

Mapping of Criteria set by DNAs to Assess Sustainable Development Benefits of CDM Projects



Paper prepared by Ritika Tewari
The Energy and Resources Institute (TERI), India
Senior Expert Advisor, Dr. Prodipto Ghosh

Contribution to the Research Programme of the CDM Policy Dialogue

July 2012

Table of Contents

TABLE OF CONTENTS.....	2
ACKNOWLEDGEMENT	2
MAPPING OF CRITERIA SET BY DNAs TO ASSESS SUSTAINABLE DEVELOPMENT BENEFITS OF CDM PROJECTS.....	4
1. Introduction	4
2. Methodology.....	4
3. Criteria set by DNAs to assess Sustainable Development benefits of CDM projects	6
4. Procedures for Issuing Letter of Approval (LoA)	20
5. Insights from Literature	23
6. Insights from Stakeholder Interactions and Survey of DNAs	23
REFERENCES	26
ANNEXURES.....	30

Acknowledgement

I would like to acknowledge the valuable inputs from Mr. Dicky Edwin Hinderto (DNA Indonesia), Mr. Washington Zakata (Ministry of Environment and Natural Resources Management, Zimbabwe), Ms. Luiza Almeida Curado (BDNES Brazil and SEA to the CDM Policy Dialogue Panel); and Ms. Sharon Taylor and Mr. Grant Kirkman (UNFCCC secretariat).

I'd also like to acknowledge Mr. Randall Spalding-Fecher, Ms. Amrita Narayan Achanta, Climate Change Mitigation team at TERI; Mr. Niclas Svenningsen and the CDM policy dialogue team at UNFCCC secretariat for their support at various stages of the study.

List of Abbreviations

LoA	Letter of Approval
CDM	Clean Development Mechanism
CER	Certified Emission reduction
DNA	Designated National Authority
DOE	Designated Operational Entity
DRC	Democratic Republic of the Congo
EIA	Environmental Impact Assessment
GS	Gold Standard
LDCs	Least Developed Countries
NCCDM	National Committee on CDM, Malaysia
NCH	National CDM Clearing House, Kenya
PCN	Project Concept Note
PDD	Project Design Document
TCCDM	Technical Committee of CDM, Malaysia
UNFCCC	United Nations Framework Convention on Climate Change
UAE	United Arab Emirates

Mapping of Criteria set by DNAs to Assess Sustainable Development Benefits of CDM Projects

1. Introduction

Under the Kyoto Protocol, the host countries were bestowed with the responsibility to decide on what contributes to sustainable development (Marrakech Accords, 2001). Each host country has to set up a Designated National Authority (DNA), with a prime responsibility to define and oversee if CDM projects from their country were achieving sustainable development. As DNAs decide on sustainable development criteria based on their national development priorities, there is a large variation in the way and detail in which these criteria are defined.

The following section attempts to map this diversity and provide a summary of the sustainable development criteria used by DNAs and the common approaches employed to provide the Letter of Approval (LoA) to project proponents.

2. Methodology

The present assessment is based on three main data sources: a compilation of questionnaire responses from DNAs, sustainability criteria as defined/provided in DNA websites and relevant literature sources. In addition, the study incorporates the views expressed by various stakeholders during the global consultations conducted by the CDM Policy Dialogue.

Survey Questionnaire: A survey questionnaire was sent by the UNFCCC secretariat to all DNAs on 29th April, 2012 with a deadline of 15th May, 2012. Responses from 10 DNAs were received on the survey, namely Bhutan, Burundi, Republic of Korea, Zimbabwe, Mexico, Finland, Mali, Madagascar, Mauritius and South Africa.

Websites of DNAs: In addition to the questionnaire, an online search for DNA websites was also conducted on a limited number of countries. This sample was selected from five regions i.e. Asia and Pacific, Latin America, Africa, Europe and Central America; and Middle-East using the UNEP Risoe datasets (as of May 2012)¹. Those countries which contribute greater than 5% to the CDM pipeline (latest version as of June, 2012 published by UNEP Risoe) in their respective regions were included in the online search. This led to a sample of 29 countries viz. Brazil, Chile, Colombia, Mexico, China, India, Indonesia, Thailand, Malaysia, Vietnam, Albania, Armenia, Azerbaijan, Cyprus, Georgia, Moldova, Serbia, Uzbekistan, Egypt, Kenya, Morocco, Nigeria, South Africa, Uganda, Iran, Israel, Lebanon, Syria and United Arab Emirates (UAE)².

Literature: Third source of information was literature containing references to sustainable development criteria used by DNAs. The countries analysed in the identified literature included

¹ Country groupings used in the study are adopted from UNEP Risoe CDM pipeline as of May, 2012 (<http://www.cdmpipeline.org/>).

² It may be noted that in the case of Asia, this cutoff criteria of >5% was relaxed to >2.5% to include Indonesia, Thailand, Malaysia and Vietnam. This was done to ensure better representation from the region.

Peru, Bolivia, El Salvador, Panama, Nicaraguan, Ethiopia, Rwanda, Senegal, Tanzania, Burkina Faso, Mozambique, Zambia, Mali, Malawi, Democratic Republic of the Congo (DRC) and Uganda. Since the literature containing references to the sustainable development criteria used by individual DNAs was part of a broader analysis, the DNA websites of some of these countries were also checked for their sustainable development criteria.

Adding the three sources of data, the study was initiated with a sample of 51 countries. Of these, criteria for 20 countries could not be accessed due to lack of information: some DNAs do not have a website, some do not web-host their sustainable development criteria, while in some cases the information available on DNA website was not accessible (language issues, site not working etc.)³. Finland being an Annex I country was not included in the assessment. Hence, this confines the current assessment to examination of sustainable development criteria of 30 countries. Figure 1 and table 1 illustrate the sample details.

Table 1: Sample of countries used for assessment: Different data sources used

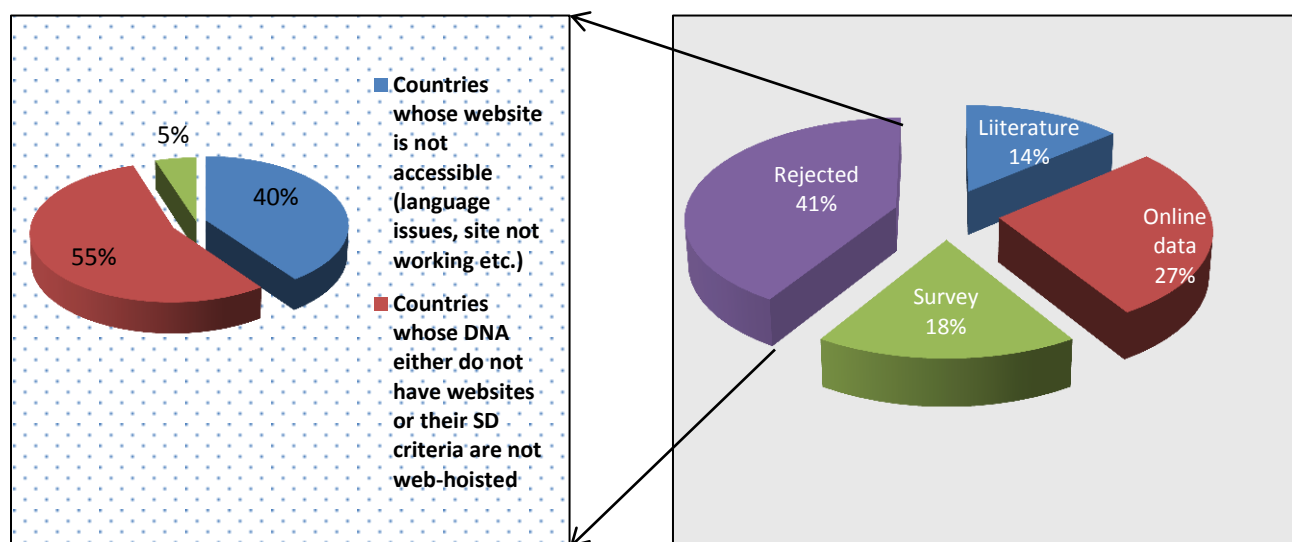
<i>Latin America</i>	<i>Europe and Central America</i>	<i>Africa</i>	<i>Middle East</i>	<i>Asia</i>
Mexico	Finland	Burundi	UAE	Bhutan
Brazil	Uzbekistan	Madagascar	Israel	Korea
Chile	Georgia	Mauritius	Iran	India
Colombia	Serbia	Mali	Lebanon	Malaysia
Peru	Armenia	Zimbabwe	Syria	Thailand
Bolivia	Cyprus	South Africa		Vietnam
El Salvadoran	Moldova	Morocco		Indonesia
Panama	Albania	Kenya		China
Nicaraguan	Azerbaijan	Nigeria		
		Uganda		
		Egypt		
		Rwanda		
		Senegal		
		Ethiopia		
		Tanzania		
		Malawi		
		Mozambique		
		Zambia		
		Burkina Faso		
		DRC		

