

Satoguina, Honorat

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Mapping Sustainability Preferences of West African Economic and Monetary Union. Case Study: Benin, Burkina Faso and Niger

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**Mapping Sustainability
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Economic and Monetary Union.
Case Study:
Benin, Burkina Faso and Niger**

Honorat Satoguina

HWWA DISCUSSION PAPER

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Hamburgisches Welt-Wirtschafts-Archiv (HWWA)
Hamburg Institute of International Economics
Neuer Jungfernstieg 21 - 20347 Hamburg, Germany
Telefon: 040/428 34 355
Telefax: 040/428 34 451
e-mail: hwwa@hwwa.de
Internet: <http://www.hwwa.de>

The HWWA is a member of:

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HWWA Discussion Paper

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Honorat Satoguina

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<http://www.hwwa.de>

Hamburg Institute of International Economics (HWWA)
Neuer Jungfernstieg 21 - 20347 Hamburg, Germany
e-mail: hwwa@hwwa.de

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Mapping Sustainability Preferences of West African Economic and Monetary Union. Case Study: Benin, Burkina Faso and Niger

Abstract

This study discusses the concept of sustainability, in particular with respect to the CDM. In addition, based on cross-section interviews, the sustainability criteria for CDM projects in energy sectors in the studied countries are determined. These criteria could serve as a starting point for discussing and designing sustainable development criteria in the West African Economic and Monetary Union. Moreover, issues related to the location of Designated National Authorities (DNA) and their funding are investigated. Stakeholders prefer a multi-institutional DNA, and support government co-funding of DNAs.

As the studied countries lack the means to fund DNAs, we suggested the concept of a regional CDM approval body as discussed in Discussion Paper 352. This paper shows that countries' stakeholders advocate such a concept.

Keywords: Sustainable Development, Sustainability criteria, stakeholder behaviour, Cross-sectional interview.

JEL classification: C80, C82, D74, L31, L32, Q01

Address for correspondence:

Honorat Satoguina
Programme International Climate Policy
Hamburg Institute of International Economics
Neuer Jungfernstieg 21, 20347 Hamburg
Germany
Phone: +4940 42834 349
Fax: +4940 42834 451
honorat.satoguina@hwwa.de , until 31. 12. 06 and after: hsatoguina@hotmail.com

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1 INTRODUCTION

The Clean Development Mechanism (CDM) is supposed to assist developing countries in achieving sustainable development (UNFCCC 1997). However, as each country is subject to different circumstances, the definition of criteria should take country-specific development programs into consideration. These criteria have to be selected by national stakeholders. As this selection has not yet taken place in the countries studied here (UNIDO 2006), we conducted a cross-sectional interview with stakeholders involved in the CDM process at a national level and determined potential sustainability criteria. In addition, a number of issues relating to the CDM have been investigated, including the location of Designated National Authorities, funding of DNAs, etc.

Traditionally, national climate change focal point.¹ Is placed under the responsibility of a country's environment ministry. Furthermore, it has been suggested to use the climate change focal point as DNA in small countries with very low CDM potential (Michaelowa 2003b). Past experience in countries with more CDM activities has revealed that focal points are not able to professionally run the DNA. To overcome this hurdle to CDM project development, we do not need sporadic capacity building events, but rather a capacity building programme that provides stakeholders with required skills and increases CDM awareness, especially within the private sector. This is likely to take place when countries opt for the regional approval body option, which might be cost-efficient. For these reasons, we hypothesise that:

Hypothesis 1 (H1): The stakeholders in the studied countries will reject the use of climate change focal points as a DNA (a single institution DNA).

As the regional approval body will be centralised at regional level, some stakeholders might advocate the national DNA for sovereignty reasons. Hence, there is a concern about the acceptance of the regional body. Thus, we expect that:

¹ A national climate change focal point is a committee which coordinates climate change issues at national level. It is the direct correspondent of the UNFCCC secretariat.

Hypothesis 2 (H2): The stakeholders will reject the option of a regional approval body.

Hence, section 2 presents the concept of sustainability and interviewees' understanding. Sustainability criteria are defined in section 3. In addition, there is no consensus in the literature on sustainability assessment methodology. Therefore, host countries' stakeholder preferences regarding sustainability criteria, sustainability assessment methodology, as well as issues of DNAs' funding, location of DNAs, priority CDM sectors and the degree of acceptance of the concept of a regional approval body for the CDM are investigated in section 4. Concluding words and recommendations are presented in section 5.

2 SUSTAINABILITY CONCEPT

Sustainability concerns generally the potential for some acceptable state of human well-being to be maintained over time. In the literature one could find more than five thousand definitions of sustainability, with each attempting to define the same term using a different approach. In practice two approaches are adopted by researchers in this field to deal with the concept of sustainable development. In the first approach the majority of the researchers use the term "sustainable development" but fail to define what it really means. The second approach is to define sustainable development, using the point of departure from the Brundtland Commission's definition of sustainable development – "development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (United Nations 1987). This definition is broad enough and generally accepted. Several partisans of this definition tried to break it down to an even finer level, by the following definition: A sustainable state is one in which natural capital stocks are non-declining over time or a sustainable state is one in which resources are managed so as to maintain a sustainable yield of resource services (Pearman et al., 2003a, b). Under these two definitions it is difficult to claim that ensuring ecosystem stability and resilience is an economic objective per se. Nevertheless, the conservation of the ecosystem and resources appears to be a very important focus in the environmental policies of different countries.

Discussing sustainable development in industrialised countries, one could understand it as the maintenance of actual development levels and the guarantee of the same level or a better level for future generations, while in the developing countries one is confronted with the question: should we maintain poverty and guarantee development for the generations to come? Hence, it becomes difficult to involve people from developing countries in the sustainable development discussion. The development for the present generation is top priority and all development for future generations becomes too complicated and of secondary importance to them. What is frequently heard is “how can we be concerned about the survival of future generations when we have to live and satisfy our needs today?” (Davidson et al., 2003; 2006). These different positions in developing countries and industrialised countries have led to serious opposition in the sustainable development discussion. Hence, in the climate change negotiations, where the effects of investments in climate-friendly activities are discussed, the same future impacts are denounced by developing countries. However, although the policy makers in developing countries might perceive that climate change is a problem that will only manifest in the long term, climate change is already being shown to have an impact (IPCC, 2001a, b). Moreover, the criticism by the developing countries that their actual development needs will be sacrificed has been addressed: “the extent to which developing country parties will effectively implement their commitments under the Convention (...) will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country parties” (UNFCCC, Article 4.7). In addition, since priorities of each country are different, countries rank and weigh differently the various criteria of sustainable development, so that it is difficult to achieve a set of standardised criteria that satisfies all countries in the first place. To address this issue, each country should define criteria that measure sustainability in its context (UNFCCC Article 10). For instance, a host country should certify that a CDM project meets its sustainable development goals (Art 12 Kyoto Protocol).

In the context of the studied countries, the question was: what are the sustainable development priorities and criteria? None of the countries has a definite sustainable

development definition, or a list of sustainable development criteria.² Sustainable development is present in the jargon of all stakeholders but without a clear definition. The notion is vague and turns around, inter alia, rehabilitation of the most productive and cultivable areas by focusing on the prevention of soil degradation and bush fires, and encouraging reforestation. For the areas with erratic and low rainfall, where success or failure of the growing season depends on the timing of soil and crop management, searching for more suitable crop varieties, precision management of resources and implementation of weather information-based systems are stressed. Altogether, the sustainable development activities concern the present (Davidson et al., 2003; Davidson and Conteh 2006). One could say that the implementation of the sustainable development notion in the countries neglects the future concern but stays in line with the way developing countries in Africa interpret sustainable development.

In the absence of a clear sustainability definition in the countries, one could base sustainability criteria definition on the difference between conventional development and sustainable development concept. Hence, in contrast to sustainable development, the process of growth and development traditionally requires any system to pay attention to a number of properties that constitute the basic conditions of its viability (Bossel 1999). Hence, factors that distinguish sustainable development from traditional development cover every aspect of pollution control, nature conservation, resource depletion, social welfare, education, employment and waste management.

In the following section, we attempt to define sustainable development criteria.

3 DEFINITION OF SUSTAINABILITY CRITERIA

In this section only sustainability criteria definition will be discussed. Sustainability assessment at project level will be addressed in chapter 7.

² This is so, even though the countries have an agenda 21 and have participated in the world summit on sustainable development (UN 2002). General reference is made to Poverty Reduction Strategy Paper (PRSP), National programme for environmental administration, Millennium Development Goals (MDGs), etc. (UNIDO 2006).

The national and regional development priorities, objectives and circumstances are to be determined by the parties themselves (Kyoto Protocol, Article 10). These provisions give the host country a high degree of influence on the type of projects selected, the identification of indicators for sustainable development, as well as the need for clarity and consensus on the definition of what an indicator is and what it is trying to measure. Multiple dimensions of sustainable development have to be selected and incorporated in an operational framework (von Meyer 2000, Meadows 1998). Sustainable development should be analysed in a system of criteria that assesses what Meadows calls “Orientors” in order to transcend current disciplinary and conceptual boundaries (see also Clayton et al., 1996, OECD 2001):

- Existence: the system must be compatible with and able to exist in its normal environmental state.
- Effectiveness: the system should on balance be effective in its efforts to secure scarce resources
- Freedom of action: the system must have the ability to cope in various ways with the challenges posed by its environmental variety.
- Adaptability: the system must be able to generate appropriate responses to challenges posed by its environment change.
- Co-existence: the system must be able to modify its behaviour to account for behaviour and interests of other systems in its environment.

To operationalise this framework, it is necessary to identify a set of indicators that can provide unambiguous information on how projects perform in each of the above-mentioned sustainability dimensions. Several indicators could represent each dimension and, furthermore, their selection is influenced by subjective criteria, because the choice of indicators arises from values (Meadows 1998). At such a general level, consensus is easily reached. But the concept of sustainability can hide disagreements between groups of different stakeholders. The variety of different viewpoints and their discussion become apparent when the concept is transferred onto a more specific and concrete level. On this specific level, there is no generally agreed definition for sustainability

(Farrell et al., 1998). This is due to the fact that the definition formulated by the Brundtland report leaves room for different, normative, and value-laden interpretations depending on the geographical area and the party that is implementing the concept. Meadows (1998) and Wiesman (1998) suggest the “Daly Triangle”, which relates natural capital to ultimate human purpose through technology, economics, politics and ethics. Indicators are supposed to measure the above categories. In addition, Wiesman (1995) differentiates two levels of analysis in his model to conceptualise sustainable development. The “Wirkungsfokus” (focus of impact) refers to the physical process and impact of activities, whereas the “Wertungsfokus” (focus of valuation) is related to the respective valuation and weighting by the society. Hence, the definition and selection of the sustainability criteria are based on a set of subjective values and human preferences, especially those of the concerned stakeholders involved in the definition and assessment process. The next section deals with sustainability criteria definition and selection in case study countries and discusses the other results of the country surveys.

