

Annex 1

Scorecard tool to assess applicability of incentive and market based mechanisms

The following is annex 1 to the paper “Incentive and market-based mechanisms to promote sustainable land management: Framework and tool to assess applicability” (GM, 2011). This annex 1 should be read and applied together with the main paper, a set of checklist questions (annex 2), and a scorecard excel sheet (annex 3). References to sections and chapters refers to the main paper.

This annex outlines in details a scorecard methodology that has been developed to assess the applicability of incentive and market based mechanisms (IMBMs) for promoting sustainable land management in a given context. The methodology is meant to guide such an assessment in a quantitative and structured manner.

Each of the incentive and market based mechanisms presented in the paper “Incentive and market-based mechanisms to promote sustainable land management: Framework and tool to assess applicability” (GM, 2011), is designed to work better under specific national and local conditions, and to solve particular problems. As a result, some will be better suited to certain contexts, and some to others. The issues, criteria and factors that influence success in using economic mechanisms to halt or reduce land degradation are presented in Chapter 4 of the paper, describing an ideal scenario or situation. When considering the implementation of incentive and market based mechanisms to reduce or halt land degradation, it is therefore very important to consider both *the instrument and the circumstances* at the same time.

This means considering many variables, interactions and subjective assessments. This annex presents a methodology to undertake such an assessment and based on the findings, determine the applicability of each of the mechanisms in a given country or site context. The scorecard is intended to help determine which of the incentive and market based mechanisms are more appropriate in each case, and to identify deficiencies that government and cooperation agencies could address in future development efforts. The checklist of questions (Annex 2) is meant to help identify and rank how strong or present the success factors and enabling conditions are in the country.

The scorecard may be used at different levels, depending upon the scale and type of the land degradation and desertification issues that need to be tackled. It can be used at *national level* to identify applicable IMBMs for the country, or identifying IMBMs at *site level* as a response to a specific problem in a geographical area. The work done at each level should be supplemented with economic cost/benefit analysis and valuation studies to identify the best use of the mechanisms based on the outcomes of the screening exercise, transaction costs, the price of the eco-system services in the site, as well as legal, regulatory and governance issues.

The methodology may be used as a guide during workshops, allowing participants to have an orderly discussion of the issues that affect implementation of an economic instrument to

solve a land degradation problem. It may also be used by a smaller group of technical experts (e.g. consultants, or public officials) wishing to construct or design incentive and market-based mechanisms.

The methodology is not supposed to provide definite answers or give a final ranking of all the mechanisms in a given context, but rather present a framework for systemizing the discussion and point out the different issues. It helps guiding the user by providing a quantitative assessment of the country situation. Nonetheless, its application is also qualitative and allows for introducing themes for discussion and analysis. Its qualitative nature allows the guidance of stakeholders' consultations, and is expected to promote lively discussions.

There are always unavoidable subjectivities when carrying out a quantitative evaluation of this sort, especially because many of the variables are not measurable and the values depend on the opinions of the people participating in the process. The main value of this exercise lies mainly in the process that needs to be followed and the questions that are asked to obtain the numbers in the scorecard. During this process important issues will arise, and the experts will have a better idea about which mechanisms would work under different circumstances to solve the land management problems. A guided discussion will guarantee that no important issues are left out and that most relevant topics are included. Another value of the methodology is that it can be effective in generating a simple message that can easily be communicated to the target audience.

At this stage a series of questions may further enrich the discussion: Can an existing situation be improved on? Can a mechanism's original design be modified to suit the particular situation being considered? Is it realistic to expect users to pay for the expected services from SLMPs?

The idea behind the scorecard is quite simple: that success factors for implementation affect each of the available innovative finance and economic mechanisms differently. Some require a better legal system, others more institutional capacities. This information is captured in the factor weight table which provides the baseline and that shows the requirements of each mechanism (see Table 1).