Color coding:

	Countries which responded to the UNFCCC survey
	Countries belonging to this group have contributed > 5% to the CDM pipeline in their region
	Countries belonging to this group have contributed > 5% to the CDM pipeline in their region and have also responded to the UNFCCC questionnaire
	Countries whose website was not accessible at the time of the study (language issues, site not working etc.)
	Countries which lack a DNA website or whose SD criteria are not web-hosted
	Countries cited in literature

3 Details provided in Annexure.

Figure 1 : Sample of countries used for assessment: Illustration of different data sources used



3. Criteria set by DNAs to assess Sustainable Development benefits of CDM projects⁴

Most of the surveyed DNAs⁵ mention that they have an operational definition of SD in their country⁶. In Korea, the operational definition is specified under the federal laws (Sustainable Development Act 2007, Korea) and in Mauritius under the national DNA regulations.

Broadly, most countries define their sustainable development criteria under the social, economic and environmental dimensions. Technological benefits are usually either incorporated into the economic benefits or are a separate category altogether. The degree of details in which DNAs explain their sustainable development criteria differs among the countries assessed in this study. The common approaches used by countries can be defined as per the following typology:

1. **General listing of criteria/indicators under the three/four categories⁷:** For example, India, Morocco, Brazil, Korea, Kenya, Armenia, Uzbekistan, United Arab Emirates (UAE), Peru, Senegal, El Salvador, Nicaragua, Bolivia and Mali give a list of indicators under categories such as social, economic, and environmental categories.
2. **Listing of criteria and a set of indicators under each category:** For example, Vietnam, Malaysia, Indonesia, South Africa, Rwanda, Zimbabwe, Mauritius, Panama and

⁴ Refer to Annex I for a summary of Sustainable Development Criteria in the social, economic and environmental dimensions across regions and countries in the sample

⁵ A survey questionnaire was sent by the UNFCCC to all DNAs on 29th April 2012 with a deadline of 15th May 2012. Responses from 10 DNAs were received on the survey: Bhutan, Burundi, Republic of Korea, Zimbabwe, Mexico, Finland, Mali, Madagascar, Mauritius and South Africa.

⁶ 6 of the 9 Non-Annex I DNAs who responded to the survey

⁷ While these countries only provide a listing of criteria/indicators, some of them are quite elaborate.

Serbia describe the criteria under each category and give a list of indicators suggesting what the criteria incorporates.

3. **Listing of indicators under criteria with scoring of each indicator:** E.g. Thailand, Bhutan and Georgia give elaborate scoring for SD indicators under a set of criteria under each category.

It must be noted that the information on sustainable development criteria of China could not be accessed. Hans Curtius - Tobias Vorlauffer (2009) comment on the Chinese DNA stating that there is no common knowledge about a possible set of criteria of the NDRC. "Reasons why and if a project could be rejected by the NDRC because of its insufficient contribution to sustainable development are not known, the reviewing process is not transparent." A study by Olsen and Fenhann (2008) however mentions that China has prioritization by project types. Projects in the priority areas i.e. Energy Efficiency, Renewable Energy and Methane are given priority. Also there is a requirement of at least 51% Chinese partnership in the projects.

The following sub-section describes the SD criteria used frequently by DNAs in the economic, technological, environmental and social dimensions:

Economic Benefits: DNAs investigate both local as well as national level benefits from CDM projects for assessing the economic benefits from them. However, the major focus of DNAs while assessing economic benefits of projects is on local and regional benefits (table 2).

The common project specific criteria are the impact on cost effectiveness of the project with respect to the baseline (Morocco, Georgia) and whether there is mutual consent between different stakeholders of the project (Indonesia, Korea).

Most DNAs expect CDM projects to contribute towards strengthening the local economy of the region by generating additional income for the local communities, by creating employment opportunities and by bringing in additional investment. DNAs judge the projects by the additional income they generate for the local populations with respect to the baseline (Madagascar, Thailand, Serbia, Bolivia, Burundi, Vietnam, Zimbabwe, Uzbekistan, Brazil, Bolivia and Nicaragua). The Indonesian DNA, however, adopts a 'no harm' approach by investigating if the projects are not lowering the local communities income and whether adequate measures are being taken to overcome the possible impacts of lowered incomes. However, most DNAs do not mention the details about how many stakeholders did the project benefit and how.

It is also apparent that while most DNAs expect the project to increase local income levels, they also judge projects on the basis of their impact on the investments in the region as well as in the priority sectors of their country (Mauritius, Mexico, Thailand, Korea, India, South Africa, Armenia, El Salvador, Senegal, Bolivia and Serbia).

DNAs also give stress on the projects' contribution towards generation of employment. Almost all DNAs have this criterion for their assessment of SD benefits. Most DNAs have a generic requirement that the project should contribute to creation of new jobs (Zimbabwe, Burundi, Madagascar, Morocco, Armenia, Serbia, Bolivia, Nicaragua, Israel, Uzbekistan, Senegal, Vietnam and Bhutan). However, some require specific information about the number of direct and indirect jobs created by the project (Brazil, Mauritius, and Thailand), the nature/quality of jobs (Malaysia, South Africa), the duration of employment generated (Thailand), jobs limited to

the project or not (Thailand), gender equality (South Africa) and compliance with labor policies of the country (El Salvador).

Many DNAs give adequate impetus to the impact of the project on the promotion of clean energy in the country. Many DNAs cite generation from renewable sources of energy as economic criteria (Armenia, Mauritius, Thailand and El Salvador)/ substitution of energy sources with greater positive environmental impact (Georgia, Nicaragua). Some DNAs also look at impact the project has on the decrease in the cost of energy (Serbia, South Africa) and on the access of energy to the people (Zimbabwe, Nicaragua).