4 STUDIED COUNTRIES

This section presents the sustainable development criteria for CDM projects in Benin, Burkina Faso and Niger. Due to political problems that did not permit entry into this country, Togos’ case has not been explored.

The criteria sets have been developed through surveys from key stakeholders in each country. As the countries do not have their own set of criteria, the criteria from most studies on sustainability of the CDM project (UNEP 2005b, Banuri 2000; Anagnostopoulos, Flamos et al. 2004; SouthSouthNorth 2004; Sutter 2003; Begg et al., 2003; Kolshus et al., 2002; Huq 2002) are used as a starting point to derive sustainability criteria for the studied countries. Theoretically, a large number of criteria can be used to assess projects with respect to their contribution to sustainable development. In practice, the set of criteria has to be restricted to a manageable number. Extensive and complex criteria could lead to high sustainable development verification costs and consequently, can make the CDM less attractive. (Kolshus et al., 2000). Hence, about 38 indicators are gathered from the most important studies and could

generally be used as a starting point to develop a national set of criteria. In total, 13 indicators have been selected based on the current economic, social and climate concerns in the countries (see Table in Appendix 1). The participants have to assign weights to 13 indicators spread over three criteria: economic, social and environment. The second part of the questionnaire asked the participants to select out of four common assessment methodologies the sustainability assessment methodology that they believe to be most suitable for their country. The four methodologies are: *Guidelines*, *checklists*, *negotiated targets* and *multi-criteria methodologies*. The third part of the questionnaire requested participants to select from a set of possible CDM projects the one that they deem the most suitable for their countries, while the fourth part asked for the most suitable national institutions that will administrate the CDM national authority. Finally, the fifth part took the perception of the participants regarding the concept of a regional CDM approval body as an option to reduce CDM transaction costs (see Appendix 2 for the questionnaire design).

As CDM awareness is extremely low in all surveyed countries, persons surveyed are mainly those who have been involved in climate change focal points' activities in their country, and who used to participate in CDM-related meetings. Hence, the number of persons interviewed is limited: 12 persons in Benin and 13 each in Burkina Faso and Niger. The interviewees are from government ministries, academia, NGOs and business. All of them have more than 15 years in their own field of work but have relatively recent experience with the CDM except the focal points. Nonetheless, they are the main experts that will make decisions as far as sustainability criteria definition is concerned. Since the respective governments do not have official sustainability criteria, as such, the responses they gave during the survey are their own opinions and do not represent the views of their respective governments. Due to the limited number of interviewees, the interviewer does not claim that the group of interviewee represents a larger group in a statistically justified manner. The group is not legitimated through statistical sampling methods and cannot be analyzed using advanced methods.³ Therefore, it does not represent the statistical average of a large population. Nevertheless, it represents all people at the national level that are currently involved in

³ Such as random sampling and regression analysis

the CDM discussion and will be responsible for the sustainable development criteria design for CDM projects at the country level. They are thus likely to be *politically legitimated*. In this case, the interviewees represent 100% of the group considered. An aggregated value of each criterion has been computed by taking the geometrical mean value of the sample, in order to reflect the influence of each group of weights in the aggregation.

The interviewees were given a semi-opened questionnaire in advance by the climate change focal point, before it called them for a meeting during which they received additional information from the interviewer. Those who were unable to attend the meeting were interviewed later in their office. During the meeting, the interviewees submitted the filled questionnaires after receiving complementary explanations. Hence it is assumed that they answered in a way that reflected their true position on an issue and their answers are thus unbiased. Since the questionnaires have been filled individually, there has been no group influence on interviewees.

4.1 Direct weighting

The participants had to distribute weights to the different questions by assigning between 1 to 5 points:

1. Not important
2. Weakly important
3. Neutral
4. Highly important
5. Very important

Therefore, even though the survey data is collected qualitatively, the weights are numerically attributed and lead to quantitative values that allow comparison between stakeholders' preferences. The relative distribution of important weights depends on the

decision makers' individual preferences. It shows how a particular decision maker conceptualises sustainable development. Hence, a set of weighted sustainability criteria maps the sustainability preferences of a participant (or of a group when aggregated). The joint weighting of criteria is represented by the geometrical average of the individual preferences. The more the average is nearer to the maximum weight, the more important the criteria. Since the score of 3 points is neutral, the research suggests that all questions that a score at least 4 points is a threshold to show support for a criterion.

In addition, since too many sustainability criteria reduce CDM projects' competitiveness for a host country, the research suggests that the first 5 most important criteria will represent the sustainability set of criteria for each country. In addition, the three most important CDM project sectors will be examined and the CDM authority location that received the highest score will be adopted.

The results of the surveys are presented in the following after a short description of the stakeholders in each country.

4.2 Benin

The sustainable development notion appeared in the political arena at the beginning of the 90's. So far there have been a few related operations. One could argue that politicians stress sustainable development in their development programs mainly because it is a requirement of international funding donors. In the practice, actions are limited to short-term activities.

4.2.1 Benin and the CDM

Benin's total GHG emissions for 1995 were 8 Mt CO₂-eq (IEPF 2004a, b), with the agriculture sector contributing about 70% of the total emissions, followed by LULUCF with about 27%, energy with 2% and industry and wastes with less than 1% respectively (UNFCCC 2002).

4.2.2 Institutions and stakeholders involved in the CDM process

- Government

In Benin the Ministry of the Environment is responsible for the administration of matters relating to the UNFCCC. Under this department, the climate change focal point coordinates issues related to the climate change across departments. Officially a DNA was notified to the UNFCCC secretariat, but in the practice the DNA is yet to be built. There are about 10 to 12 people from different ministries who, together with NGOs and academia, are foreseen to be the DNA members.

- Academia

The National University of Abomey-Calavi, the main university of the country, is slightly involved in CDM-related activities. Academics are more or less informed about the CDM either by participating in international conferences where CDM is a part of the program or through the media. Although there have been several lectures on climate change held on the campus, none of them focused on the Kyoto mechanisms.

- Industry/labour

The Chamber of commerce is involved in the National Climate Fund, but the members are not informed about the Kyoto protocol and its mechanisms.

- NGOs

Several NGOs are active in different climate change areas. But none of them are specifically working on the CDM. Moreover, the NGOs are not specialised. One of their revenue maximisation strategies is to diversify the activity as soon as they are informed about new funding opportunities outside their current activities. Nonetheless, the NGO specialisation discussion is going on (Sohinto 2005).

4.2.3 Host country approval

Until now Benin does not have a set of approval criteria for CDM projects (UNIDO 2006). The sustainability criteria mapping through this survey was the first opportunity for stakeholders to discuss sustainable development criteria in the CDM context.

4.2.4 Sustainability mapping in Benin

- Participants

The sustainability preferences selection was conducted among key stakeholders who are involved in the CDM discussion in Benin. The stakeholders were distinguished according to their field of activity: government, academia, private sector and NGOs. As the private sector in Benin is not involved in the CDM discussion, they could not properly answer the question. Therefore, they have not been interviewed. Table 1 below presents the participants.

Table 1: Participants by sector

Participant by sector	Number	Gender
Government	5	1 female, 4 males
Academia	4	1 female , 3 males
NGO	3	3 males
Total	12	

Source: Own table.

Clearly, although the participant number is low females are involved. All participants have a positive perception of the CDM.

- **Result**

From table 2 below, it is obvious that none of the criteria received the maximum weight of 5 points. Only the two environmental criteria have scored above the threshold of 4 points with the lowest standard deviation. The results are graphically presented in figure 1.

According to the selection procedure adopted by this research, Benin republic will theoretically have two important criteria. Since the first 5 criteria above the threshold are supposed to form the sustainability criteria set, it will be interesting to know why only two criteria are selected in Benin Republic. For this reason, the different stakeholders' choice will be analysed. The following figure 2 shows the choice distribution among stakeholders in Benin republic.

From figure 2, it is obvious that:

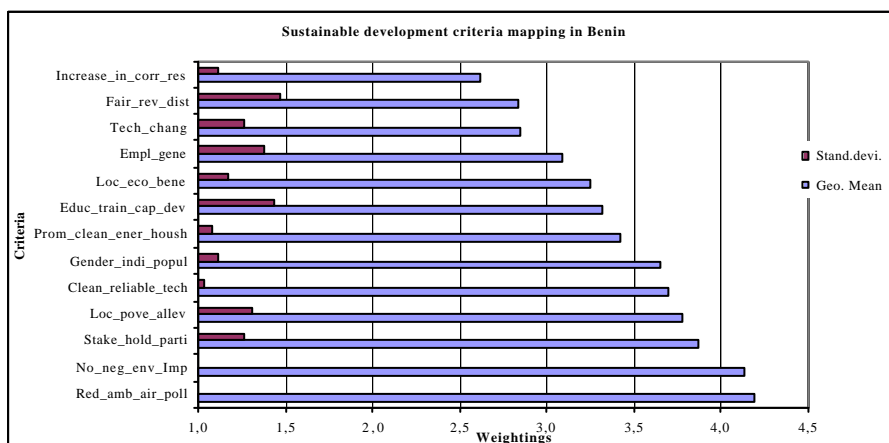
- The government representatives would have selected nearly five criteria, such as “no negative environmental impact”, “reduction of ambient air pollution”, “local poverty alleviation”, “stakeholder participation” and “gender/indigenous population”.
- The university representatives would prefer only two criteria such as “no negative environmental impact” and “reduction of ambient air pollution”.
- The NGOs selected five criteria such as “reduction of ambient air pollution”, “local poverty alleviation”, “stakeholder participation”, “local economic benefits”, “education/training and capacity development”.

