



Annex 17

A/R Methodological Tool

“Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities” (Version 02)

I. SCOPE, APPLICABILITY AND PARAMETERS

Scope

1. This tool provides for a step-wise approach to demonstrate additionality in A/R CDM projects.
2. Project participants proposing new baseline methodologies may incorporate this tool in their proposal. Project participants may also propose other approaches for the demonstration of additionality to the Executive Board for its consideration.
3. In validating the application of this tool to a proposed project activity, Designated Operational Entities (DOEs) should assess credibility of all data, rationales, assumptions, justifications and documentation provided by project participants to support the selection of the baseline and demonstration of additionality.

Applicability conditions

4. The tool is applicable under the following conditions:
 - Forestation of the land¹ within the proposed project boundary performed with or without being registered as the A/R CDM project activity shall not lead to violation of any applicable law even if the law is not enforced;
 - The use of this tool to determine additionality requires the baseline methodology to provide for a stepwise approach justifying the determination of the most plausible baseline scenario². Project participants proposing new baseline methodologies shall ensure consistency between the determination of a baseline scenario and the determination of additionality of a project activity;
 - This tool is not applicable to small - scale afforestation and reforestation project activities.

Parameters

5. This procedure does not use its own parameters.

II. PROCEDURE

6. Project participants shall apply the following five steps:

¹ In the context of this tool, forestation is used for the identification of possible land use scenarios that go beyond afforestation and reforestation as defined in the Marrakech Accords and includes any establishment of forest through natural or artificial means.

² Please refer to the Glossary of A/R CDM terms contained in the “Guidelines for completing CDM-AR-PDD, CDM-AR-NMB and CDM-AR-NMM” (<http://cdm.unfccc.int/Reference/Guidclarif/index.html>).



- STEP 0. Preliminary screening based on the starting date of the A/R project activity;
- STEP 1. Identification of alternative land use scenarios to the A/R project activity;
- STEP 2. Investment analysis to determine that the proposed project activity is not the most economically or financially attractive of the identified land use scenarios; or
- STEP 3. Barriers analysis; and
- STEP 4. Common practice analysis.

The procedure is summarized in the indicative flowchart presented in Figure 1. For more specific detail regarding the individual steps, please refer to the text.

Step 0. Preliminary screening based on the starting date of the A/R project activity

7. If project participants claim that the afforestation or reforestation CDM project activity has a starting date after 31 December 1999 but before the date of its registration, then the project participants shall:

- Provide evidence that the starting date of the A/R CDM project activity was after 31 December 1999; and
- Provide evidence that the incentive from the planned sale of CERs was seriously considered in the decision to proceed with the project activity. This evidence shall be based on (preferably official, legal and/or other corporate) documentation that was available to third parties at, or prior to, the start of the project activity.

Step 1. Identification of alternative land use scenarios to the proposed A/R CDM project activity

8. This step serves to identify alternative land use scenarios to the proposed CDM project activity(s) that could be the baseline scenario, through the following sub-steps:

Sub-step 1a. Identify credible alternative land use scenarios to the proposed CDM project activity

9. Identify realistic and credible land-use scenarios that would have occurred on the land within the proposed project boundary in the absence of the afforestation or reforestation project activity under the CDM³. The scenarios should be feasible for the project participants or similar project developers taking into account relevant national and/or sectoral policies⁴ and circumstances, such as historical land uses, practices and economic trends. The identified land use scenarios shall at least include:

- Continuation of the pre-project land use;
- Afforestation / reforestation of the land within the project boundary performed without being registered as the A/R CDM project activity;

³ For example, continuation of the pre-project land-use or switch to land-use typical for region where the A/R CDM project is planned to be located, establishing agricultural plantation, tourist resort, hunting area/farm, utilizing regionally typical forms of funds investment or other economically attractive activities.

⁴ The Annex 3 to the report of the EB at its twenty-second meeting and the Annex 19 to the report of the EB at its twenty-third meeting clarify how the relevant national and/or sectoral policies shall be taken into account during identification of a baseline scenario. See: <http://cdm.unfccc.int/Reference/Guidclarif>.