DNAs also assess the impact of the project activity on the investments in the region as well as in the priority sectors of their country (Mauritius, Mexico, Thailand, Korea, India, South Africa, Armenia, El Salvador, Senegal, Bolivia and Serbia). While the major focus of DNAs is local and regional economic benefits, some countries also give consideration to the impact of project activity on the macro-economic sustainability of the country. This is investigated by DNAs through the impact of the project on the balance of payments (Bhutan, Zimbabwe) of the country through the following parameters:

- a. Impact of the project on foreign exchange requirements: required by Georgia, South Africa, Mauritius
- b. Impact on Foreign Direct Investment: required by Morocco, South Africa, Mauritius
- c. Impact on imports and exports (specifically fossil fuels): required by Rwanda, Mauritius, Morocco, Serbia,
- d. Attracting foreign investments: required by Armenia, Morocco

Technological Benefits: DNAs usually define technological benefits using three key criteria: contribution towards improvement of technologies, technological sustainability and implications of the technology transfer on the host country (table 2).

Many countries define contribution of the CDM project towards improvement of technologies as the favoured technological benefit of the project. While some seek that the project should use environmental friendly technologies that are appropriate as per local conditions (Israel, India, Serbia), others require the technologies to be the best available and proven (Mali, Uzbekistan, Malaysia). Some countries (Indonesia, Madagascar, and Kenya) specifically require the project to ensure that the technologies used are not substandard.

Almost all countries studied in this analysis state technological sustainability as a key criteria for CDM projects to attain sustainable development goals. While the definitions provided by countries differ, the host countries expect that the CDM projects should not only use good technologies but also assist in the overall goal of technological self-reliance of the country. Georgian DNA, which assigns scores to each of its sustainable development criteria, gives stress on decrease in foreign expenditure as criteria of technological self-reliance. It states that *“when CDM projects lead to a reduction of foreign expenditure via a greater contribution of domestically produced equipment, royalty payments and license fees, decrease in imported technical assistance may indicate an increase of technological sustainability.”* Other countries (e.g. Morocco, Thailand) also stress on “technological autonomy”. Thailand, which also has scoring of indicators, gives a stress on indigenous development of technology.

Some countries (South Africa, Mauritius and Brazil) also evaluate the employed technology's potential to be reproduced or the projects impact on the uptake of such technologies within the country i.e. its replication potential.

Capacity and skill development is also considered to contribute to technological sustainability. While some countries are less explicit in stating whose capacity development should the project assist it, others specify if it is only of the personnel employed in the project activity (Thailand) or the community at large near the project site (South Africa, Zimbabwe). Transfer of knowledge is an additional criteria some countries employ (Indonesia, Israel). Brazilian DNA also evaluates the technological innovation of the project as compared to the baseline to evaluate its projects.

While many DNAs provide generic guidelines on a project's technological benefits (indirect indicators like technology transfer or implication of technology transfer to the country), some DNAs ask for very specific and detailed information to check technological sustainability. Peruvian DNA, for instance, asks the project proponent/s to submit a government approved technical feasibility study or demonstrate successful prior experience of the employed technology at a national or international level. Thai DNA requires the project proponent to submit the operational plan post stoppage of issuance of CERs for providing LOA.

Overall, the emphasis of DNAs on what constitutes technological sustainability differs. It can be convincingly argued that DNAs do give impetus to technological benefits obtained from the CDM projects in their country. However, the degree of detail in which the criteria is expressed differs from nation to nation.

Environmental Benefits: Host countries provide an elaborate list of indicators to check the impact of projects on the environment (table 3). The environmental benefits of CDM projects can be broadly classified into the following:

- i. GHG reductions achieved
- ii. Impact on the environment and resources
- iii. Contribution to sustainability of resources

Most DNAs in the sample consider the GHG reduction potential of the project to be one of its environmental benefits. The impact of the project on the local environment and resources is the most important criteria. While some DNAs give criterion of "impact of the project on environment", most of them elaborate the impacts further on the air, water, marine and land environment, and on biodiversity.

Most DNAs judge whether the project has contribution towards improvement of the land, water and air environment if it complies with the local standards and is performing better than the reference scenario. Solid waste generation and disposal is given special impetus by several DNAs (Vietnam, Bhutan, Korea, Thailand, South Africa, Mauritius, Georgia, Brazil, Mexico and Panama). Apart from these, several DNA include impacts on other environmental concerns like noise, aesthetics, odour, use of banned substances, electromagnetic radiations etc. For biodiversity, the approach of DNAs can be either "no harm" to biodiversity or "maintenance/improvement of biodiversity". DNAs also look at any possible impacts on the forest cover, species and protected zones; and on increase in green cover in the area of the project.

Table 2: Summary of Sustainable Development Criteria in the economic and technological dimension across regions and countries in the sample

CRITERIA	INDICATORS	REGIONS/ COUNTRIES																												
		ASIA PACIFIC							AFRICA									EUROPE AND CENTRAL AMERICA				MIDDLE EAST		LATIN AMERICA						
		Vietnam	Bhutan	India	Korea	Malaysia	Thailand	Indonesia	Kenya	Morocco	South Africa	Zimbabwe	Burundi	Madagascar	Mali	Mauritius	Rwanda	Senegal	Serbia	Georgia	Armenia	Uzbekistan	UAE	Israel	Brazil	Mexico	Bolivia	Peru	El Salvador	Panama
Economic	1. Additional investment			Y	Y		Y			Y							Y	Y		Y					Y	Y		Y		
	2. Employment generation:	Y	Y	Y	Y				Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y		Y
	2.1 Number of jobs created for the local community																													
	• within the project activity						Y																							
	• in the area						Y																							
	2.2 Quality of jobs created					Y				Y					Y	Y		Y							Y					
	3. Income generation	Y					Y	Y				Y	Y	Y					Y			Y		Y		Y				Y
	4. Contribution to sustainability of balance of payments by:		Y						Y	Y	Y				Y				Y	Y					Y			Y		Y
	• Impact on foreign exchange requirements																													
	• Impact on FDI																													

CR	INDICATORS	REGIONS/ COUNTRIES																													
	<ul style="list-style-type: none">• Contribution to macro-economic sustainability• Impact on imports and exports																														
	5. Clean energy development: <ul style="list-style-type: none">• Generation from renewable sources of energy• Access to clean energy• Cost of energy• Reduction in energy dependence and energy intensity						Y				Y	Y				Y	Y		Y	Y	Y								Y		Y
	6. Mutual consent on: <ul style="list-style-type: none">• sharing the proceeds of CERs between project proponents• conflict related to the project between different stakeholders				Y			Y																							
	7. Effect on and encouragement of touristic and scenic activities																													Y	
	8. Cost-effectiveness of the project									Y										Y											
Technological	1. Contribution towards improvement of technologies		Y	Y	Y	Y		Y	Y			Y		Y	Y				Y		Y	Y		Y	Y				Y		
	Use of technologies that are: <ul style="list-style-type: none">• cleaner, more efficient and environment friendly• locally appropriate• best available, modern and proven (not obsolete, substandard)																														

CR	INDICATORS	REGIONS/ COUNTRIES																													
	2. Technological sustainability																														
	2.1 Indigenous technology development						Y	Y		Y		Y						Y						Y							
	2.2 Replication and demonstration potential of project									Y					Y									Y							
	2.3 Capacity and skill development/transfer of know-how						Y	Y			Y	Y			Y	Y							Y								
	2.4 Operational plan for the end of the project life (or the crediting period)						Y																								
	2.5 Degree of technological innovation of the project																							Y							
	2.6 A technical feasibility study/demonstration of prior experience with the technology																									Y					
	3. Technology transfer	Y										Y					Y				Y				Y			Y	Y		
	4. Implications of technology transfer on host-country										Y					Y															

Apart from these, some DNAs only indicate that their environmental criteria are in congruence with those required for the Environmental Impact Assessment (EIA) under their laws (Peru, Nicaragua).