Table 2: Average weights of criteria in Benin

Criteria	Aggregated weights
Environment	
Reduction of ambient air pollution	4,2
No negative environmental impacts	4,1
Economic	
Clean and reliable technologies	3,7
Local economic benefit	3,2
Employment generation	3,1
Technological change	2,9
Fair revenue distribution between stakeholders	2,8
Increase in currency reserve	2,6
Social	
Stakeholder participation	3,9
Local poverty alleviation	3,8
Gender/indigenous population	3,7
Promotion of clean energy for households	3,4
Education, training, capacity development	3,3
Approval Institutions	
CDM multi-institution secretariat and NGOs	3,9
Environment Ministry	2,3
Energy Ministry	2,0
Agency for direct foreign investment	1,6
Economic and finance Ministry	1,4
CDM secretariat under the direction of the President	1,4

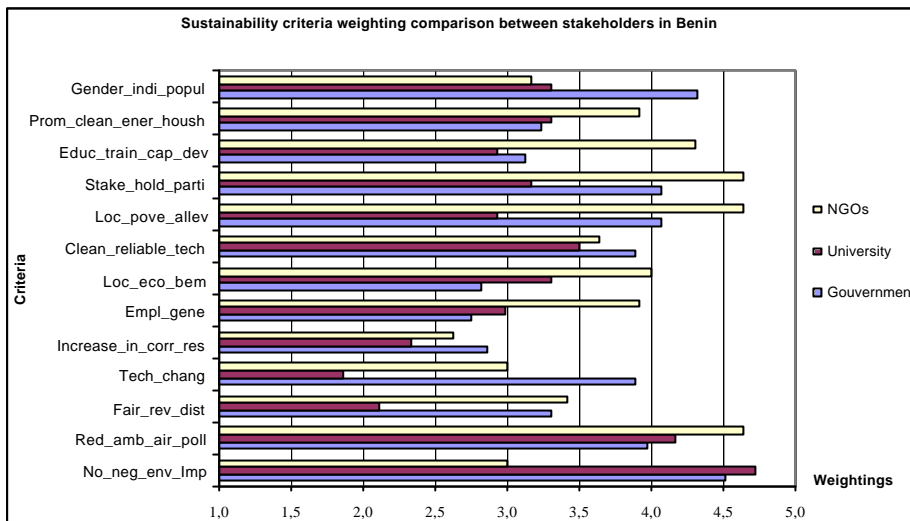
Source: Survey results in Benin republic, 2005.

Figure 1: Mapping sustainable development criteria in Benin



Source: Own figure.

Figure 2: Sustainability criteria weighting comparison between stakeholders



Source: Own figure.

Accronyms used in charts are derived from criteria in table 2.

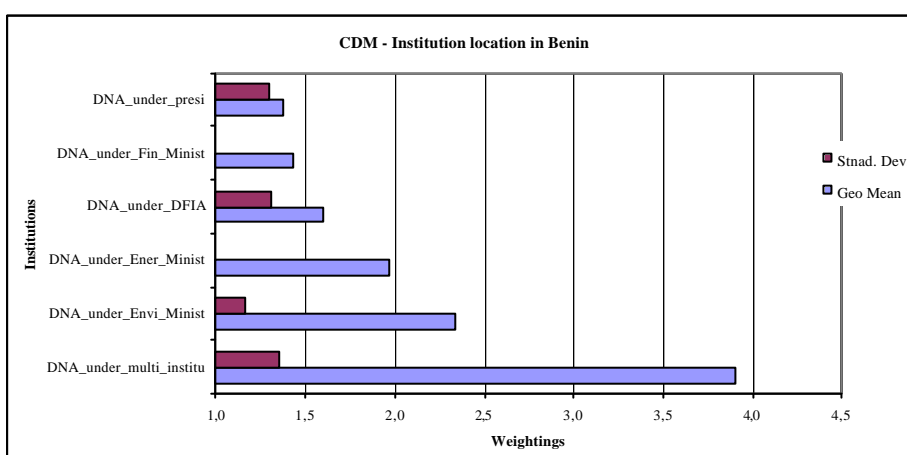
Obviously, the academia selected only 2 criteria out of 13, while the government and NGOs both selected 5 criteria even though these are not the same criteria. The difference between government’s and NGOs’ selection lies in 2 criteria. While the government selected “no negative environmental impact” and “gender/indigenous population”, NGOs preferred local economic benefits, and “education/training and capacity development”. These two differences could be explained in such a way that, first, as the government receives frequently criticisms that stakeholders’ participation in decision making in projects is not enough, they stress “gender/indigenous population”. Second, since the CDM concerns climate change, one would expect all stakeholders to stress the two environmental criteria.

Regarding the DNA location, the results are presented in figure 3. None of the criteria scored the threshold of 4. Nonetheless, the multi-institutional secretariat received the highest score. Since no clear decision was made, it made sense to understand how the different stakeholders groups decided on their preferences. In figure 4 the stakeholders’ preferences are analysed. Only the government expressed a clear preference for a multi-

institutional administration for the CDM. The university and NGOs did not give preference to any of the options. How could these results be interpreted?

As far as the government’s choice is concerned, their preference for a multi-institutional option could be explained in such a way that the government would like to show it is in favour of involving stakeholders as a response to the criticisms of it monopolising climate change issues. As for NGOs and the university, their rejection of all the options indicated their disagreement with the government climate policy and the way it was administrated. Moreover, they argue that a conflict of interest could lead to a delay in decision making at such a multi-institution level. Nonetheless, they preferred it to the other options.

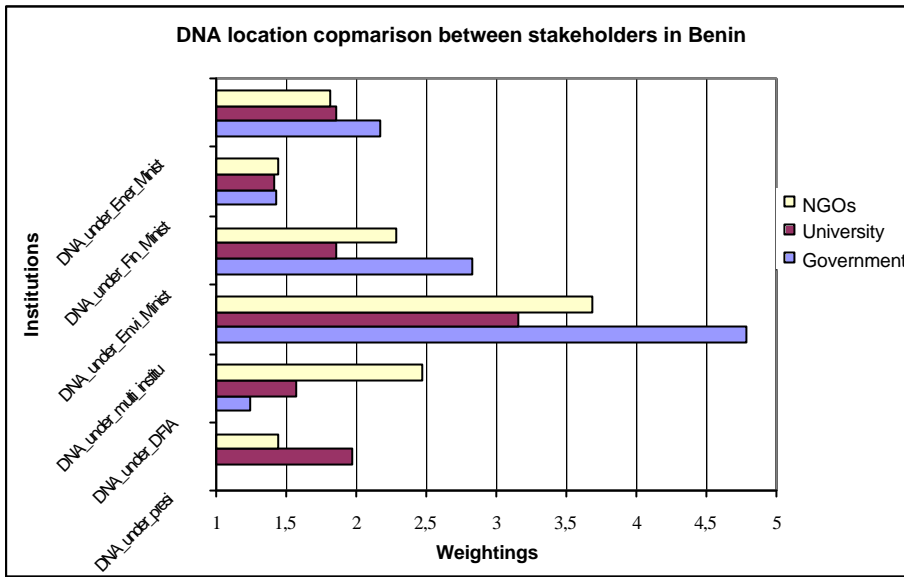
Figure 3: CDM institution location in Benin



.Source: Own figure.

Obviously none of the options should be selected, but based on the fact that first, international donor organisations and the CDM Secretariat are supporting stakeholders’ participation and second, that the first best score of the survey is the multi-institutions’ option, the research suggests that the *DNA under the option of a multi-institution and NGOs* should be selected. This result rejects hypothesis H1.

Figure 4: DNA location preference



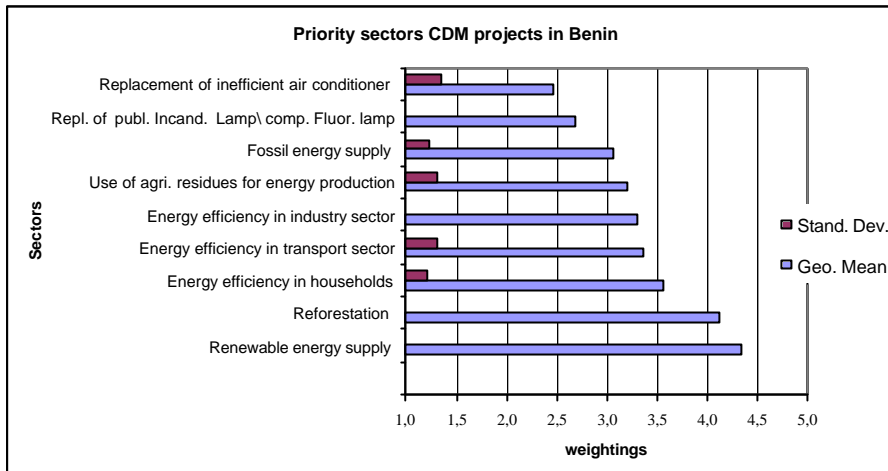
Source: Own Figure.

4.2.6 Most important CDM project sectors

As for the most important prospective CDM projects to implement, the results are summarised in the chart 5 below, where 2 project categories out of the 10 reached the threshold of 4 points.

Renewable energy supply appears to be the most preferred project category followed by reforestation projects. The two projects which scored the least points are replacement of inefficient air conditioners and replacement of public incandescent lamps by compact fluorescent lamps. The low importance of the energy efficiency projects is due to the fact that air conditioners are not used by the majority of the population. Most of the time, it is the administration and hotels which are equipped with air conditioners. It is also rare that households are equipped. As for public lighting, the evaluators do not think it is a main source of energy consumption.

Figure 5: Priority sectors for CDM projects



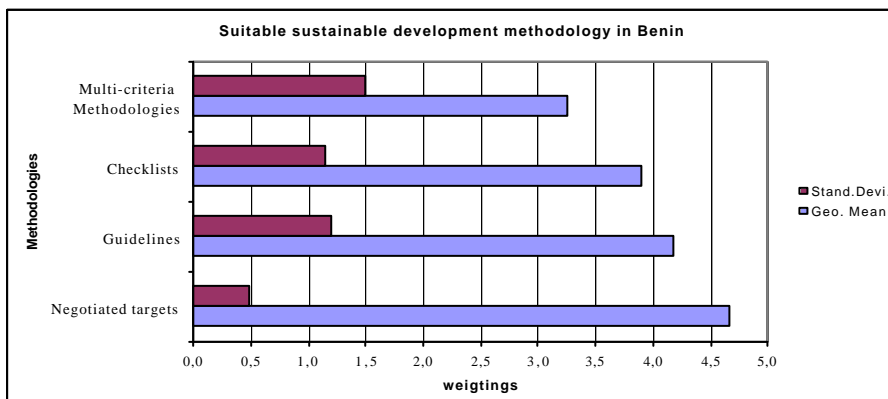
Source: Own figure.

After CDM projects priority sectors have been selected and a suitable CDM institution appointed, this institution needs a methodology to assess CDM projects by means of a sustainability score.

4.2.7 Sustainability assessment methodology

As far as the sustainability assessment methodology of a CDM project is concerned, the results are presented in figure 6 below. It is obvious that two the methodologies are above the threshold of 4, such as negotiated targets and guidelines. Multi-criteria methodologies are the least preferred.

Figure 6: Sustainability assessment methodology in Benin



Source: Own figure.

This is due the fact that multi-criteria assessment methods are introduced in the most local development projects and most of the time, people encounter problems in implementing them due to reasons like data availability. Although the stakeholders recognise the advantages, they prefer negotiated targets because it is an occasion for project developers and stakeholders to agree on realistic projects' outcomes.