- If applicable, forestation of at least a part of the land within the project boundary of the proposed A/R CDM project at a rate resulting from⁵:
 - Legal requirements; or
 - Extrapolation of observed forestation activities in the geographical area with similar socio-economic and ecological conditions to the proposed A/R CDM project activity occurring in a period since 31 December 1989, as selected by the PP.

10. For identifying the realistic and credible land-use scenarios; land use records, field surveys, data and feedback from stakeholders, and information from other appropriate sources, including Participatory rural appraisal (PRA)⁶ may be used as appropriate

11. All identified land use scenarios must be credible. All land-uses within the boundary of the proposed A/R CDM project activity that are currently existing or that existed at some time since 31 December 1989 but no longer exist, may be deemed realistic and credible. For all other land use scenarios, credibility shall be justified⁷. The justification shall include elements of spatial planning information (if applicable) or legal requirements and may include assessment of economical feasibility of the proposed land use scenario.

Outcome of Sub-step 1a: List of credible alternative land use scenarios that would have occurred on the land within the project boundary of the A/R CDM project activity.

Sub-step 1b. Consistency of credible land use scenarios with enforced mandatory applicable laws and regulations

(This sub-step does not consider national and local policies that do not have legally-binding status and local policies that have been implemented since the adoption by the COP of the CDM M&P [decision 17/CP.7, 11 November 2001]).

12. Apply the following procedure:
- Demonstrate that all land use scenarios identified in the sub-step 1a: are in compliance with all mandatory applicable legal and regulatory requirements;

⁵ If it can be shown that these forestation activities result from national and/or sectoral land-use policies or regulations that have been implemented since the adoption by the COP of the CDM M&P (decision 17/CP.7, 11 November 2001), these need not to be taken into account and the baseline scenario could refer to a hypothetical baseline rate of afforestation/reforestation without the national and/or sectoral policies or regulations being in place (Annex 19 to the report of the EB at its twenty-third meeting)

⁶ Participatory rural appraisal (PRA) is an approach to the analysis of local problems and the formulation of tentative solutions with local stakeholders. It makes use of a wide range of visualisation methods for group-based analysis to deal with spatial and temporal aspects of social and environmental problems. This methodology is, for example, described in:

- Chambers R (1992): Rural Appraisal: Rapid, Relaxed, and Participatory. Discussion Paper 311, Institute of Development Studies, Sussex;
- Theis J, Grady H (1991): Participatory rapid appraisal for community development. Save the Children Fund, London.

⁷ E.g. construction of an airport is usually not a credible land use scenario in a rural region with low population density and weak road infrastructure.



- If an alternative does not comply with all mandatory applicable legislation and regulations then show that, based on an examination of current practice in the region in which the mandatory law or regulation applies, those applicable mandatory legal or regulatory requirements are systematically not enforced and that non-compliance with those requirements is widespread, i.e. prevalent on at least 30% of the area of the smallest administrative unit that encompasses the project area;
- Remove from the land use scenarios identified in the sub-step 1a, any land use scenarios which are not in compliance with applicable mandatory laws and regulations unless it can be shown these land use scenarios result from systematic lack of enforcement of applicable laws and regulations.

Outcome of Sub-step 1b: List of plausible alternative land use scenarios to the A/R CDM project activity that are in compliance with mandatory legislation and regulations taking into account the their enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations.

If the list resulting from the Sub-step 1b is empty or contains only one land use scenario, than the proposed A/R CDM project activity is not additional.

Sub-step 1c. Selection of the baseline scenario:

13. The baseline methodology that would use this tool shall provide for a stepwise approach justifying the selection and determination of the most plausible baseline scenario.

→ Proceed to Step 2 (Investment analysis) or Step 3 (Barrier analysis), as it is necessary to undertake at least one of them.