Several DNAs give a special mention to the sustainability of resource use (Korea, India, Vietnam, Rwanda, Malaysia, Indonesia, Morocco, South Africa, Mauritius, Serbia, Georgia, Armenia, Uzbekistan and Thailand). Some mention specific resources (water usage, forests, non-renewable resources, ecological functions etc.), defined under the following heads:

- Efficiency/sustainability of resource usage
- Access of local community to resources
- Avoidance of resource degradation

DNAs of Kenya and Georgia consider the project to have a positive environmental benefit if the project contributes implementation of the countries obligation to other global conventions and agreements apart from those on change of climate.

Overall, it is observed that most DNAs rely on the environmental laws and standards set by national, provincial and local governments in deciding whether the project is contributing positively to the local environment.

Social Benefits: The impact that a CDM project has in improvement of the quality of life of the local community appears to be the most frequently used criteria (table 3). However, DNAs usually specify some indicators that would justify improvement of life of local communities by the project. These are:

- a. assisting in poverty alleviation through employment generation,
- b. ensuring no adverse effects on health,
- c. engaging in developmental activities to support the society,
- d. enhancing accessibility to public services, and
- e. promotion of local industry.

Among these as well, impact on human health and inclusion of developmental activities in the project appear most frequently. Indonesian and Zimbabwean DNAs ask for a documented procedure of adequate actions to be taken in order to prevent and manage possible accidents in the project boundary. Thai DNA requires submission of a management plan in compliance with the existing labor regulations to promote workers and nearby community health. If a project promotes better health for workers and the nearby community, it is given a higher positive scoring. Most DNAs consider involvement of the project in activities that enhance societal development as a social benefit. These activities include infrastructure creation, provision of healthcare and educational facilities, civic amenities etc. Poverty reduction is usually used interchangeably with local employment and income generation, hence does not appear that often.

The effective participation of the community in the project is also required by many DNAs, most of them requiring that the communities are involved throughout the project cycle- from consultation during project design and planning, to utilization of local resources and man-power

during project implementation (Mauritius, Zimbabwe, Indonesia, Kenya, Thailand, Serbia, Georgia, Armenia, Bolivia, Peru, El Salvador and Rwanda). DNA of Indonesia and Zimbabwe expect that the comments and complaints from local communities are taken into consideration and responded to in the process of project design. Peruvian DNA requires a written agreement between the project proponent and local communities/ a letter of consent from the communities to provide the LoA. Impact on the relocation of communities is also stressed by a few DNAs (South Africa and Rwanda).

DNAs also give impetus to the ability of the project to generate technical skills and knowledge in the local community (Thailand, Kenya, South Africa, Madagascar, Mauritius, Serbia, Georgia, Armenia, Uzbekistan, Rwanda, Senegal, Israel and Nicaragua). Additionally, the project should enhance social equity, especially in terms of gender and racial equality in employment generated (Bhutan, South Africa, India, Bolivia and Rwanda) DNA of Rwanda gives a lot of stress to rights of workers. Further, some DNAs also indicate the impact of the project on doing 'no harm' to the cultural heritage (Malaysia, South Africa, and Rwanda) and social harmony (Panama, Zimbabwe, Kenya, Malaysia) in the region as contribution to social benefits.

Finally, many DNAs also account for broader social benefits from the alignment of the project to provincial and national government objectives; local development priorities and specific sectoral objectives. Other broader social benefits that DNAs mention include awareness raising effect of project (Uzbekistan, Burundi), its role in enhancing the resilience of communities (Bolivia), and its possible linkages with the socio-economic development of other sectors and regions within the country (Brazil, Mexico).

Table 4 provides a summary of the most frequently used criteria by Designated National Authorities in the economic (and technological), environmental and social dimensions of sustainable development benefits of CDM projects.

Table 3: Summary of Sustainable Development Criteria in the environmental and social dimensions across regions and countries in the sample

CRITERIA	INDICATORS	REGIONS/ COUNTRIES																													
		ASIA PACIFIC							AFRICA									EUROPE AND CENTRAL AMERICA				MIDDLE EAST		LATIN AMERICA							
		Vietnam	Bhutan	India	Korea	Malaysia	Thailand	Indonesia	Kenya	Morocco	South Africa	Zimbabwe	Burundi	Madagascar	Mali	Mauritius	Rwanda	Senegal	Serbia	Georgia	Armenia	Uzbekistan	UAE	Israel	Brazil	Mexico	Bolivia	Peru	El Salvador	Panama	Nicaragua
Environmental	1. GHG emission reduction	Y	Y	Y	Y	Y	Y		Y	Y			Y	Y	Y	Y	Y		Y	Y				Y							
	2. Impact on environment: general	Y	Y					Y	Y			Y						Y				Y		Y	Y	Y			Y	Y	
	• Respect to environment												Y									Y									
	• Change in development practices with respect to environment												Y																		
	3. Impact on environment: specific																														
	• Impact on air, water and land resources	Y	Y	Y		Y	Y	Y			Y	Y				Y	Y		Y	Y	Y		Y		Y	Y	Y			Y	
	• Impact on solid waste generation or disposal	Y	Y		Y		Y				Y					Y				Y					Y	Y				Y	
	• Impact on marine environment					Y										Y									Y						
	• Impact on conservation/promotion of biodiversity (genetic, species and ecosystem) and ecosystems	Y		Y		Y	Y	Y		Y	Y	Y				Y	Y		Y	Y	Y		Y		Y	Y	Y			Y	
	• Not permitting genetic pollution											Y																			

IT ER	INDICATORS	REGIONS/ COUNTRIES																														
	<ul style="list-style-type: none">Improve green cover						Y																									
	4. Contribution to resource sustainability: <ul style="list-style-type: none">efficiency of resource usageaccess of local community to resourcesimpact on resource degradation			Y	Y			Y		Y	Y	Y					Y	Y		Y	Y	Y	Y	Y	Y				Y			Y
	5. Complying with existing land use planning							Y				Y																				
	6. Contribution of project to other global conventions and agreements (MDGs, biodiversity, desertification and etc.)								Y											Y												
	7. Other impacts (noise, safety, aesthetic, landscape, heat, odor and electromagnetic radiation)			Y	Y		Y				Y							Y				Y										Y

CRITERIA	INDICATORS	REGIONS/ COUNTRIES																													
		ASIA PACIFIC							AFRICA								EUROPE AND CENTRAL AMERICA				MIDDLE EAST		LATIN AMERICA								
		Vietnam	Bhutan	India	Korea	Malaysia	Thailand	Indonesia	Kenya	Morocco	South Africa	Zimbabwe	Burundi	Madagascar	Mali	Mauritius	Rwanda	Senegal	Serbia	Georgia	Armenia	Uzbekistan	UAE	Israel	Brazil	Mexico	Bolivia	Peru	El Salvador	Panama	Nicaragua
Social	1. Consistency with/ contribution to national, provincial and local development and sectoral priorities	Y		Y					Y	Y	Y		Y		Y			Y	Y	Y		Y				Y		Y			Y
	2. Quality of life of locals (e.g. health, poverty alleviation, labor conditions)	Y	Y	Y	Y	Y	Y	Y			Y		Y	Y		Y			Y	Y	Y	Y		Y	Y	Y	Y			Y	
	2.1 Poverty reduction	Y		Y					Y		Y				Y	Y			Y							Y	Y				
	2.2 Impact on human health: • health of community in the project area • occupational health and safety measures	Y		Y	Y		Y	Y			Y				Y	Y			Y			Y			Y		Y			Y	
	2.3 Inclusion of developmental activities to support the society: (Healthcare, public infrastructure, civic amenities etc.)			Y			Y				Y				Y	Y			Y					Y	Y	Y			Y		
	2.4 Accessibility of local public services				Y			Y			Y	Y				Y				Y						y					