An institution could not function without funds. The experiences of DNAs that rely on international funding show their difficulties in carrying out their work. Hence, the stakeholders' opinions are asked about the DNA funding and a possible solution to overcome financial difficulties. The results are presented in the following section

4.2.8 DNA funding and the regional approval body concept

The result of the DNA funding issue is shown in table 3. 75% of the participants view it as the role of the government and external funding institutions. In addition, 100% of the participants in Benin republic agreed on a regional DNA concept. This rejects hypothesis H2.

Table 3: DNA funding and regional approval option

Financing the DNA	Results
Government	75% No
Funding institutions	92% No
Government and funding institutions	75% Yes
Regional approval option	
Advocate for the WAEMU option	100% Yes

Source: Own table.

4.3 Burkina Faso

4.3.1 Burkina Faso and the CDM

Burkina Faso's total GHG emissions for 1999 were about 5 Mt CO₂-eq emissions (IEPF 2004), with agriculture and forestry covering 70%, energy 20% and waste 7%. (UNFCCC, 2002a).

4.3.2 Institutions and stakeholders involved in the CDM process

- Government

In Burkina Faso the Ministry of the Environment, like in Benin, is responsible for the administration of matters relating to the UNFCCC. Under this department, the climate change focal point coordinates issues related to the climate change across departments. Officially, a DNA was notified to the UNFCCC secretariat, but in the practice it is yet to be built. About 10 to 15 people from different ministries, together with NGOs and academia, are foreseen to be members of the DNA.

- Academia

The National University of Ouagadougou is highly involved in CDM-related activities. There are environmental courses conducted on the campus. The academics in economics, physics and chemistry are more informed about the CDM than their colleagues in Benin Republic. This is due to the fact that Burkina Faso hosted international conferences on the CDM. Nonetheless, none of the academics are really researching on the CDM. The academics confirmed that they had been involved by the climate change focal point. Although there are several climate change-related lessons held on the campus, none of them focuses on the Kyoto mechanisms.

- Industry/labour

In contrast to Benin Republic, the Chamber of commerce in Burkina Faso is well involved in the CDM process. They appreciate the mechanism as such and want to be more informed so that they could play a role. The financial institutions are willing to examine every new financing operation.

- NGOs

Several NGOs are active in different climate change areas. They are more informed and involved than their counterparts in Benin Republic. There are existing energy and forestry NGOs that examine how CDM projects could bring about some additional benefits. But none of them are specially working on the CDM. The NGOs have fewer activity sectors than in Benin. Specialisation issue is known, but there is no immediate solution.

4.3.3 Host country approval

The climate change focal point in Burkina Faso is preparing a CDM approval procedure (UNIDO 2006). Since the document is not yet approved by the government, it is considered as a confidential document.

4.3.4 Sustainability mapping in Burkina Faso

- Participants

The sustainability preferences selection was conducted among key stakeholders who are involved in the CDM discussion in Burkina Faso. The stakeholders were distinguished according to their field of activity: government, academia, private sector and NGOs. The survey is supplemented with a questionnaire filled in by government representatives during a face-to-face interview and they have the possibility to ask questions. Table 4 below presents the participants. All participants have a very positive perception of the CDM.

Table 4: Participant by sector

Participant by sector	Number	Gender
Government	5	0 female, 5 males
Academia	2	0 female, 2 males
NGO	3	0 female, 3 males
Chamber of commerce	3	0 female, 3 males
Total	13	

Source: Own table.

- **Results**

The results of the surveys in Burkina Faso are presented in table 5. 6 criteria out of the 13 scored the threshold of 4: two environmental criteria, one economic criterion and three social criteria. The results are visualised in the figure 7 below on sustainability criteria. The most preferred criteria are stakeholder participation followed by reduction of ambient pollutants, technological changes, no negative environmental impacts, capacity building and gender/indigenous participation. The least important criterion is “increase in currency reserve”. The fifth and the sixth criteria have the same score such as, capacity building and gender/ indigenous participation. Hence, desired criteria in

Burkina Faso are 6. But according to the procedures adopted by this research, 5 criteria will be selected.

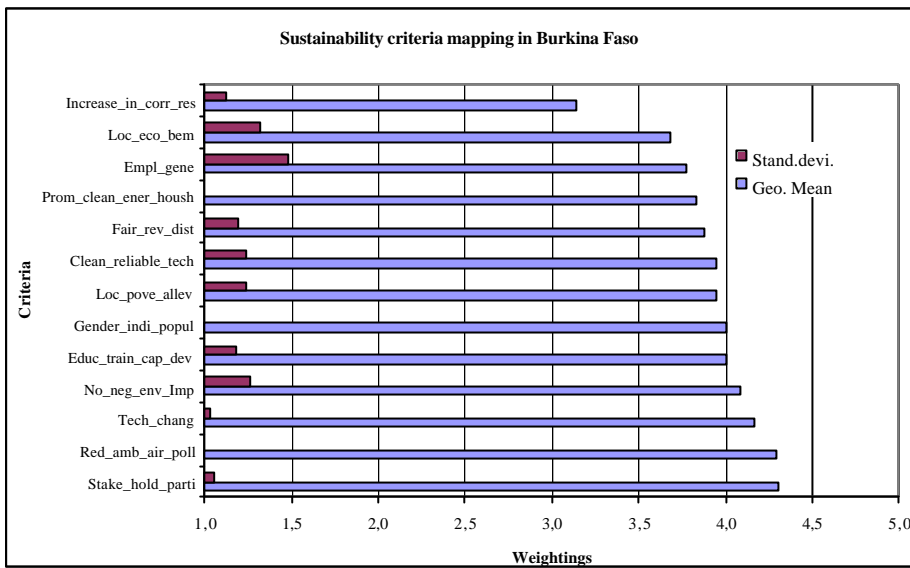
Hence, one criterion should be removed. Since both the fifth and sixth criteria are social criteria, one could advocate for capacity building which is indispensable for stakeholders to participate in the CDM activities. The important sustainability criteria in Burkina Faso are presented in table 11 below.

Table 5: Average weights of criteria in Burkina Faso

Environment	Aggregated weights
Reduction of ambient air pollution	4,3
No negative environmental impacts	4,1
Economic	
Technological change	4,2
Clean and reliable technologies	3,9
Fair revenue distribution between stakeholders	3,9
Employment generation	3,8
Local economic benefit	3,7
Increase in currency reserve	3,1
Social	
Stakeholder participation	4,3
Education, training, capacity development	4,0
Gender/indigenous population	4,0
Local poverty alleviation	3,9
Promotion of clean energy for households	3,8
Approval Institutions	
CDM multi-institution secretariat and NGOs	3,4
CDM secretariat under the direction of the President	2,9
Ministry of the Environment	2,6
Agency for direct foreign investment	2,5
Energy Ministry	2,3
Economic and finance Ministry	1,9

Source: Own table.

Figure 7: Mapping sustainable development criteria in Burkina Faso



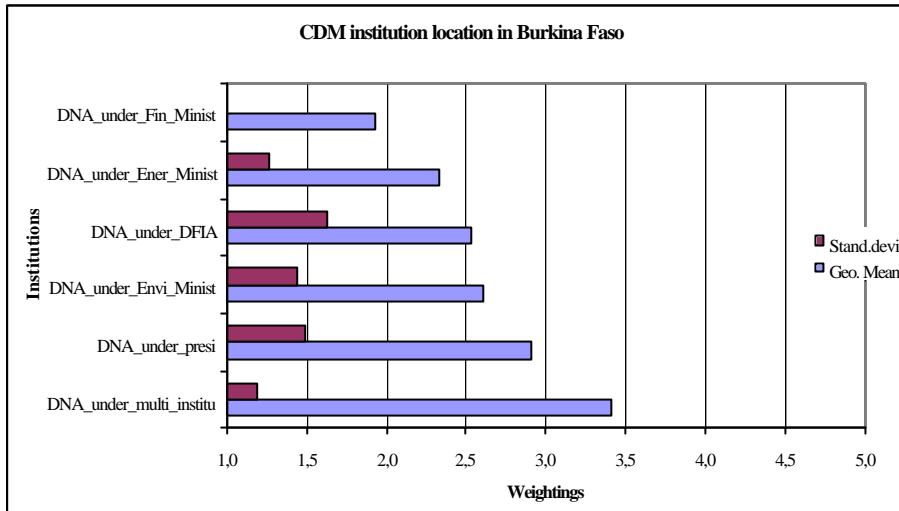
Source: Own figure.

4.3.5 DNA location

Regarding DNA location, the results are presented in figure 8 below. None of the 6 options received the stakeholders' preference. In this case, an analysis of the decisions at each stakeholders' group level could help understand the different choices before an option is selected. The stakeholders' choice analysis is presented in figure 9. Government representatives and the representatives of the Chamber of commerce did not give marks above the threshold for any of the 6 options. The university representatives are in favour of a Direct Foreign Investment Agency (DFIA), while the NGOs are in favour of a DNA under a multi-institutional agency. One needs to recall that in Burkina Faso, the climate focal point is under the Ministry of the Environment and the different stakeholders agreed on the fact that they are fully involved in the CDM process. It is surprising that the stakeholders are not in favour of even the option of a DNA under the Ministry of the Environment. This could be explained by the fact that in the past ten years, the environment program in the developing countries received funding supports from international funding institutions and all would naturally like to administer this budget. Hence, the result could be interpreted as an expression of a

conflict of interests between the stakeholders, even within the government’s representatives.⁴

Figure 8: DNA location preference



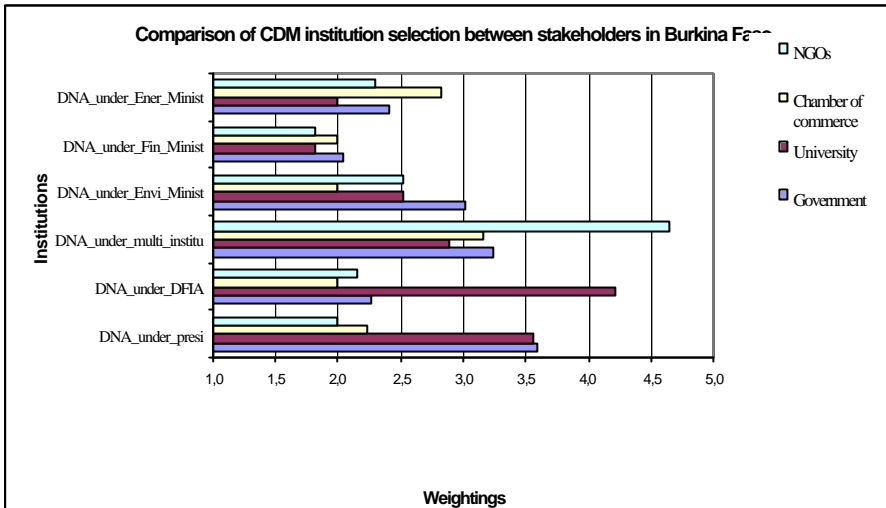
Source: Own figure.