A value of 4 means that the factor is very important for the success of that particular mechanism, while a 1 indicates that the factor is not a requirement for success. That table is not to be changed by the user. Then using the same scale values, the user is expected to judge the present country-situation (see Step 3 below).

The application of the scorecard requires six steps:

1. Define the land degradation – desertification problem;
2. Review the factor weight table;
3. Evaluate the country situation using the success factors or criteria discussed in Chapter 4;
4. Compare the national situation with the requirements of each mechanism; generate a results table;
5. Interpretation of results.
6. Economic analysis

These are discussed in more detail next.

Step 1. Define the land degradation problem and potential solutions

The first step must be the definition of the land desertification or land degradation problem that needs to be solved using economic and market-based instruments. This will provide the context for the analysis: national, regional or local and guide the rest of the discussion. Information such as area to be intervened, land use, productive options, and other information that helps narrow down the scope and to provide context is helpful. Solving the problem considered is the goal, not the mechanisms themselves, and therefore it is very important to keep the focus there. Is the problem deforestation at the national level, or is it localized in certain region? Is it overgrazing? Is it lack of adequate land conservation practices? Also the best SLMP and land use options should be identified in order to know what activities the IMBMs should promote.

The guide is useful for the analysis of problems at the national level (say deforestation) or watershed level (desertification land degradation). Clearly the data requirements and the depth of study will be different in each case, but the issues will be the same. It is important to note here that there are big differences regarding scale amongst the different countries: one watershed in Brazil could be larger than whole countries. It is expected that the scorecard could be applied in both cases.

But even when the problem that needs solution is localized at the regional or very local levels, the national aspects are still valid and thus the scorecard must be filled in its entirety. However, sections 2 and 3 of the guide are specific for the particular problem or situation being analyzed.

Many countries have already mapped land degradation problems and have GIS maps on agro-ecological zoning. Some use tools developed by multilateral agencies, such as the “Land Degradation Assessment in Drylands” developed by FAO and others. There are also poverty maps in relation to land degradation, and where are the priority areas for biodiversity and water are. All of this should provide very concrete and specific land degradation problems.

Step 2. Review of the factor weight table (the standard)

The first component of the scorecard is the standard against which to compare the situation in the country concerned (the national, local and economic conditions of the particular case).

A team of experts from CATIE created the factor weight table or criteria described in Chapter 4 according to how important each is to the success of each of the mechanisms described in Chapter 3. A value of 1 was given to factors that are not important conditions for success, and a value of 4 for those that are strictly necessary. For example, payment-for-environmental-services’ schemes usually require strong land tenure regimes and low opportunity cost of the land; on the other hand, labelling systems are not as demanding. The results of the rating exercise are shown in table 3 and provide an idea about the relative importance of each factor for each mechanism’s success. The same groups as above are used: the national and local contexts and the economics of SLMPs¹.

¹ Basically the benefits, costs, potential users, and total economic value expected from improved practices.

Obviously any mechanism is more likely to achieve the set environmental goal if the national, local and economic conditions are good. However, some mechanisms are more sensitive to the conditions in the field, while others are more resilient. For example, conservation banks are likely to require less from national institutions, because they rely on private agreements. However, these also demand greater environmental awareness than, for instance, permanent conservation easements do. The user is not expected to modify the information provided in Table 1. However, in the future, categories may be added and some values modified.