CR	INDICATORS	REGIONS/ COUNTRIES																												
	2.5 Promotion of local industries										Y					Y														
	3. Effective public/ community participation in project design, planning and implementation						Y	Y	Y		Y				Y	Y		Y	Y	Y						Y	Y	Y		
	4. Capacity /skill/ knowledge development						Y		Y		Y			Y	Y	Y	Y	Y	Y	Y			Y							Y
	5. Removal of social disparities		Y	Y						Y																Y				
	6. Maintaining social harmony in the region				Y			Y			Y																		Y	
	7. Preservation of local culture/ heritage					Y				Y						Y										Y			Y	
	8. Relocation of communities									Y						Y													Y	
	9. Enhancing public awareness (On climate change, use of resources)											Y									Y									
	10. Contribution to regional integration and linkages with other sectors (within the country)																								Y	Y				
	11. Reduction of natural disaster risks, increase of the resilience to climate change and of capacities for adaptation																									Y				
	12. Support for CSR activities															Y														

Table 4: Summary of most frequently used criteria by Designated National Authorities in the economic (and technological), environmental and social dimensions of sustainable development benefits of CDM projects

Most frequently used criteria by DNAs	
I. To assess economic(and technological) benefits of CDM projects	
1.	Additional investment generated
2.	Employment generation
2.1	Number of jobs created for the local community: <ul style="list-style-type: none"> i. within the project activity ii. in the area
2.2	Quality of jobs created
3.	Income generation
4.	Contribution to sustainability of balance of payments by its: <ul style="list-style-type: none"> i. Impact on foreign exchange requirements ii. Impact on FDI iii. Contribution to macro-economic sustainability iv. Impact on imports and exports
5.	Clean energy development: <ul style="list-style-type: none"> i. Generation from renewable sources of energy ii. Access to clean energy iii. Cost of energy iv. Reduction in energy dependence and energy intensity
6.	Contribution towards improvement of technologies Use of technologies that are: <ul style="list-style-type: none"> i. cleaner, more efficient and environment friendly ii. locally appropriate iii. best available, modern and proven (not obsolete, substandard)
II. To assess environmental benefits of CDM projects	
1.	GHG emission reduction
2.	Impact on environment
3.	Impact on air, water and land resources
4.	Impact on solid waste generation or disposal
5.	Impact on conservation/promotion of biodiversity (genetic, species and ecosystem) and ecosystems
6.	Contribution to resource sustainability: <ul style="list-style-type: none"> i. efficiency of resource usage ii. access of local community to resources iii. impact on resource degradation

III. To assess social benefits of CDM projects	
1.	Quality of life of locals
1.1	Poverty reduction
1.2	Impact on human health: <ul style="list-style-type: none"> i. Health of the community in the project area ii. Occupational health and safety measures
1.3	Inclusion of developmental activities to support the society
1.4	Accessibility of local public services
1.5	Promotion of local industries
2.	Effective public/ community participation in project design, planning and implementation
3.	Capacity /skill/ knowledge development
4.	Consistency with/ contribution to national, provincial and local development and sectoral priorities

4. Procedures for Issuing Letter of Approval (LoA)

The procedures for granting letter of approval (LoA) differ variedly from country to country and so does the institutional setup of the DNA. However, most of the DNAs have a requirement of review of the project by technical and sectoral experts or relevant ministries (if required) to issue the final letter of approval to CDM project developers. China, for example, requires an independent review by technical and sectoral experts on the project's feasibility and impacts. Malaysia, on the other hand, has a mandatory requirement of an approval by a Technical Committee of CDM (TCCDM), which does technical evaluation of the projects design and submits its recommendations to a National Committee on CDM (NCCDM), which provides assistance to DNA on CDM policy issues.

Almost all countries have representation from key ministries in the approval process. Their role is to review and evaluate the project and provide support to the DNA in its decision making. In Kenya, interestingly, there is a National CDM Clearing House (NCH), with representation from public and private sector representatives, institutions, civil society and academia.

Most DNAs decide the compliance of the project with sustainable development priorities of the country keeping the designated sustainable development indicators as a reference. Usually the project is not expected to fulfill all the criteria/ indicators but describe the ones that they will be fulfilling. However, some countries do specify this information. For instance, DNA of Thailand, which has developed a method of scoring for each indicator under a defined set of criteria for all the three dimensions of SD (social, economic and environmental), mentions that a project needs to have a positive total score for all indicators mentioned in the project and the total score for each sectoral indicator positive. Indonesian DNA approves a project only when the project

passes all the individual indicators that are applicable to the project. Supporting qualitative and quantitative data is required for justification of fulfillment of the criteria.

The DNA of Rwanda organizes its sustainable development criteria in four categories: fundamental principles, environmental good practice, social aspects and economic benefits. Within these categories, there are “mandatory criteria” and “other relevant criteria.” In order to receive a Letter of Approval, the project developer must demonstrate that all of the mandatory criteria are met. In addition, in the sustainable development checklist, at least one “other relevant criterion” from two of the three remaining categories – environmental good practice, social aspects and economic benefits is met.

Some DNAs incorporate certain special checks to ensure sustainable development is fulfilled. For example, South African, Brazilian and Malaysian DNA expect the PDDs to be validated by a DOE before submission for host country approval. The Rwandan DNA expects an updated sustainable development checklist demonstrating how the sustainable development criteria are being met once the project is operating, each time a verification of the project is conducted. Chinese government levies a tax from CDM projects viz. 2% tax on CERs from priority areas, 31% for N₂O projects and 65% for HFCs and PFCs. These revenues are redirected to sustainable development activities through a CDM Fund. CDM Fund offers grants and investments. While the grants are provided to support activities in climate-related capacity building and promotion of public awareness, investments mainly support industrial activities contributing to addressing climate change (CDM fund, 2012). The Indian DNA requires project proponents of large scale CDM projects to earmark 2% of annual CER revenue for sustainable development activities. A monitorable action plan for the use of this revenue is to be provided in the Project Concept Note (PCN). The PCN template has been recently revised with a detailed set of sustainable development indicators under the four categories of economic, social, technological and environmental well-being and detailed requirements for stakeholder consultation (DNA India, 2012).

While there seems to be an increasing trend for proactive involvement of DNAs in the approval process of CDM projects, limited capacity and resources constrain many DNAs for taking appropriate action. The online assessment also reveals that many countries do not have a DNA website. Previous studies (Arens et. al 2009) mention that the absence of a DNA website can function as a barrier for investors and can be a sign that these DNAs do not actively promote CDM within the host country. However, the lack of financial resources and capacity issues of such DNAs also need to be considered.