The University prefers the DFIA option probably because most of the time, international agencies require qualified people that the university will probably provide, since the government does not have any control on the procedures to engage experts or working people. As far as the NGOs position is concerned, their support for a multi-institutional option is in line with their position that the national issues must be administrated by a group of stakeholders with different skills. As for the Chamber of commerce representatives, like the government representatives, they are not in favour of any of the options. They have two representatives of opposing positions. While one representative supports a DNA under the Ministry of the Environment, the other is in favour of a DNA under the direction of the president of the republic. Probably, the private sectors’ representatives are aware of the prospective interest the CDM might bring to them, but they do not really know which institution will better support them. Altogether, the conflict of interests probably does not permit a clear selection of a suitable institution for the CDM in Burkina Faso. Nonetheless, the multi-institutional

⁴ Two out of the five government’s representatives are against the Ministry of the Environment’s option.

option received the highest score when considering all stakeholders together. This result confirms hypothesis H1 of the research.

Figure 9: Stakeholders' preference on DNA location



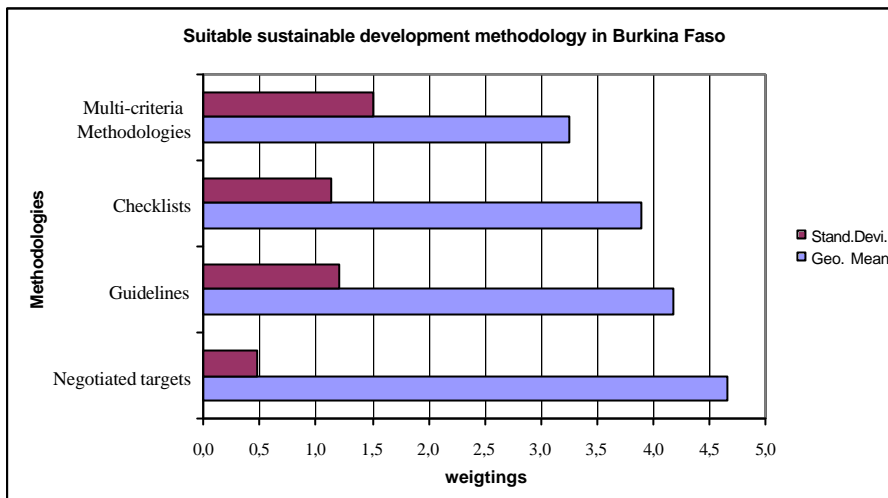
Source: Own figure.

4.3.6 Sustainability assessment methodology

From figure 10, it is obvious that guidelines and negotiated targets scored above the threshold of 4. But negotiated targets are the most preferred while multi-criteria methodologies are least preferred. This is due the fact that most of the participants felt that with negotiated targets, it is possible to discuss directly about what one needs, while the multi-criteria methodologies are difficult to implement, time consuming and data is not always available. Since *negotiated targets* is the most preferred option, it represents the sustainability assessment methodology in Burkina Faso. This methodology will serve as the assessment basis for CDM projects.

These two representatives are totally at the opposite end of the other three who are in favour of the option.

Figure 10: Sustainability assessment methodology in Burkina Faso

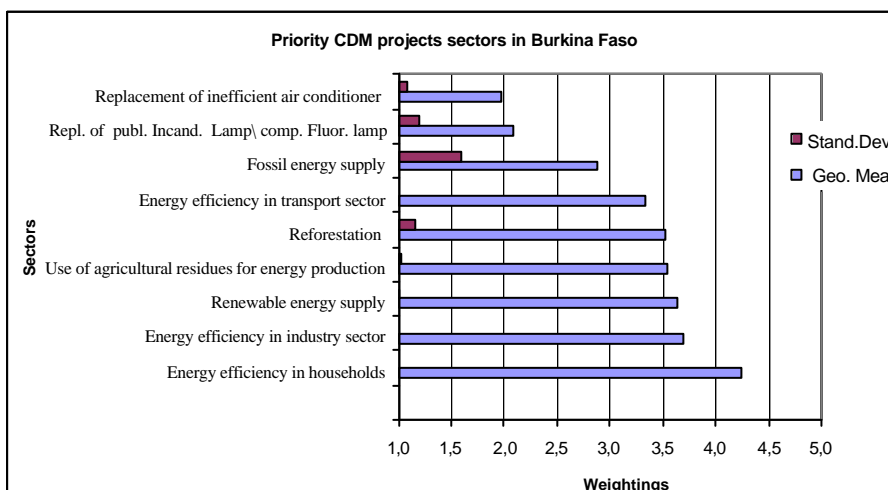


Source: Own figure.

4.3.7 Most important CDM projects

As for the most important prospective CDM projects sector in Burkina Faso, the results are summarised in figure 11 below. Only energy efficiency in households scored above the threshold. The low importance of the two energy efficiency projects is due to the fact that air conditioners are not used by the majority of the population.

Figure 11: Priority sectors for CDM projects



Source: Own Figure.

4.3.8 DNA funding and the regional approval body concept

The result of the survey is shown in table 6. 100% of the participants see DNA financing as the role of the government and external funding institutions. In addition, 92% of the participants agreed on a regional DNA concept. This rejects hypothesis H2. The participants that are against the regional DNA concept argue that countries are sovereign and it is not the role of the WAEMU to host a DNA.

Table 6: DNA funding and the regional approval option

Financing the DNA	
Government	77% No
Funding institutions	85% No
Government and Funding institutions	100% Yes
Regional approval option	
Advocate for the WAEMU option	92% Yes

Source: Own table.

4.4 Niger

4.4.1 Niger and the CDM

Niger's total GHG emission is about 9 Mt CO₂-eq. Forestry contributes about 70%, agriculture 20%, the energy sector about 10%, and industrial process and wastes respectively less than 1% (UNFCCC 2002a).

4.4.2 Institutions and stakeholders involved in the CDM process

- Government

In Niger the premier minister cabinet is in charge of matters related to the UNFCCC. Under this department, the climate change focal point coordinates issues related to the climate change across departments. Officially, a DNA was notified to the UNFCCC secretariat, but in the practice there is no DNA as such. It is foreseen that about 10 to 15 people from different ministries, as well as NGOs and academia, will be members of the DNA.

- Academia

The National University of Niamey is aware of CDM. There are environmental lectures conducted on the campus. The academics in physics and renewable energy departments are informed about the CDM. Like in Benin and Burkina Faso, there is no specific research program on the Kyoto mechanisms and the CDM.

- Industry/labour

In contrast to Burkina Faso the Chamber of commerce in Niger is not involved in the CDM process.

- NGOs

Several NGOs are active in different climate change areas. They are well informed by climate focal points and are more active in different climate change areas. They are well organised and have an environmental NGO committee that is in charge of climate-related information dissemination. There are energy and forestry NGOs that examine how CDM projects could bring about some additional benefits.

4.4.3 Host country approval

The climate change focal point in Niger has no CDM approval procedure (UNIDO 2006). Negotiations are underway to design an approval procedure.

4.4.4 Sustainability mapping in Niger

- **Participants**

Table 7 below presents the participants, all of which have a positive appreciation of the CDM.

Table 7: Participant by sector in Niger

Participant by sector	Number	Gender
Government	6	1 female, 5 males
Academia	3	1 female, 2 males
NGO	4	0 female, 4 males
Total	13	

Source: Own table.

Results

The results of the survey in Niger are presented in table 8.

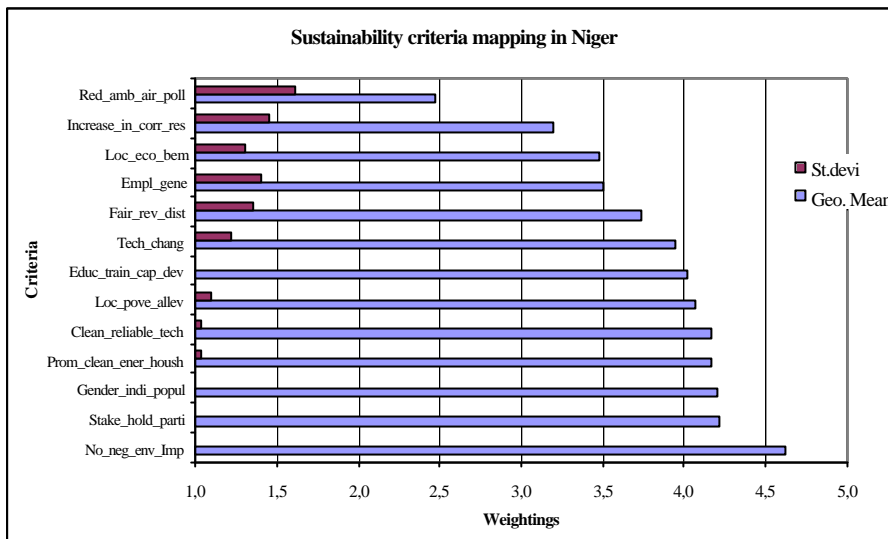
In table 8, 9 criteria out of 13 have scored above the threshold of 4 points. The participants in Niger neglected the criterion “reduction of ambient air pollution” due to the fact that ambient pollution is actually not an issue compared to Benin Republic and Burkina Faso, where the high number of motorbikes and old cars are the main air polluters

Table 8: Perception of Sustainability criteria in Niger

Criteria	Aggregated weights
Environment	
Reduction of ambient air pollution	4,2
No negative environmental impacts	2,9
Economic	
Increase in currency reserve	4,3
Local economic benefit	4,2
Clean and reliable technologies	4
Technological change	3,8
Fair revenue distribution between stakeholders	3,8
Employment generation	3,5
Social	
Promotion of clean energy for households	4,3
Local poverty alleviation	4,3
Education, training, capacity development	4,3
Stakeholder participation	4,2
Gender/indigenous population	4,2
Approval Institutions	
Energy Ministry	4,5
CDM secretariat under the direction of the President	2,5
CDM multi-institution secretariat and NGOs	2,4
Agency for direct foreign investment	2,4
Environment Ministry	2
Economic and finance Ministry	1,8

Source: Own table.