Table 1. Factor weight (relevance of the factor for the mechanism's success)

	Mechanism													
	Permanent conservation easements	Contract farmland set-asides	Co-financed investments	Payments for proven investments in land conservation	Subsidies	Taxes, tax breaks, environmental fees (inputs, practices)	Conservation banks	Tradable development rights	Trading of emission reductions or removals	Purchase of development rights	Direct payments for environmental services	Conservation concessions	Marketing labels	Certification schemes
National/Local Context														
Institutions	4	4	2	2	4	4	1	4	4	2	3	2	3	3
Governance	4	4	1	1	3	3	1	4	4	3	3	3	2	3
Macroeconomics (economic freedom)	2	2	2	2	1	1	4	4	4	3	2	3	3	3
Regulatory framework	2	2	2	3	3	4	3	4	4	3	2	2	2	2
Environmental Awareness	1	1	1	3	3	1	3	4	4	1	3	2	3	3
Site specific context														
Ecosystem Type	4	3	2	2	1	2	4	2	2	1	3	2	3	3
Environmental know-how	4	4	4	4	2	2	3	4	4	4	3	3	2	2
Local capacities	1	1	3	3	1	1	2	3	3	2	2	1	3	3
Land Tenure	4	3	2	2	2	1	4	4	4	3	2	4	1	1
Economics of Sustainable Land Use Practices														
Demand														
On site benefits	2	2	3	3	4	4	3	1	1	2	2	3	1	1
Off site benefits	3	3	2	3	2	2	4	4	4	4	3	3	4	4
Awareness/payment culture	3	3	2	2	1	1	3	4	4	2	4	2	4	4
Supply														
Low Opportunity cost	4	4	1	2	1	1	3	2	2	4	3	3	1	1

Step 3. Appraisal of the country situation

In this step, the national, local and economic conditions of the particular case being studied are appraised, awarding a score of 1 (worst) to 4 (best) to each of the success factors or

criteria mentioned in Table 2 and shown with more detail in Annex 2². The information for deriving these scores is provided by expert opinion, available reports, interviews, workshops and focal groups, and other readily available sources. This information can be augmented with more detailed analyses later. However, it is designed to work without much effort, in a rapid manner, by means of interviews with stakeholders, staff from relevant institutions and international development agencies.

Table 2 summarizes the information that needs to be collected. Although the evaluation is subjective and depends on the opinions of people familiar with the issues discussed, the use of a quantitative approximation is useful for representing the results graphically. If the situation for a particular factor is ideal, or optimal, the number 4 is put into the table. On the contrary, if the factor is poor (the opposite of what is desired), a 1 is inserted.

This is obviously a simplification of usually very complicated national and local circumstances in which, institutions, people, productive sectors and the environment interact. However, this allows the user a very good idea about which mechanisms are suited to the particular case very quickly. This makes it possible also to undertake an elimination process, removing from the list those that do not seem feasible early on, leaving only those with a good profile for further analysis.

The user should look at the national and site-specific context, as well as the economics of the particular SLMPs being proposed. In cases where the application is national, for example a national system of payment for environmental services, the site-specific context should refer to the country as a whole.

This exercise will help organize the information and ensure a systematic approach to implementing the most appropriate financial and economic mechanisms to solve an identified desertification or land degradation problem. Throughout the process, many questions need to be asked, some of which are presented as a checklist in Annex 2. The example below in Table 2 presents hypothetical scores, and is only for illustrative purposes.

² Annex 2 provides a checklist of questions, grouped according to the categories shown and discussed in Section 4. These questions are a guide to appraise the country situation, the local context and the economics of each particular case.

Table 2. Example of a country's evaluation results

	Score
National/Local Context	
Institutions	4
Governance	4
Macroeconomics (economic freedom)	4
Regulatory framework	4
Environmental Awareness	4
Site specific context	
Ecosystem Type	1
Environmental know how	1
Local Capacities	1
Land Tenure	2
Economics of Sustainable Land Use Practices	
Demand	
On site benefits	2
Off site benefits	3
Awareness/payment culture	4
Supply	
Low Oportunity cost	1

Note: Numbers are hypothetical.

Step 4. Comparison

Once the country situation has been evaluated in the three different levels of interest, both the tables are automatically combined using an Excel[®] spread sheet. The resulting matrix shows in simple terms the difference between the requirement and the current situation to provide a general idea about which mechanisms are best suited to the national context. Lower and negative values highlight areas where improvements are needed before the corresponding mechanism is considered. Values larger than 0 mean that the condition is at least being met.