Table 5: Innovative approaches for DNA to assess sustainable development benefits

Country	Innovative approaches by DNAs ⁸
Peru	It visits the area affected by the project to understand the environmental and social impacts of the project. The report of the field visit is an important input into the process of evaluating the project. Additionally, the Project proponent needs to provide documents to prove that the communities accept the CDM project's implementation in that area ⁹ .
Rwanda	Projects proponents are required to submit an updated sustainable development checklist each time the verification of the project is conducted, demonstrating how the sustainable development criteria are being met once the project is operating.
India	For large scale projects, the project proponents are required to submit a monitorable action plan for large scale CDM projects earmarking 2% of annual CER revenue for sustainable development activities in the PCN. Recently, the DNA has come up with a proforma which requires the project proponent to provide details of activities in their projects that will provide sustainable development benefits.
Thailand, Philippines ¹⁰ , Georgia	These DNAs have developed a method of scoring the sustainable development indicators for Host Country approval.
Thailand	Thai DNA has a certification system in place called "Crown Standard" for giving incentive for Thai projects to contribute more to social and environmental dimensions of sustainable development. The project which receives the Crown standard has a lesser approval fee and a greater chance of obtaining the Gold Standard.
China	The government levies a tax from CDM projects, the percentage of tax depending on the project type. These revenues are redirected to sustainable development activities through a CDM Fund.
Kenya and Malaysia	DNAs give a list of priority sectors for CDM projects in their host country.

⁸ Note: This is not an exhaustive listing, rather examples taken up from the sample in the study

⁹ The documents could be certificates of communal arrangements, social reports and agreements signed between project proponents and the community

¹⁰ Personal communication with Grant Kirkmann (UNFCCC)

5. Insights from Literature

There is a dearth of literature specifically targeting the sustainability criteria employed by DNAs, with analysis of DNA practices and their sustainability criteria usually being a subsection of a larger study, done on a limited sample of countries. Olsen and Fenhann (2008) in their study on sustainable development benefits conducted a review of the approval processes of 8 largest DNAs viz. India, China, Brazil, Morocco, Mexico, South Africa and Armenia conclude that most DNAs use a checklist approach for establishment of SD criteria. Pointing towards the weaknesses in the approval processes of these DNAs, the authors state that none of the countries require any monitoring of the sustainable development benefits to verify that the benefits are 'real and measurable'. They criticize the current process of approval by stating that sustainable development is not included in the assessment of Designated Operational Entities (DOEs) during verification and it is not a requirement at the international or national level that sustainable development benefits are actually realized. Boyd et al. (2009) raise questions on the whether the DNAs address the issue of accountability of project proponents in ensuring sustainable development benefits. Sterk et al. (2009) do a comparative analysis of conventional CDM projects with Gold Standard (GS) projects from 6 countries i.e. India, Panama, Bolivia, El Salvador, Nicaragua and Brazil. The authors conclude that the procedures and criteria of Panama and Nicaragua are well developed with detailed stakeholder consultations and stress on safeguarding approach. India exemplifies some good as well as bad projects in terms of sustainable development benefits to communities. It was suggested that a stringent stakeholder consultation requirement by DNA would help in improvement of the anomaly. Brazilian procedures were concluded to be satisfactory but have room for flexible interpretation. Bolivian indicators are said to be 'theoretically well-developed' while El Salvadoran lack specific parameters in the formulation of criteria. Overall, the study concludes that there is requirement for further clarity in the SD criteria of DNAs and more detailed stakeholder consultation procedures. Arens et. al (2011) studied the potential of CDM in 11 selected LDCs in sub-Saharan Africa: Burkina Faso, Democratic Republic Congo, Ethiopia, Malawi, Mali, Mozambique, Rwanda, Senegal, Tanzania, Uganda and Zambia. They found that only 3 of the eleven countries studied have a DNA website and pointed that absence of a DNA website can function as a barrier for investors and can be a sign that these DNAs do not actively promote the CDM within the host country.

6. Insights from Stakeholder Interactions and Survey of DNAs

The issue of sustainable development criteria and the role of DNAs have been raised in some occasions during the stakeholder consultation conducted by the CDM policy dialogue¹¹. The

¹¹ The consultations reports that have discussions on sustainable development criteria and role of DNAs include Tokyo Consultations (10-11th May 2012), Africa Carbon Forum (18th-20th April 2012) and consultations with African stakeholders (4th July 2012), Asia Consultation (7th-8th June 2012) , Joint

key observations that emerge from stakeholder consultations conducted by the Policy Dialogue are as follows:

- i. The current system, in which countries set their own sustainable development definitions and criteria, should remain - in order to ensure country specific indicators that are aligned with local socio-economic conditions and respect national sovereignty. The EB or secretariat could, however, assist in developing some voluntary guidelines for countries in requirement of assistance, especially in quantifying SD impacts.
- ii. DNAs need to have a more continuous role in the CDM process with additional powers in the CDM project cycle to ensure sustainable development. Many participants thought that the role of DNA should be expanded to include monitoring the CDM project activity post approval.
- iii. Need for further strengthening the capacity of DNAs (especially in Africa)

Some solutions were also suggested during various consultations (Tokyo Consultation, Africa Carbon Forum, Asia Consultation, Joint Coordination Workshop, Meetings with negotiating blocks during Bonn negotiation sessions).

These are enlisted below:

- Providing DNAs power to withdraw letter of approval
- Embedding sustainable development criteria in the project verification stage.
- Enhancing dialogue between DNAs to share ideas on best practices, sustainable development criteria, etc.
- Monitoring of sustainable development benefits by the host countries.
- Need for improved communication between the Secretariat and DNAs
- More stringent LoA issuance process

A need for monitoring of sustainable development benefits was raised in most consultations. Many stakeholders felt that CDM should be operational at the national level and DNAs should become more involved in the CDM process to ensure higher accountability. Some stakeholders suggested that if the DNA is not satisfied about a project meeting its sustainable development goals, it should be able to exercise its authority based on its own M&E systems, or request the EB to designate a DOE to crosscheck it and upon receipt of DOE report de-register the project. However, while stakeholders mentioned that a monitoring system was important to measure the sustainable development benefits from a project, some stakeholders questioned the usefulness of such a system. They have argued that while a greater scrutiny on sustainable development was important, a more rigorous system might be counter-productive and drive the market prices down. Others feared that incorporating SD criteria into the verification

Coordination Workshop (15th-18th May 2012), Meetings with negotiating blocks during Bonn negotiation sessions (May 2012), Meeting with DNAs and NGOs during DNA forum (22nd-23rd March 2012).

process would increase the transaction costs further (note: transaction costs are the biggest concerns expressed during consultations in Africa) which will send wrong signals to the already dwindling market.

In the online survey of DNAs conducted by UNFCCC secretariat from 29th April 2012 till 15th May 2012, responding countries indicated that monitoring was usually not done during the project implementation apart from for projects which require an EIA. However, the South African DNA mentioned that it compiles an Annual CDM Status in South Africa to monitor the sustainable development impact of projects. On the issue of having standardized sustainable development criteria, 4 of the 9 Non-Annex I DNAs who responded to the survey reject the idea, while 3 responded that determining SD should remain the decision of the host country, but some generic guidelines may be provided to assist countries who require it.

Conclusions

The DNAs are empowered under the Kyoto Protocol to assess the contribution of a CDM project to the sustainable development goals of their country. Countries define their sustainable development criteria in congruence with their national priorities. Broadly, most countries define their criteria under the social, economic and environmental dimensions. The institutional setup of the DNA and the procedures employed for granting letter of approval (LoA) differ from country to country. At present, the degree of detail in which the criteria are articulated by countries range from providing a simple listing of criteria/indicators to quantitative assessment by prescribing scoring to indicators.