Figure 12: Mapping sustainable development criteria in Niger



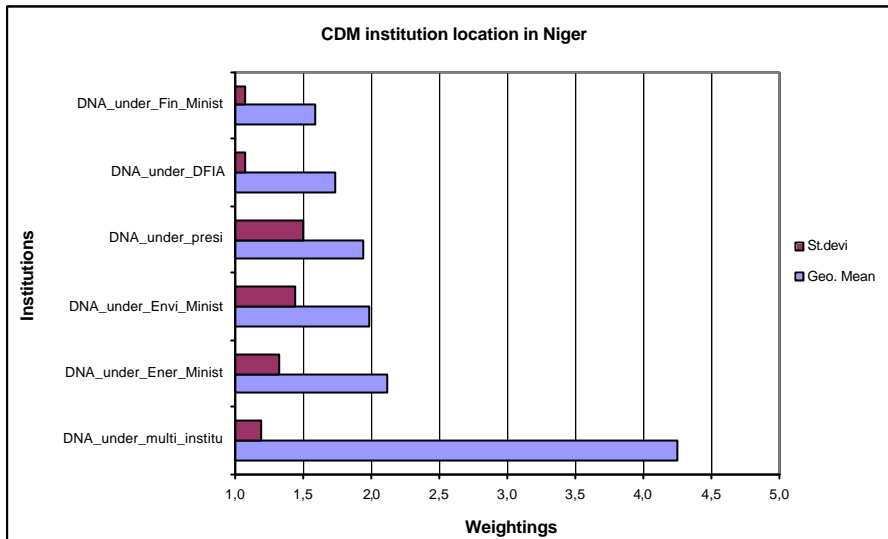
Source: Own figure.

According to the number of criteria suggested in this research, five criteria will be selected. Hence, the first five criteria are selected. Based on the discussion on capacity building in the Burkina Faso case, this criterion will not be removed from the set of criteria. The final set of criteria in table 12 below could serve as a starting point for CDM projects' sustainability assessment in Niger.

4.4.5 CDM institutions location

The results of the survey are summarised in figure 13 below. Only the CDM multi-institution secretariat and NGOs score above the threshold of 4. This clearly shows that the stakeholders prefer that the CDM institution is not housed under only one institution. This result could also be interpreted in a way such that the stakeholders want to be more involved than they have been until now. This result confirms hypothesis H1. The opinions of the stakeholders on methodology to access CDM projects are presented as follows.

Figure 13: DNA location preference

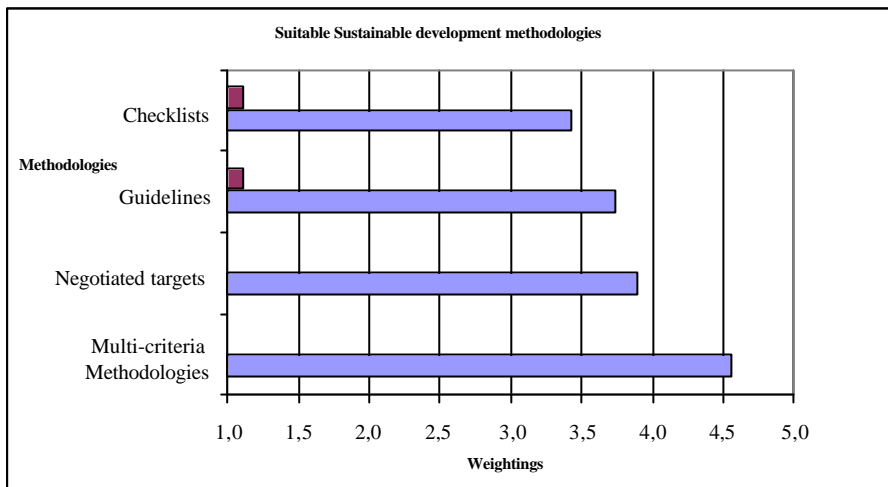


Source: Own figure.

4.4.6 Suitable CDM projects assessment methodology

As far as the sustainability assessment methodology for CDM projects is concerned, the results are presented in figure 14 below. From the chart, it is obvious that multi-criteria methodologies is the most preferred assessment methodology. Checklists is the least preferred option. This is due to the fact that most of the participants felt that multi-criteria methodologies provide a broad view on the project performance at different levels. Nonetheless they recognised its implementation problems. They place relatively important weightings on the other methodologies which they predict are easy to implement.

Figure 14: Sustainability assessment methodology in Niger

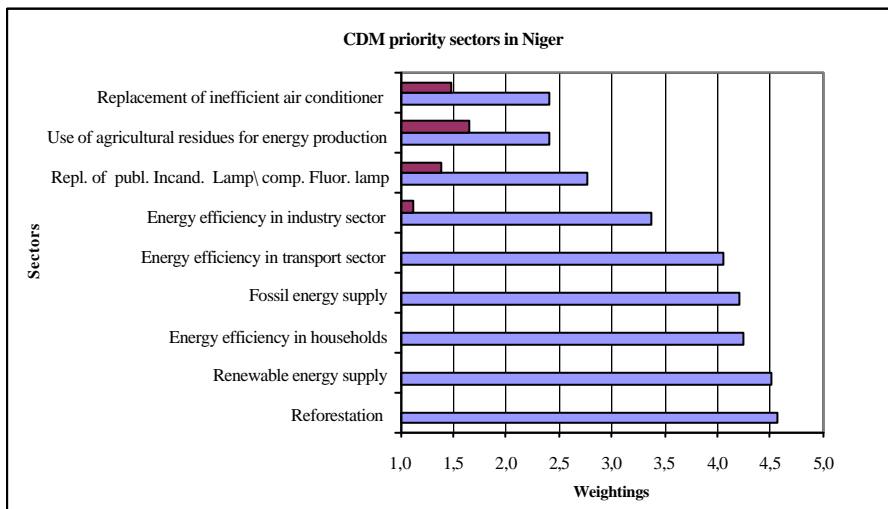


Source: Own figure.

4.4.7 Most important CDM projects in Niger

The most important CDM project sectors are summarised in figure 15 below.

Figure 15: Priority sectors for CDM projects



Source: Own figure.

As shown in the figure, 5 sectors score above the threshold of 4 points. The most preferred projects are reforestation and renewable energy supply. The preference for the two most important project sectors could be explained by the fact that Niger has enough solar and relative wind potential. Reforestation is important because desertification is worsening in Niger. As for the use of agricultural residues for energy production, the

participants do not want CDM projects in this area because the residues are already used in households for cooking. Replacement of inefficient air conditioners is also not preferred due to the limited use of air conditioners in the country.

4.4.8 DNA funding and the regional approval body concept

As for the Designated Authorities financing, 77% of the participants in Niger it as the role of the government and the funding institutions. In addition, 85% of the participants agreed on a regional approval body concept - see table 9. This rejects hypothesis H2. The participants that are against the regional DNA concept argue that countries are sovereign and that setting the CDM authority at the WAEMU level will lead to a delay in decision making.

Table 9: DNA funding and the regional approval option

Financing the DNA	
Government	92% No
Funding institutions	85% No
Government and Funding institutions	77% Yes
Regional approval option	
Advocate for the WAEMU option	85% Yes

5 SUMMARY

The surveys conducted in Benin, Burkina Faso and Niger helped to examine the main stakeholders involved in the CDM process at national level, the potential sustainability criteria and the most important CDM projects' sectors in the countries. However, the most preferred CDM projects' sectors are not necessarily the most competitive ones in the international CDM market. In addition, the stakeholders in the countries advocate the multi-institutional DNAs. This result confirms hypothesis H1. In addition, the concept of a regional DNA or regional approval body has been highly supported (score over 80%). This rejects hypothesis H2. Moreover, stakeholders suggested DNA funding through international funding institutions and local governments. However, stakeholders see an indication of governments' contribution ratio as a highly political issue and do not want to address it at this level. The main results of the survey are summarised in the following tables.

Table 10: Main results of the survey in Benin

Most important sustainable development criteria	No negative environmental impact
	Reduction of ambient air pollution
	Local poverty alleviation
	Stakeholder participation
	Clean and reliable technology transfer
CDM institution administration	Multi-institutions and NGOs
Sustainability assessment methodology	Negotiated targets
Important CDM project sectors	Renewable energy supply
	Reforestation
DNA funding responsibility	International funding institutions and government
Regional DNA concept	100 % advocate

Table 11: Main results of the survey in Burkina Faso

Most important sustainable development criteria	Stakeholder participation
	Reduction of ambient pollutants
	Technological changes
	No negative environmental impacts
	Capacity building
CDM institution administration	Multi-institutions and NGOs
Sustainability assessment methodology	Negotiated targets
Important CDM project sectors	Energy efficiency in households
DNA funding responsibility	International funding institutions and government
Regional DNA concept	92 % advocate

Table 12: Main results of the survey in Niger

Most important sustainable development criteria	No negative environmental impacts
	Stakeholder participation
	Gender\indigenous populations
	Promotion of clean energy for households
	Capacity building
CDM institution administration	Multi-institutions and NGOs
Sustainability assessment methodology	Multi-criteria methodologies
Important CDM project sectors	Reforestation
	Renewable energy supply
	Fossil energy supply
	Energy efficiency in households
	Energy efficiency in transport sector
DNA funding responsibility	International funding and government
Regional DNA concept	85 % advocate

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Appendix

Appendix 1: Sustainability criteria, Questionnaire and results of surveys

Table 13: Common used sustainability criteria

Economic	Employment generation
	Economic development
	Energy security and diversity of supply
	Balance of payments/national debt/foreign investment
	Cost effectiveness/ micro-economic efficiency
	Investment in priority sector of the country
	Local economic benefit
	Technology transfer
Environment	GHG
Local pollution	Local environment
	Local air quality
	Pest management
	Soil pollution
	Waste
	Water pollution
Natural resources	Biodiversity
	Deforestation
	Protected areas/natural habitats
	Resource depletion (e.g. fossil)
	Soil erosion and depletion
	Water depletion
Strategic	CC adaptation capacity
	Natural hazards, e.g. flood
Social	Cultural property
	Education, training, capacity development
	Energy access improved
	Equity, poor
	Food supply/security
	Gender/indigenous population
	Governance
	Health
	Information sharing
	Legal framework
	Poverty alleviation
	Stakeholder participation
	Resettlement
Service availability	
	Wages, working conditions, child labour

Source: UNEP 2004, Gold standard 2005; Huq 2002; IER 2002; IISD 2005; Kuzma and Dobrovolny 2004; PCF LAC social and environmental 2004; Sutter 2004; Lewandrowski et al. 2005; Farioli 2004; CCBA 2005

Appendix 2: Questionnaire dans le cadre des projets de réduction des émissions de gaz à effet de serre sous le mécanisme de développement propre (MDP)

Le Mécanisme de développement propre (MDP) est l'un des trois types de mécanismes internationaux dans le cadre du protocole de Kyoto sur le changement climatique (votre pays est – il signataire du protocole ? Si non, pourquoi?) Oui Non

Le protocole de Kyoto a assigné aux pays industrialisés un objectif chiffré de réduction des émissions de gaz à effet serre dû aux activités humaines pour prévenir des interférences dangereuses avec le système climatique.