Table 3 gives an example of this, based on the results in Table 1 and 2. In this example, conditions at the national level are quite good, but the 0s may raise an alert about using tradable development rights (mechanism H), which require well-developed institutions. There are also problems with many of the environmental criteria because of lack of information combined with the mechanisms' strict requirements. Results in the demand rows bring attention about the need to learn more about the expected benefits of land management practices.

Table 3. Example of mechanism requirements versus country conditions

	Permanent conservation easement	Contract farmland set-asides	Co-financed investments	Payments for proven investment	Subsidies	Taxes, tax breaks, environmental	Conservation banks	Tradable development rights	Trading of emission reductions or	Purchase of development rights	Direct payments for environment	Conservation concessions	Marketing labels	Certification schemes
National/Local Context														
Institutions	0	0	2	2	0	0	3	0	0	2	1	2	1	1
Governance	0	0	3	3	1	1	3	0	0	1	1	1	2	1
Macroeconomics (economic freedom)	2	2	2	2	3	3	0	0	0	1	2	1	1	1
Regulatory framework	2	2	2	1	1	0	1	0	0	1	2	2	2	2
Environmental Awareness	3	3	3	1	1	3	1	0	0	3	1	2	1	1
Site specific context														
Ecosystem Type	-3	-2	-1	-1	0	-1	-3	-1	-1	0	-2	-1	-2	-2
Environmental know how	-3	-3	-3	-3	-1	-1	-2	-3	-3	-3	-2	-2	-1	-1
Local Capacities	0	0	-2	-2	0	0	-1	-2	-2	-1	-1	0	-2	-2
Land Tenure	-2	-1	0	0	0	1	-2	-2	-2	-1	0	-2	1	1
Economics of Sustainable Land Use Practices														
Demand														
On site benefits	0	0	-1	-1	-2	-2	-1	1	1	0	0	-1	1	1
Off site benefits	0	0	1	0	1	1	-1	-1	-1	-1	0	0	-1	-1
Awareness/payment culture	1	1	2	2	3	3	1	0	0	2	0	2	0	0
Supply														
Low Opportunity cost	-3	-3	0	-1	0	0	-2	-1	-1	-3	-2	-2	0	0

Step 5. Interpretation of the results

The main value of this exercise lies mainly in the process that needs to be followed and the questions that are asked to obtain the numbers in the table. During this process important issues will arise, and the experts will have a better idea about which mechanisms would work under different circumstances. The numbers also provide clues as to which mechanisms would work better to solve the land management problem established in Step 1.

At this stage a series of questions may further enrich the discussion: Can an existing situation be improved on? Can a mechanism's original design be modified to suit the particular situation being considered? Is it realistic to expect users to pay for the expected services from SLMPs?

In the end, users of this tool should have a better idea and understanding of which mechanisms are feasible, which should be discarded during this stage and a clearer picture about how to implement them and of their chances for success.

Neither the list of mechanisms nor the issues considered here are comprehensive. There are probably many more. However, the ones included cover a wide a range of possible circumstances and are good proxies for many others.

Finally, results need to be compared with the circumstances in the field and incorporated into a decision making process. There are many qualitative aspects that should have emerged from the discussions that need to be taken into consideration, including obstacles to implementation. Thus, the quantitative results of this screening should be combined with

other criteria in the decision making process. However, at this point the group would have narrowed the feasible IMBMs down to a few. This will save time and focus the discussions only in those mechanisms that are feasible.

Some of these qualitative aspects are related to a particular moment in time, for instance an environmentally conscious government, an international agreement or a very specific market opportunity. The political will to implement solutions to the land degradation problems is however hard to measure and that is why the involvement of local professionals is valuable at this stage. In this sense the adequate timing of any initiative to implement IMBMs, to fit it in the national or local context, is key for success. Usually when there is combination of favourable factors for solving a specific land management problem, time is limited and the opportunity should be taken at once. All these issues are difficult to quantify but can be sensed by the trained observer and established by informed staff and consultants.