The project design document and/or the project concept note along with relevant clearances are the key documents to assess the degree of compliance of a project with sustainable development priorities of the country. Such assessment is done keeping the designated sustainable development indicators as a reference. Most of the DNAs have a requirement of review of the projects by technical and sectoral experts and/or relevant ministries in the assessment. Some DNAs also employ special checks to determine contribution of project to sustainable development.

References

Literature:

Arens C, Burian M, Sterk W, Schnurr J, Beuermann C, Blank D, Kapor Z, Kreibich N, Mersmann F, Burtscher A, Schwann S. 2011 "The CDM Project Potential in Sub-Saharan Africa with Focus on Selected Least Developed Countries". Wuppertal Institute

Boyd E., Hultman N, Roberts J.T, Corbera E, Cole J, Bozmoski A, Ebeling J, Tippman R, Mann P, Brown K and Liverman D.M. 2009. "Reforming the CDM for sustainable development: lessons learned and policy futures". Environmental Science and Policy pp. 820-831

Marrakech Accords. 2001. Date of access: June 2012 http://unfccc.int/cop7/documents/accords_draft.pdf

Hans Curtius - Tobias Vorlaufer. 2009." The contribution of the CDM to sustainable development in China: A case study of the emerging biogas sector".

Olsen K.H and Fenhann J. 2008. "Sustainable development benefits of Clean Development Mechanism projects: A new methodology of sustainability assessment based on text analysis of project design documents submitted for validation", Energy Policy 36 pp. 2819-2830.

Sterk W, Rudolf F, Arens C, Eichhorst U, Kiyar D, Helmreich HW Swiderski M. 2009, "Further Development of the Project-Based Mechanisms in a Post-2012 Regime". Wuppertal Institute

UNFCCC. 2011. "Benefits of Clean Development Mechanism". United Nations Framework Convention on Climate Change

Websites:

CDM Fund, China. Accessed in May 2012

<http://www.cdmfund.org/en/index.aspx>

Capacity Building, DNA India. Accessed in June 2012,

http://www.cdmindia.in/capacity_building.php

DNA Armenia, Ministry of Nature Protection, Accessed on May 2012

http://www.nature-ic.am/en/Projects_Approval_Criteria

DNA Azerbaijan, Climate Change and Ozone Center, Ministry of Ecology and Natural Resources, Accessed in May 2012

<http://www.eco.gov.az/en/ozon-esasname.php>

DNA Bolivia, Vice-Ministry of Natural Resources and Environment, Accessed in May 2012

<http://www.mmaya.gob.bo/webpncc/biblio/guia%20de%20presentacion%20para%20proyectos%20MDL.pdf>

DNA Bhutan, National Environment Commission, Accessed in June 2012

<http://www.nec.gov.bt/climate/cdm/Draft%20CDM%20&%20VER%20Toolkit.pdf>

DNA Brazil, Ministério da Ciência, Tecnologia e Inovação, Accessed in May 2012

<http://www.mct.gov.br/index.php/content/view/323893.html?execview=>

DNA China, National Development and Reform Commission of the People's Republic of China, Accessed in May 2012

<http://cdm.ccchina.gov.cn/english/NewsInfo.asp?NewsId=905>

DNA Columbia, Ministry of Housing and Territorial Development, Accessed in May 2012

<http://www.minambiente.gov.co//contenido/contenido.aspx?catID=1266&conID=7716&pagID=9091>

DNA Democratic Republic of the Congo, Ministère de l'Environnement, Conservation de la Nature et Tourisme, Accessed in June 2012

http://www.mecnt.cd/index.php?option=com_content&view=article&id=163&Itemid=300092

DNA Egypt, Egyptian Environment Affairs Agency, Accessed in May 2012

<http://www.cdm-egypt.org/>

DNA Ethiopia, Environmental Protection Authority (EPA), Accessed in June 2012

<http://www.epa.gov.et/contactEPA.htm>

DNA Georgia, Ministry of Environment Protection and Natural Resources, Accessed in May 2012

http://moe.gov.ge/index.php?sec_id=123&lang_id=ENG

DNA India, Ministry of Environment and Forests, Accessed in May 2012

http://envfor.nic.in/cdm/host_approval_criteria.htm

DNA Indonesia, National Committee on CDM: Carbon Trading Division, Accessed in May 2012

<http://pasarkarbon.dnpi.go.id/web/index.php/dnacdm/cat/5/sustainable-development-criteria-.html>

DNA Iran, Department of Environment, Accessed in May 2012

<http://www.climate-change.ir/en/>

DNA Israel, Ministry of Environment Protection, Accessed in May 2012

<http://sviva.gov.il/error.htm>

DNA Kenya, National Environment Management Authority, Accessed in May 2012

<http://www.nema.go.ke/>

DNA Lebanon, Ministry of Environment, Accessed in May 2012

<http://www.moe.gov.lb/home.aspx?lang=ar-lb>

DNA Malaysia, Ministry of Natural Resources and Environment, Accessed in May 2012

<http://www.nre.gov.my/Environment/Documents/CDM%20Handbook%202nd%20edition.pdf>

DNA Mexico, Interministerial Commission on Climate Change (Comisión Intersecretarial de Cambio Climático), Accessed on May 2012

http://www.cambioclimatico.gob.mx/index.php?option=com_content&view=article&id=70&lang=en

DNA Morocco, Secrétariat d'Etat chargé de l'Eau et de l'Environnement, Accessed in May 2012

<http://www.cdm-morocco.ma>

DNA Panama, Accessed in June 2012

<http://www.anam.gob.pa/>

DNA Peru, Ministry of Environment (ministerio del ambiente), Accessed in June 2012

<http://www.fonamperu.org/general/mdl/aprobacion.php>

DNA Rwanda, Environmental Affairs Department, Accessed in June 2012

http://www.rema.gov.rw/dna/index.php?option=com_content&view=article&id=64&Itemid=74

DNA South Africa, Department of Energy, Accessed in May 2012

http://www.energy.gov.za/files/esources/kyoto/kyoto_frame.html

DNA Senegal, Direction de l'Environnement et des Etablissements Classés, Accessed in June 2012

<http://www.jo.gouv.sn/spip.php?article5278>

DNA Serbia, Ministry of Environment and Spatial Planning, Accessed in May 2012

http://www.ekoplan.gov.rs/DNA/index_en.html

DNA Tanzania, Division of Environment, Vice-President's Office, Accessed in June 2012

<http://www.dnatanzania.go.tz/index.php?link=19>

DNA Thailand, Thailand Greenhouse Gas Management Organization, Accessed in May 2012

http://www.tgo.or.th/english/index.php?option=com_content&view=category&id=27:approval-process&Itemid=45&layout=default

DNA Uganda, Ministry of Water and Environment, Accessed in May 2012

<http://ccu.go.ug/>

DNA United Arab Emirates, Environment Agency - Abu Dhabi, Accessed in May 2012

<http://www.cdm-uae.ae/portal/dev.criteria.aspx>

DNA Uzbekistan, Ministry of Economy of the Republic of Uzbekistan, Accessed in May 2012

http://mineconomy.uz/cdm/files/Resolution_9_2007_eng.pdf

DNA Vietnam, Ministry of Natural Resources and Environment of Vietnam, Accessed in May 2012

http://www.noccop.org.vn/images/article/Viet%20Nam%20CDM%20Pipeline_a43.pdf

DNA Zambia, Climate Change Facilitation Unit, Ministry of Tourism, Environment and Natural Resources, Accessed in June 2012