Dans les pays en voie de développement comme le votre où aucun objectif de réduction d'émission de gaz à effet de serre n'est assigné, il est possible de mettre en œuvre ce mécanisme en vue d'éviter que les nouvelles activités de production de l'homme ne génèrent au tant de gaz à effet de serre qu'elles l'ont générés dans les pays industrialisés mais la réduise. Avec ce nouveau mécanisme, la réduction nette d'émission de gaz à effet de serre est le plus souvent recherchée plutôt qu'une réduction absolue, étant donné que certaines activités de l'homme génèrent une émission minimale.

Les projets de réduction d'émission de gaz à effet de serre sous le MDP peuvent être financés par les compagnies et ou les Gouvernements des pays industrialisés.

Les réductions d'émission obtenues et accrues par le MDP peuvent être alors utilisées par les pays industrialisés pour atteindre leurs objectifs de réduction contenus dans le protocole.

Cette utilisation des réductions d'émission peut se faire sous forme de financement du développement propre dans les pays en voie de développement. Toute l'opération sera supervisée par les institutions internationales.

Dans ce contexte, votre opinion est recherchée ou voulue sur les critères de développement durable devant être satisfaits par le développement de ces projets, dans les secteurs prioritaires et les dispositions institutionnelles nécessaires.

Veillez dire si vous pensez que les critères suivants sont importants pour le MDP dans votre pays. (Utilisez la notation allant de 1 à 5 ; 1 = pas important 5 = très important.

Critères	Importance
Environnement	
Pas d'impact négatif sur l'environnement	
Réduction de la pollution de l'air ambiant	
Economie	
Distribution équitable des bénéfices entre les parties prenantes	
Transfère de technologie	
Accroissement des réserves de devises	
Augmentation de l'emploi	
Existence de programmes de développement communautaire	
Utilisation de technologie propres susceptible d'être mis en œuvre	
Sociale	
Réduction de la pauvreté locales	
Participation des acteurs concernés	
Amélioration du développement humain	
Promotion des énergies propres pour la ménagère	
Capacity Building	
Institutions d'approbation	
Secrétariat du MDP sous supervision directe du Président	
Agence pour l'investissement étranger direct	
Organe national multi-institutionnel du MDP	
Ministère de l'environnement	
Ministère des Finances et de l'Economie	
Ministère de l'énergie	

Listez s'il vous plaît d'autres critères qui à votre avis sont importants.

Critères	Importance

2 – Mesure du développement durable

Quelles approches de mesure du développement durable pensez-vous appropriées pour votre pays ? (Utilisez la notation allant de 1 à 5; 1 = pas appropriée 5 = très appropriée)

Pourquoi ?

Approche	Brève description	Choix	Justifications
Critères pré définis	Définit à l'avance des critères de développement durable qui doivent être pris en considération par le projet		
Liste de contrôle	Définit des questions précises auxquelles le projet MDP doit apporter des réponses précises avec l'aide d'un ensemble de réponses types prédéfinis		
Objectifs négociés	Des objectifs précis sont négociés entre les parties prenantes et le propriétaire de projet. Des indicateurs de développement durable sont définis pour le monitorat de la contribution du projet MDP au développement durable		
Méthode multi-critères	Définit divers critères pour différents aspects du développement durable et évalue la contribution du projet MDP au développement durable par rapport à chaque critère. Un coefficient est donné à chaque critère selon son importance pour le pays ce qui permet une agrégation des indicateurs		

Quelles autres méthodes de mesure du développement durable suggérez-vous ?

3.- Classez s'il vous plaît les secteurs suivants selon leur priorité pour les projets MDP dans votre pays. (Utilisez la notation allant de 1 à 5; 1 = pas prioritaire 5 = extrêmement prioritaire)

SECTEUR	PRIORITE
Offre d'énergie fossile	
Offre d'énergie renouvelable	
Demande d'énergie dans le secteur Industriels (c.a.d efficacité énergétique)	
Demande d'énergie des ménages	
Demande d'énergie dans le transport	
Remplacement des lampes publiques incandescentes par des lampes fluorescentes compactes	
Remplacement des climatiseurs inefficients	
Reforestation	
Réduction de la déforestation	
Utilisation des résidus de l'agriculture à des fins de production d'électricité	
Foresterie	

Listez s'il vous plaît d'autres projets types que vous jugez importants.

- Les Projets MDP doivent être approuvés par le gouvernement de votre pays. Qui sera responsable de l'approbation ? donnez le degré de convenance en utilisant l'échelle de 1 à 5 ; 1 : pas convenable, 5 : très convenable.

INSTITUTION	CONVENANCE
Secrétariat du MDP sous supervision directe du Président	
Agence pour l'investissement étranger direct	
Organe national multi-institutionnel du MDP composé de divers ministères, industries, associations et ONG.	
Ministère de l'environnement	
Ministère des Finances et de l'Economie	
Ministère de l'énergie	

Listez s'il vous plaît d'autres institutions que vous jugez appropriées.

INSTITUTIONS	CONVENANCE

- Si l'organe national du MDP est mis sur pied, quelles institutions / groupes d'intérêt pourraient être représentés dans cet organe ? Citez – les s'il vous plaît.

Financement de l'Autorité Nationale Désignée (AND)

Le budget de l'autorité nationale désignée est estimé à environ 50 millions de F.cfa par année

Qui à votre avis serait responsable du financement de ce budget

Le gouvernement de votre pays ? Oui Non

Les bailleurs de fonds? Oui Non

Results of Surveys

Table14: Benin

	A1	B1	C1	D1	E1	F1	G1	H1	I1	J1	K1	L1	Mean
Environnement													
Pas d'impact négatif sur l'environnement	5	5	3	5	5	5	5	4	5	3	3	3	4
Réduction de la pollution de l'air ambiant	5	4	2	5	5	4	5	3	5	5	4	5	4
Economie					5								
Distribution équitable des bénéfices entre les parties prenantes	5	2	3	4		2	5	1	2	4	5	2	3
Transfère de technologie	3	4	3	5	5	3	1	1	4	3	3	3	3
Accroissement des réserves de devises	3	4	2	4	2	3	5	1	2	3	3	2	3
Augmentation de l'emploi	5	4	1	4	2	4	5	2	2	5	4	3	3
Existence de programmes de développement communautaire	3	4	3	5	1	3	5	2	4	4	4	4	3
Utilisation de technologie propres susceptible d'être mis en œuvre	3	4	3	5	5	3	5	2	5	4	4	3	4
Sociale													
Réduction de la pauvreté locales	5	5	3	5	3	3	5	1	5	5	5	4	4
Participation des acteurs concernés	3	5	3	5	5	4	5	1	5	5	5	4	4
Amélioration du développement humain	5	2	3	5	2	3	5	1	5	5	4	4	4
Promotion des énergies propres pour la ménagère	3	4	2	5	3	4	3	2	5	5	4	3	4
Promotion des capacités humaines de développement et de pilotage des projets MDP	5	4	3	5	5	3	4	2	5	2	4	4	4
Institutions d'approbation													
Secrétariat du MDP sous supervision directe du Président	1	1	1	1	1	3	1	1	5	1	1	3	2
Agence pour l'investissement étranger direct	1	3	1	1	1	3	1	1	2	5	1	3	2
Organe national multi-institutionnel du MDP composé de divers ministères, industries, as	5	5	4	5	5	5	5	4	1	2	5	5	4
Ministère de l'environnement	3	5	3	2	2	1	3	2	2	1	3	4	3
Ministère des Finances et de l'Economie	3	1	1	2	1	1	1	2	2	1	1	3	2
Ministère de l'énergie	3	2	4	2	1	1	3	2	2	1	2	3	2

Notes:

A1: Ministry of Finance

B1: Ministry Economy and Development

C1: Ministry of Rural Development

D1: Ministry of environment

E1: Ministry of Plan

F1: Faculty of Economics

G1: Faculty of Agriculture

H1: Faculty of Applied Science and Techniques

I1: Institute of Polly Techniques

J1: Development NGO

K1: Environment Protection NGO

L1: Environment Protection NGO

Table 15: Benin

	A1	B1	C1	D1	E1	F1	G1	H1	I1	J1	K1	L1	Mean
Mesure du développement durable													
Critères pré définis	5	4	3	3	4	3	5	2	5	1	2	3	3
Liste de contrôle	5	4	4	2	1	4	4	2	5	2	2	4	3
Objectifs négociés	3	1	4	5	3	1	5	3	5	3	5	3	3
Méthode multi-critères	5	3	5	4	5	5	4	2	5	4	3	5	4
Secteur prioritaire pour le MDP													
Offre d'énergie fossile	5	3	4	2	4	4	3	4	5	1	3	2	3
Offre d'énergie renouvelable	4	4	4	5	5	3	5	5	5	3	5	5	4
Demande d'énergie dans le secteur Industriels (c.a.d efficacité énergétique)	4	2	4	5	4	2	4	3	3	3	4	3	3
Demande d'énergie des ménages	4	2	4	5	2	1	5	4	4	4	5	4	4
Demande d'énergie des ménages	3	3	2	4	2	5	5	5	5	3	5	3	4
Remplacement des lampes publiques incandescentes par des Lamp. Fluo. Comp.	2	2	3	4	3	2	3	3	3	3	2	3	3
Remplacement des climatiseurs inefficients	2	1	2	5	2	2	5	2	4	4	2	2	3
Reforestation	4	4	4	5	2	3	5	4	5	5	5	5	4
Utilisation des résidus de l'agriculture à des fins de production d'électricité	3	3	2	5	4	4	5	4	5	2	1	4	3
Financement de l'Autorité Nationale Désignée (AND)													
Le gouvernement de votre pays	non	oui	oui	non	non	Non	OUI	Non	Non	non	non	non	75% Non
Les bailleurs de fonds	non	non	non	non	non	Oui	Non	Non	Non	non	non	non	92% Non
Et le gouvernement et les bailleurs de fonds	oui	non	non	oui	oui	Oui	OUI	Oui	Oui	oui	oui	oui	75% Oui
Option UEMOA plus soutien	oui	oui	oui	oui	oui	Oui	OUI	Oui	Oui	oui	oui	oui	100% Oui