Others issues that need to be considered include the existence of perverse incentives³, or agricultural practices that are very deep rooted in the culture, asymmetric information amongst stakeholders and even the lack of adequate and cost-effective technologies.

There are different types of “perverse incentives” which have been defined as “...policies or programmes that induce unsustainable behaviour harmful to biodiversity, often as unanticipated (and unintended) side effects of policies or programmes designed to attain other objectives.” These perverse incentives include environmentally harmful subsidies, including producer subsidies that reduce the cost of inputs such as fertilizers and pesticides, and consumer subsidies derived from undervaluation of natural resources. There are also policies and laws that result in inappropriate land management decisions, including some related to resource or land access (Convention on Biological Diversity, 2010).

It is very important to identify and remove perverse incentives before implementing IMBMs. Otherwise the effectiveness of the latter will be reduced, and its impact would be counteracted by the existing policies. However, some of these perverse incentives are very hard to eliminate, since they usually benefit the powerful lobbies and are seen sometimes as the normal way of doing business. And the problem is not exclusive of poor countries; usually rich nations afford large subsidies to agriculture that generate environmental adverse effects. According to a report by OECD, its 31 members paid a total of US\$253 billion in subsidies to their agricultural producers in 2009 (OECD, 2010). The reasons behind subsidies are usually complex and difficult to eliminate. That is why a strategy worth pursuing is the reform of harmful incentives: for example moving from subsidies for the plantation of trees towards the payment for environmental services.

Step 6. Additional analysis

The screening presented above is a first step, after which a short list of 2-3 mechanisms should have been established. The next step involves carrying out additional legal, institutional and economic analysis of the mechanisms in the short list.

From the legal standpoint issues such as the legitimacy of the mechanisms proposed to raise and spend funds; limitations to the use of the land; binding compromises of land users and operating manuals must be considered. Every country has different rules and regulations

³ Incentives that promote the incorrect behavior such as settlement policies or subsidies that result in land degradation.

regarding the collection and use of funds that might be considered public. Environmental rules could also come into play regarding minimum standards, and command and control regulations that ought to work in tandem with any selected IMBM.

The institutional analysis comprises an evaluation of capacities needed and the definition of implementation arrangements. The roles and the duties of the different participants should be studied and clarified at this stage. The participation of relevant stakeholders is key for the success of any initiative, thus a significant effort needs to be made to identify them, and involve them in the process. Of particular relevance is who are the beneficiaries and providers of the eco-system service in question.

Finally, a benefit-cost analysis (BCA) of each option must be carried out. This is very important because there are different benefits and costs, and different recipients of each depending upon the chosen mechanism. For example, conservation banks and payment for environmental services schemes could benefit different stakeholders and in different ways. Furthermore, each particular case is different in terms of the distribution of benefits and costs.

Issues that must be considered in the BCA include:

- What are the transaction costs?
- Who receives the benefits and who bears the costs?
- Who is providing the service? And who is paying or compensating for it?
- What is the economic cost of setting up the IMBM (e.g. baseline studies, cost-benefit analysis, legal-institutional, facilitation, negotiations)
- Expected size of the program in dollar terms, the number of participants, and geographic scope.
- The amount that would need to be paid by environmental services' "users" (for example via a water fee or environmental tax, or premium for certified products).
- How much, or what, would participants get for modifying their practices and adopting SLMPs?
- What are the social and private cost and benefits of different land use options?
- What are the social and private cost and benefit for the "buyers" of an eco-system service and society?

This analysis will provide an additional point of comparison and will provide a clearer picture about the implications of choosing a specific mechanism. It will put together all the numbers in term of payments, expenditures, distribution of benefits, scale and others that are needed by decision makers.