<http://www.ccfu.org.zm/index.php/documentation>

ANNEXURE

Annexure I: Information available from websites of DNAs

Region	Country	DNA	Does the website exist? (Yes or No)	SD criteria published in the website	URL
Latin America					
	Brazil	Ministério da Ciência, Tecnologia e Inovação	Yes	Yes	http://www.mct.gov.br/index.php/content/view/323893.html?execview=
	Mexico	Interministerial Commission on Climate Change (Comisión Intersecretarial de Cambio Climático)	Yes	Yes	http://www.cambioclimatico.gob.mx/index.php?option=com_content&view=article&id=70&lang=en
	Chile	Ministry of Environment of Chile	No	No	-
	Colombia	Ministry of Housing and Territorial Development	Yes	Yes	http://www.minambiente.gov.co//contenido/contenido.aspx?catID=1266&conID=7716&pagID=9091
Europe and Central America					
	Cyprus	Ministry of Agriculture, Natural Resources and Environment	No	-	-
	Moldova	Ministry of Environment and Natural Resources	No	-	-
	Uzbekistan	Ministry of Economy of the Republic of Uzbekistan	Yes	Yes	http://mineconomy.uz/cdm/files/Resolution_9_2007_eng.pdf
	Albania	Climate Change unit, Ministry of Environment, Forests and Water administration	No	No	-

	Armenia	Ministry of Nature Protection	Yes	Yes	http://www.nature-ic.am/en/Projects_Approval_Criteria
	Azerbaijan	Climate Change And Ozone Center, Ministry of Ecology and Natural Resources	Mention of the Centre at the Ministry website	No	http://www.eco.gov.az/en/ozon-esasname.php
	Georgia	Ministry of Environment Protection and Natural Resources	Yes	Yes	http://moe.gov.ge/index.php?sec_id=123&lang_id=ENG
	Serbia	Ministry of Environment and Spatial Planning	Yes	Yes	http://www.ekoplan.gov.rs/DNA/index_en.html
Africa					
	Kenya	National Environment Management Authority	Yes	Yes	http://www.nema.go.ke/
	South Africa	Department of Energy	Yes	Yes	http://www.energy.gov.za/files/esources/kyoto/kyoto_frame.html
	Egypt	Egyptian Environment Affairs Agency	Website URL not working	-	http://www.cdm-egypt.org/
	Morocco	Secrétariat d'Etat chargé de l'Eau et de l'Environnement	Yes	Yes	http://www.cdmmorocco.ma
	Nigeria	Federal Ministry of Environment	Yes	Just a mention of CDM	
	Uganda	Ministry of Water and Environment	Yes	No details	http://ccu.go.ug/
Middle East					
	United Arab Emirates	Environment Agency - Abu Dhabi	Yes	SD decision making tree on website	http://www.cdm-uae.ae/portal/dev.criteria.aspx
	Iran	Department of Environment	Yes	No	http://www.climate-change.ir/en/
	Israel	Ministry of Environment Protection	Yes	No	http://sviva.gov.il/error.htm
	Lebanon	Ministry of Environment	Yes	No	http://www.moe.gov.lb/home.aspx?lang=ar-lb
	Syria	Ministry of State for Environment Affairs	No	-	-

Asia and Pacific					
	China	National Development and Reform Commission of the People's Republic of China	Yes	Information not accessible	http://cdm.ccchina.gov.cn/english/NewsInfo.asp?NewsId=905
	India	Ministry of Environment and Forests	Yes	Yes	http://envfor.nic.in/cdm/host_approval_criteria.htm
	Malaysia	Ministry of Natural Resources and Environment	Yes	Yes	http://www.nre.gov.my/Environment/Documents/CDM%20Handbook%202nd%20edition.pdf
	Vietnam	Ministry of Natural Resources and Environment of Vietnam	Yes	Yes	http://www.nocccop.org.vn/images/article/Viet%20Nam%20CDM%20Pipeline_a43.pdf
	Thailand	Thailand Greenhouse Gas Management Organization	Yes	Yes	http://www.tgo.or.th/english/index.php?option=com_content&view=category&id=27:approval-process&Itemid=45&layout=default
	Indonesia	National Committee on CDM: Carbon Trading Division	Yes	Yes	http://pasarkarbon.dnpi.go.id/web/index.php/dnacdm/cat/5/sustainable-development-criteria-.html

Color coding:

	Countries whose SD criteria were available on their DNA websites
	Countries whose website is not accessible (language issues, site not working etc.
	Countries who either do not have websites or their SD criteria are not web-hosted
	Countries cited in literature

Countries from Literature				
Country	DNA	Does the website exist? (Yes or No)	SD criteria published in the website	URL
Bolivia	Vice-ministry of Natural Resources and Environment	Yes	Yes	http://www.mmaya.gob.bo/webpncc/biblio/guia%20de%20presentacion%20para%20proyectos%20MDL.pdf
Panama		Yes	Yes, but language issues	http://www.anam.gob.pa/
Peru	Ministry of Environment (ministerio del ambiente)	Yes	Yes	http://www.fonamperu.org/general/mdl/aprobacion.php
Senegal	Direction de l'Environnement et des Etablissements Classés	Yes	Yes	http://www.jo.gouv.sn/spip.php?article5278
Tanzania	Division of Environment, Vice-President's Office	Yes	Site not accessible	http://www.dnatanzania.go.tz/index.php?link=19
Ethiopia	Environmental Protection Authority (EPA)	Yes	Site not accessible	http://www.epa.gov.et/contactEPA.htm
Rwanda	Environmental Affairs Department	Yes	Yes	http://www.rema.gov.rw/dna/index.php?option=com_content&view=article&id=64&Itemid=74
Malawi	Environmental Affairs Department		No: site not functional	http://www.eadmw.org/index.html
Mozambique	Ministério para a Coordenação da Acção Ambiental (MICOA)	No	-	-
Burkina Faso	Secrétariat Permanent du Conseil National pour l'Environnement et le Développement Durable	No	-	-
Zambia	Climate Change Facilitation Unit, Ministry of Tourism, Environment and Natural Resources	Yes	Yes (but could not be opened)	http://www.ccfu.org.zm/index.php/documentation
Democratic Republic of the Congo	Ministère de l'Environnement, Conservation de la Nature et Tourisme	Yes	Language issues	http://www.mecnt.cd/index.php?option=com_content&view=article&id=163&Itemid=300092
Bhutan	National Environment Commission	Yes	Yes	http://www.nec.gov.bt/climate/cdm/Draft%20CDM%20&%20VER%20Toolkit.pdf

Annexure II: Questionnaire for Designated National Authorities (DNAs)¹²

Sustainable Development

1. Is there any operational definition of “sustainable development” in your host country?
2. What criteria and process does your country currently uses to determine whether a CDM project contributes to its sustainable development?
3. What evidence is there that indicates contribution to sustainable development from CDM projects? Are there any specific indicators used in your assessment?
4. What concerns have been raised about the sustainable development impact of the CDM? How could these be addressed?
5. Should a more standardized set of criteria for sustainable development be adopted?

¹² The questionnaire had questions on the 3 areas of research of the panel i.e. Future Context, Governance; and Impact of CDM (including specific questions on sustainable development, regional distribution and stakeholder consultations). The present study has only used information from questions on sustainable development.