Table 16: Burkina Faso

	A2	B2	C2	D2	E2	F2	G2	H2	I2	J2	K2	L2	M2	Mean
Environnement														
Pas d'impact négatif sur l'environnement	5	5	5	5	1	5	3	3	5	5	5	5	5	4
Réduction de la pollution de l'air ambiant	5	5	5	3	5	3	4	4	3	5	5	5	5	4
Economie														
Distribution équitable des bénéfices entre les parties prenantes	4	5	5	5	4	5	3	3	5	5	2	2	5	4
Transfère de technologie	3	2	4	5	5	5	5	5	3	5	4	5	5	4
Accroissement des réserves de devises	3	4	4	4	2	4	2	4	4	4	3	1	5	3
Augmentation de l'emploi	4	5	5	5	5	5	5	5	4	5	1	1	5	4
Existence de programmes de développement communautaire	4	5	5	3	5	3	5	2	5	5	2	2	5	4
Utilisation de technologie propres susceptible d'être mis en œuvre	5	1	4	5	5	5	5	3	5	5	4	3	5	4
Sociale														
Réduction de la pauvreté locales	5	3	3	5	5	5	5	4	5	5	4	1	5	4
Participation des acteurs concernés	3	5	5	5	5	5	5	3	5	5	5	2	5	4
Amélioration du développement humain	4	5	4	5	5	5	3	5	5	5	4	1	5	4
Promotion des énergies propres pour la ménagère	3	3	5	4	5	4	5	3	4	5	3	3	4	4
Promotion des capacités humaines de développement et de pilotage des projets MDP	3	4	5	4	5	4	5	4	3	5	4	2	5	4
Institutions d'approbation														
Secrétariat du MDP sous supervision directe du Président	5	5	4	3	2	3	3	5	2	1	4	1	5	3
Agence pour l'investissement étranger direct	2	1	5	3	2	3	5	5	5	1	2	1	4	3
Organe national multi-institutionnel du MDP composé de divers ministères, industries, associations	3	5	4	3	2	3	4	2	4	5	5	5	2	4
Ministère de l'environnement	1	5	5	2	5	2	4	2	2	4	2	2	2	3
Ministère des Finances et de l'Economie	1	3	3	2	2	2	3	1	2	3	1	2	2	2
Ministère de l'énergie	1	5	4	2	2	2	4	1	2	3	2	2	4	3

Table 17: Burkina Faso

	A2	B2	C2	D2	E2	F2	G2	H2	I2	J2	K2	L2	M2	Mean
Mesure du développement durable														
Critères pré définis	5	5	5	5	5	5	5	3	5	5	4	1	5	4
Liste de contrôle	3	4	4	5	5	5	5	4	4	4	5	1	5	4
Objectifs négociés	4	5	5	5	5	5	5	5	4	5	4	4	5	5
Méthode multi-critères	5	1	2	5	2	5	5	4	5	3	3	2	5	4
Secteur prioritaire pour le MDP														
Offre d'énergie fossile	5	4	2	2	3	5	5	1	5	2	5	1	3	3
Offre d'énergie renouvelable	3	5	3	5	3	3	5	2	5	3	4	4	4	4
Demande d'énergie dans le secteur Industriels (c.a.d efficacité énergétique)	3	3	4	4	3	3	3	4	5	4	3	5	5	4
Demande d'énergie des ménages	5	5	3	4	5	5	4	5	5	4	4	3	4	4
Demande d'énergie des ménages	3	4	5	4	4	3	2	5	4	2	3	3	3	3
Remplacement des lampes publiques incandescentes par des Lamp. Fluo. Comp.	4	2	1	2	3	4	3	4	1	1	3	2	1	2
Remplacement des climatiseurs inefficients	3	2	2	1	1	3	2	4	2	1	4	3	1	2
Reforestation	1	3	3	3	4	4	5	5	5	3	5	4	4	4
Utilisation des résidus de l'agriculture á des fins de production d'électricité	4	3	2	2	3	4	5	5	5	4	4	3	4	4
Financement de l'Autorité Nationale Désignée (AND)														
Le gouvernement de votre pays	Non	Non	Non	Oui	Oui	Non	Non	Non	Non	Non	Non	Non	Non	77% Non
Les bailleurs de fonds	Non	Non	Oui	Non	Non	Non	Non	Non	Non	Non	Non	Oui	Non	85% Non
Et le gouvernement et les bailleurs de fonds	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	100% Oui
Option UEMOA plus soutien	Oui	Oui	Oui	Oui	Non	Oui	Oui	Oui	Oui	Oui	Oui	Oui	Oui	92% Oui

50 Table 18: Niger

	A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3	L3	M3	Mean
Environnement														
Pas d'impact négatif sur l'environnement	5	5	5	1	5	5	3	5	5	5	3	5	2	4
Réduction de la pollution de l'air ambiant	2	4	1	1	5	5	2	1	5	4	2	4	2	3
Economie														
Distribution équitable des bénéfices entre les parties prenantes	5	3	5	5	5	5	3	2	5	5	2	5	2	4
Transfère de technologie	5	4	5	3	5	5	3	5	5	5	2	5	2	4
Accroissement des réserves de devises	4	4	5	3	5	5	2	1	3	5	2	5	2	4
Augmentation de l'emploi	5	4	5	3	4	5	2	5	4	5	1	5	2	4
Existence de programmes de développement communautaire	4	4	1	5	3	5	3	5	5	5	3	4	2	4
Utilisation de technologie propres susceptible d'être mis en œuvre	5	3	5	5	4	5	3	5	5	5	2	5	4	4
Sociale														
Réduction de la pauvreté locales	5	3	5	5	5	5	3	5	4	5	2	3	5	4
Participation des acteurs concernés	5	3	5	4	5	5	4	4	5	5	3	5	3	4
Amélioration du développement humain	5	4	5	5	5	5	3	5	4	4	2	4	3	4
Promotion des énergies propres pour la ménagère	5	4	5	5	4	5	3	5	5	5	2	5	3	4
Promotion des capacités humaines de développement et de pilotage des projets MDP	5	4	5	5	5	5	3	3	5	5	3	5	3	4
Institutions d'approbation														
Secrétariat du MDP sous supervision directe du Président	4	1	5	2	1	4	1	1	4	1	3	1	3	2
Agence pour l'investissement étranger direct	1	1	1	3	3	3	1	3	4	1	2	1	2	2
Organe national multi-institutionnel du MDP composé de divers ministères, industries, associations	1	5	5	5	5	5	5	5	5	5	3	5	5	4
Ministère de l'environnement	2	1	1	4	5	1	4	2	4	1	3	1	2	2
Ministère des Finances et de l'Economie	4	1	1	1	1	1	3	2	3	1	3	1	2	2
Ministère de l'énergie	4	1	5	3	2	1	3	2	4	1	3	1	2	2

Table 19: Niger

	A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3	L3	M3	Mean
Mesure du développement durable														
Critères pré définis	3	4	5	5	2	4	5	5	2	5	3	4	4	4
Liste de contrôle	3	2	5	3	3	5	3	5	3	5	2	4	4	3
Objectifs négociés	5	4	5	4	4	3	3	3	5	5	3	5	3	4
Méthode multi-critères	5	4	5	5	5	5	4	5	5	4	3	5	5	4
Secteur prioritaire pour le MDP														
Offre d'énergie fossile	5	4	4	4	4	5	5	4	5	5	2	5	4	4
Offre d'énergie renouvelable	5	5	5	5	4	5	5	4	5	5	2	5	5	4
Demande d'énergie dans le secteur Industriels (c.a.d efficacité énergétique)	4	2	2	5	3	3	3	3	5	5	3	5	3	3
Demande d'énergie des ménages	5	4	3	4	5	5	4	5	5	5	2	5	5	4
Demande d'énergie des ménages	3	4	3	5	5	5	5	3	4	5	3	5	4	4
Remplacement des lampes publiques incandescentes par des Lamp. Fluo. Comp.	4	2	2	3	1	4	2	2	5	5	3	5	2	3
Remplacement des climatiseurs inefficients	2	1	4	2	2	3	2	1	5	5	2	5	2	3
Reforestation	5	4	4	5	5	5	4	5	5	5	3	5	5	4
Utilisation des résidus de l'agriculture à des fins de production d'électricité	5	5	2	2	1	4	1	1	4	1	3	5	4	3
Financement de l'Autorité Nationale Désignée (AND)														
Le gouvernement de votre pays	Non	Non	Non	Non	Non	Non	Oui	Non	Non	Non	Non	Non	Non	92% Non
Les bailleurs de fonds	Oui	Non	Non	Non	Non	Non	Non	Oui	Non	Non	Non	Non	Non	85% Non
Et le gouvernement et les bailleurs de fonds	Non	Oui	Oui	Oui	Oui	Oui	Non	Non	Oui	Oui	Oui	Oui	Oui	77% Oui
Option UEMOA plus soutien	Oui	Oui	Oui	Oui	Oui	Oui	Non	Oui	Oui	Oui	Oui	Oui	Oui	85% Oui

Recapitulation

Table 20: Selection of sustainability criteria

	Benin	Burkina Faso	Niger
Environment			
No negative environmental impacts	4	4	4
Reduction of ambient air pollution	4	4	3
Economic			
Fair revenue distribution between stakeholders	3	4	4
Technological change	3	4	4
Increase in currency reserve	3	3	4
Employment generation	3	4	4
Local economic benefit	3	4	4
Clean and reliable technologies	4	4	4
Social			
Local poverty alleviation	4	4	4
Stakeholder participation	4	4	4
Education, training, capacity development	4	4	4
Promotion of clean energy for households	4	4	4
Gender/indigenous population	4	4	4

Table 21: CDM Approval Institutions and sustainability assessment methodologies

Approval Institutions	Benin	Burkina Faso	Niger
CDM secretariat under the direction of the President	2	3	2
Agency for direct foreign investment	2	3	2
CDM multi-institution secretariat and NGOs	4	4	4
Environment Ministry	3	3	2
Economic and finance Ministry	2	2	2
Energy Ministry	2	3	2
Sustainability assessment	Benin	Burkina Faso	Niger
Pre-defined Criteria	3	4	4
Control list	3	4	3
Negotiated objectives	3	5	4
Multi-criteria analysis/MATA-CDM	4	4	4

Table 22: CDM priority sectors

Priority sectors to implement CDM projects	Benin	Burkina Faso	Niger
Fossil energy supply	3	3	4
Renewable energy supply	4	4	4
Energy efficiency in industry sector	3	4	3
Energy efficiency in households	4	4	4
Energy efficiency in transport sector	4	3	4
Replacement of public incandescent lamp by compact fluorescen	3	2	3
Replacement of inefficient air conditioner	3	2	3
Reforestation	4	4	4
Use of agricultural residues for energy production	3	4	3

Table 23: AND funding and perception of the regional approval body's concept

Financing the DNA	Benin	Burkina Faso	Niger
Government	75% No	77% No	92% No
Funding institutions	92% No	85% No	85% No
Government and Funding institutions	75% Yes	100% Yes	77% Yes
Regional DNA or regional approval body option			
Advocate for the WAEMU option	100% Yes	92% Yes	85% Yes