services to the area

Social

Impact on employment levels and local skills development (e.g. number of jobs created/lost, the duration of time employed etc.)?

Impact on community social structures, social amenities and cultural heritage

Contribution to the development of previously underdeveloped areas or specially designated development nodes

Environmental

Does the Project conform to the provisions of the EPA Act 1994, Act 490 and its subsidiary legislations?

Are disturbances of ecosystems and loss of biological diversity avoided or minimised and remedied?
Are pollution and degradation of the environment avoided or minimised and remedied?

Are disturbances of landscapes and sites that constitute the nation's cultural heritage avoided or minimised and remedied?

Is waste avoided, minimised and reused or recycled where possible or otherwise disposed of in a responsible manner?

Does the development, use and exploitation of renewable resources and their ecosystems jeopardize their integrity?

Are negative impacts on the environment and on people's environmental rights anticipated and prevented or minimised and remedied (incl. potential for dislocation or relocation of riparian communities and efforts to mitigate)?

Indicators¹

Impact on air quality

Impact on water pollution and disposal of solid waste

Other positive or negative environmental impacts (with regard to noise, safety, visual impacts or traffic)

Impact on efficient and sustainable local use of water, minerals or other non-renewable natural resources

Impact on local or regional biodiversity

India

Social

Alleviation of poverty by

- Generating additional employment
- Removal of social disparities
- Contribution to provision of basic amenities to the people

Economic

Additional investment consistent with the needs of the people

Environmental

Impact of the project activity on resource sustainability and resource degradation

Bio-diversity friendliness

Impact on human health

Reduction of levels of pollution in general

Technological

Development, deployment, diffusion and/or transfer of environmentally safe and sound technologies

Indonesia

Environment

Natural resource conservation or diversification

Conservation of local ecological functions

Compliance with national, as well as local, environmental standards (not causing air, water and/ or soil pollution)

Maintenance of genetic, species, and ecosystem biodiversity, no genetic pollution

Compliance with existing land use planning

Local community health and safety

Prevention of health risks

¹ It is unclear whether this set of indicators constitutes an operationalisation of the environmental criteria.

Compliance with occupational health and safety regulation

Set-up of a documented procedure of actions to be taken to prevent and manage possible accidents

Economy

Local community welfare

Preservation of the local community's income

Measures to overcome the possible impact of lowered income of community members

Preservation of local public services

Agreement among conflicting parties on how to solve employment questions

Social

Participation of the local community in the project

Consultation of the local community

Comments and complaints from local communities are taken into consideration and responded to

Social integrity of the local community

Avoidance of conflicts among local communities

Technology

Technology transfer

Avoidance of dependence on foreign parties in knowledge and appliance operation (know-how transfer)

Avoidance of experimental or obsolete technologies

Enhancing the capacity and utilisation of local technology

South Africa

Environment

Local environmental quality

— Air quality

— Water pollution

— Generation or disposal of solid waste

— Others, like noise, traffic, visual impacts, safety

Usage of natural resources

— Local community's access to natural resources

— Sustainable use of water, minerals or other non renewable natural resources

— Efficiency of resource utilisation

Biodiversity and ecosystems

— Changes in local or regional biodiversity

Economic

Economic impacts

— Impact on foreign exchange requirements

— Impact on existing economic activity in the area

— Impact on the energy costs

— Impact on foreign direct investment

Technology Transfer

— Local skills development

— Demonstration and replication potential

Social

National, provincial and local development priorities

— Conformity with national and provincial objectives

— Conformity with local objectives regarding the provision of or access to basic services to the area

- Relocation of communities
 - Contribution to sectoral objectives, like renewable energy targets
-
- Social equity and poverty alleviation
- Impact on employment level
 - Impact on social structures at the local community
 - Impact on social heritage
 - Impact on social amenities to the community
 - Contribution to the development of previously underdeveloped areas or specially designated 'development nodes'
-

Cross-cutting

Reasonable and fair distribution of project benefits

Tunisia

Data in brackets represent the weighted contribution of the criteria to the overall sustainability score or the weighted contribution of the indicator to the fulfilment of the individual criteria respectively.

Economic criteria (28%)

Payback period (22%)

Economic productivity of the project (24%)

Net currency import (30%)

Attraction of foreign direct investment, reduction of state subventions (24%)

Social criteria (22%)

Number and quality of employments created locally (33%)

Amelioration of national capacity (18%)

Improvement of the quality of life of local population (28%)

Consultation and participation of local communities (21%)

Environmental criteria (29%)

Greenhouse gas emissions avoided (31%)

Contribution to the reduction of atmospheric pollution (23%)

Contribution to the reduction of water and soil pollution (23%)

Contribution to the sustainable use of natural resources (23%)

Strategic criteria (21%)

Contribution to the reduction of risks from energetic dependency (45%)

Contribution to the technological positioning of the country (26%)

Contribution to the development of international partnerships (29%)

Annex II

Contact Details of the Designated National Authorities

Ghana

Environmental Protection Agency, Ministry of Environment, Science & Technology

91 Starlets Road
P. O. Box M326
Accra

Homepage: <http://www.epa.gov.gh/climate/CDM>

Email: Mr. William Kojo Agyemang-Bonsu (wbonsu@epaghana.org); Mr. Jonathan A. Allotey (jallotey@epaghana.org)

India

National Clean Development Mechanism (CDM) Authority

Member Secretary
Ministry of Environment and Forests
115, Paryavaran Bhawan
CGO Complex
Lodhi Road
New Delhi

Homepage: <http://www.cdmindia.nic.in>

<http://www.moef.nic.in>

Email: R. K. Sethi (rksethi@nic.in)

Indonesia

National Commission on CDM (KOMNAS MPB)

Gedung A Lt.6, Jl. DI. Panjaitan Kav 42,
Kebon Nanas
Jakarta 13410

Homepage: <http://dna-cdm.menlh.go.id/en>

Email: Ms. Masnellyarti Hilman (climate@menlh.go.id)

South Africa

South Africa

Department of Minerals and Energy

Private Bag X 59
Pretoria 0001

Homepage: <http://www.dme.gov.za/dna/index.stm>

Email: Advocate Sandile Nogxina (lwakazi.tyani@dme.gov.za)

Tunisia

Ministère de l'Environnement et du Développement Durable/Direction Générale de l'Environnement et de la Qualité de la Vie

Centre Urbain Nord - Immeuble ICF
1080 Tunis
Tunisie

Homepage not operating yet

Email: Le Directeur Général de l'Environnement et de la Qualité de la Vie (DGEQV@mineat.gov.tn)

Abbreviations

CDM	Clean Development Mechanism
CERs	Certified Emission Reductions
DME	South African national Department of Minerals and Energy
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact Assessment
EPA	Ghanaian Environmental Protection Agency
ET	Emissions Trading
IGEN	Indo-German Energy Programme
JI	Joint Implementation
MEDD	Tunisian Ministry of Environment and of Sustainable Development
MES	Ghanaian Ministry of Environment and Science
MoEF	Indian Ministry of Environment and Forest
MW	Megawatt
NCDMA	Indian National CDM Authority
NCCDM	Indonesian National Commission for CDM
NSS	National Strategy Study
ODA	Official Development Assistance
PDD	Project Design Document
PPP	Public Private Partnership
PIN	Project Idea Note
SME	Small and Medium-Sized Enterprises
SSN	SouthSouthNorth
UNFCCC	United Nations Framework Convention on Climate Change



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