Step 2. Investment analysis

14. Determine whether the proposed project activity, without the revenue from the sale of temporary CERs (tCERs) or long-term CERs (lCERs), is economically or financially less attractive than at least one of the other land use scenarios. Investment analysis may be performed as a stand-alone additionality analysis or in connection to the Barrier analysis (Step 3). To conduct the investment analysis, use the following sub-steps:

Sub-step 2a. Determine appropriate analysis method

15. Determine whether to apply simple cost analysis, investment comparison analysis or benchmark analysis (sub-step 2b). If the A/R CDM project activity generates no financial or economic benefits other than CDM related income, then apply the simple cost analysis (Option I). Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III). Note, that Options I, II and III are mutually exclusive hence, only one of them can be applied.

Sub-step 2b. – Option I. Apply simple cost analysis

16. Document the costs associated with the A/R CDM project activity and demonstrate that the activity produces no financial benefits other than CDM related income.

17. If the land within the boundary of the proposed of the A/R CDM project activity was at least partially forested since 31 December 1989 and the land is not a forest at the project start, the project participants shall identify incentives/reasons/actions that allowed for the past forestation and demonstrate that the current legal/financial or other applicable regulations or socio-economical or ecological or other local conditions have changed to an extent that justifies the conclusion that the activity produces no financial benefits other than CDM related income.



→ *If it is concluded that the proposed A/R CDM project activity produces no financial benefits other than CDM related income then proceed to Step 4 (Common practice analysis).*

Sub-step 2b. – Option II. Apply investment comparison analysis

18. Identify the financial indicator, such as IRR⁸, NPV, payback period, cost benefit ratio most suitable for the project type and decision-making context.

Sub-step 2b – Option III. Apply benchmark analysis

19. Identify the financial indicator, such as IRR⁹, NPV, payback period, cost benefit ratio, or other (e.g. required rate of return (RRR) related to investments in agriculture or forestry, bank deposit interest rate corrected for risk inherent to the project or the opportunity costs of land, such as any expected income from land speculation) most suitable for the project type and decision context. Identify the relevant benchmark value, such as the required rate of return (RRR) on equity. The benchmark is to represent standard returns in the market, considering the specific risk of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer. Benchmarks can be derived from:

- Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert;
- Estimates of the cost of financing and required return on capital (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds' required return on comparable projects;
- A company internal benchmark (weighted average capital cost of the company) if there is only one potential project developer (e.g. when the proposed project land is owned or otherwise controlled by a single entity, physical person or a company, who is also the project developer). The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark.

Sub-step 2c. Calculation and comparison of financial indicators (only applicable to options II and III):

20. Calculate the suitable financial indicator for the proposed A/R CDM project activity *without the financial benefits from the CDM* and, in the case of Option II above, for the other land use scenarios. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding tCER or ICERs revenues, but including subsidies/fiscal incentives where applicable), and, as appropriate, non-market cost and benefits in the case of public investors.

⁸ For the investment comparison analysis, IRRs can be calculated either as project IRRs or as equity IRRs. Project IRRs calculate a return based on project cash outflows and cash inflows only, irrespective the source of financing. Equity IRRs calculate a return to equity investors and therefore also consider amount and costs of available debt financing. The decision to proceed with an investment is based on returns to the investors, so equity IRR will be more appropriate in many cases. However, there will also be cases where a project IRR may be appropriate.

⁹ For the benchmark analysis, the IRR shall be calculated as project IRR. If there is only one potential project developer (e.g. when the project activity upgrades an existing process), the IRR shall be calculated as equity IRR.



21. Present the investment analysis in a transparent manner and provide all the relevant assumptions in the CDM-AR-PDD, so that a reader can reproduce the analysis and obtain the same results. Clearly present critical economic parameters and assumptions (such as capital costs, lifetimes, and discount rate or cost of capital). Justify and/or cite assumptions in a manner that can be validated by the DOE. In calculating the financial indicator, the project's risks can be included through the cash flow pattern, subject to project-specific expectations and assumptions (e.g. insurance premiums can be used in the calculation to reflect specific risk equivalents).

22. Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.

23. Present in the AR-CDM-PDD submitted for validation a clear comparison of the financial indicator for the proposed A/R CDM project activity *without the financial benefits from the CDM* and:

Option II (investment comparison analysis): If one of the other land use scenarios has the better indicator (e.g. higher IRR), then the A/R CDM project activity can not be considered as the financially attractive; or

Option III (benchmark analysis): If the A/R CDM project activity has a less favourable indicator (e.g. lower IRR) than the benchmark, then the A/R CDM project activity cannot be considered as financially attractive.

→ If it is concluded that the proposed A/R CDM project activity without the financial benefits from the CDM is not financially most attractive then proceed to Step 2d (Sensitivity Analysis).

Sub-step 2d. Sensitivity analysis

24. Include a sensitivity analysis that shows whether the conclusion regarding the financial attractiveness is robust to reasonable variations in the critical assumptions. The investment analysis provides a valid argument in favour of additionality only if it consistently supports (for a realistic range of assumptions) the conclusion that the proposed A/R CDM project activity without the financial benefits from the CDM is unlikely to be financially attractive.

25. If the land within the boundary of the proposed A/R CDM project activity was at least partially forested since 31 December 1989 and the land is not a forest at the project start, the project participants shall demonstrate that incentives/reasons/actions that allowed for the past forestation have changed to an extent that affects the financial attractiveness of forestation of the project area without being registered as the A/R CDM project.

- If after the sensitivity analysis it is concluded that the proposed A/R CDM project activity without the financial benefits from the CDM is unlikely to be financially most attractive (Option II and Option III), then proceed directly to Step 4 (Common practice analysis).
- If after the sensitivity analysis it is concluded that the proposed A/R CDM project activity is likely to be financially most attractive (Option II and Option III), then the project activity cannot be considered additional by means of financial analysis. Optionally proceed to Step 3 (Barrier analysis) to prove that the proposed project activity faces barriers that do not prevent the baseline land use scenario(s) from occurring. If the Step 3 (Barrier analysis) is not employed then the project activity cannot be considered additional.

Step 3. Barrier analysis



Barrier analysis may be performed as a stand-alone additionality analysis or as an extension of investment analysis.

26. If this step is used, determine whether the proposed project activity faces barriers that:
- Prevent the implementation of this type of proposed project activity; and
 - Do not prevent the implementation of at least one of the alternative land use scenarios.
27. Use the following sub-steps:

Sub-step 3a. Identify barriers that would prevent the implementation of type of the proposed project activity:

28. Establish that there are barriers that would prevent the implementation of the type of proposed project activity from being carried out if the project activity was not registered as an A/R CDM activity. The barriers should not be specific to the project participants. Such barriers may include, among others:

- Investment barriers, other than the economic/financial barriers in Step 2 above, *inter alia*:
 - For A/R project activities undertaken and operated by private entities: Similar activities have only been implemented with grants or other non-commercial finance terms. In this context similar activities are defined as activities of a similar scale that take place in a comparable environment with respect to regulatory framework and are undertaken in the relevant geographical area;
 - Debt funding is not available for this type of project activity;
 - No access to international capital markets due to real or perceived risks associated with domestic or foreign direct investment in the country where the project activity is to be implemented, as demonstrated by the credit rating of the country or other country investment reports of reputed origin;
 - Lack of access to credit.
- Institutional barriers, *inter alia*:
 - Risk related to changes in government policies or laws;
 - Lack of enforcement of forest or land-use-related legislation.
- Technological barriers, *inter alia*:
 - Lack of access to planting materials;
 - Lack of infrastructure for implementation of the technology.
- Barriers related to local tradition, *inter alia*:
 - Traditional knowledge or lack thereof, laws and customs, market conditions, practices;
 - Traditional equipment and technology.
- Barriers due to prevailing practice, *inter alia*:
 - The project activity is the “first of its kind”: No project activity of this type is currently operational in the host country or region.
- Barriers due to local ecological conditions, *inter alia*:



- Degraded soil (e.g. water/wind erosion, salination, etc.);
- Catastrophic natural and / or human-induced events (e.g. land slides, fire, etc);
- Unfavourable meteorological conditions (e.g. early/late frost, drought);
- Pervasive opportunistic species preventing regeneration of trees (e.g. grasses, weeds);
- Unfavourable course of ecological succession;
- Biotic pressure in terms of grazing, fodder collection, etc.
- Barriers due to social conditions, *inter alia*:
 - Demographic pressure on the land (e.g. increased demand on land due to population growth);
 - Social conflict among interest groups in the region where the project takes place;
 - Widespread illegal practices (e.g. illegal grazing, non-timber product extraction and tree felling);
 - Lack of skilled and/or properly trained labour force;
- Lack of organisation of local communities;
- Barriers relating to land tenure, ownership, inheritance, and property rights, *inter alia*:
 - Communal land ownership with a hierarchy of rights for different stakeholders limits the incentives to undertake A/R activity;
 - Lack of suitable land tenure legislation and regulation to support the security of tenure;
 - Absence of clearly defined and regulated property rights in relation to natural resource products and services;
 - Formal and informal tenure systems that increase the risks of fragmentation of land holdings;
 - Barriers relating to markets, transport and storage;
 - Unregulated and informal markets for timber, non-timber products and services prevent the transmission of effective information to project participants;
 - Remoteness of A/R activities and undeveloped road and infrastructure incur large transportation expenditures, thus eroding the competitiveness and profitability of timber and non-timber products from the CDM activity;
 - Possibilities of large price risk due to the fluctuations in the prices of timber and non-timber products over the project period in the absence of efficient markets and insurance mechanisms;
 - Absence of facilities to convert, store and add value to production from CDM activities limits the possibilities to capture rents from the land use under A/R CDM project activity.

29. The identified barriers are only sufficient grounds for demonstration of additionality if they would prevent potential project participants from carrying out the proposed project activity if it was not expected to be registered as an A/R CDM project activity.



30. Provide transparent and documented evidence, and offer conservative interpretations of this documented evidence, as to how it demonstrates the existence and significance of the identified barriers. Anecdotal evidence can be included, but alone is not sufficient proof of barriers. The type of evidence to be provided may include:

- Relevant legislation, regulatory information or environmental/natural resource-management norms, acts or rules;
- Relevant (sectoral) studies or surveys (e.g. market surveys, technology studies, etc) undertaken by universities, research institutions, associations, companies, bilateral/multilateral institutions, etc;
- Relevant statistical data from national or international statistics;
- Documentation of relevant market data (e.g. market prices, tariffs, rules);
- Written documentation from the company or institution developing or implementing the A/R CDM project activity or the A/R CDM project developer, such as minutes from Board meetings, correspondence, feasibility studies, financial or budgetary information, etc;
- Documents prepared by the project developer, contractors or project partners in the context of the proposed project activity or similar previous project implementations;
- Written documentation of independent expert judgements from agriculture, forestry and other land-use related Government / Non-Government bodies or individual experts, educational institutions (e.g. universities, technical schools, training centres), professional associations and others.

31. If the land within the boundary of the proposed of the A/R CDM project activity was at least partially forested since 31 December 1989 and the land is not a forest at the project start, the project participants shall identify, incentives/reasons/actions/that allowed for the past forestation and shall demonstrate that the current legal/financial or other applicable regulations or ecological or other local conditions have changed to the extent that they pose a barrier which allows for conclusion that repetition of the forestation performed without being registered as the A/R CDM project activity is not possible.

Sub-step 3 b. Show that the identified barriers would not prevent the implementation of at least one of the alternative land use scenarios (except the proposed project activity):

32. If the identified barriers also affect other land use scenarios, explain how they are affected less strongly than they affect the proposed A/R CDM project activity. In other words, explain how the identified barriers are not preventing the implementation of at least one of the alternative land use scenarios. Any land use scenario that would be prevented by the barriers identified in Sub-step 3a is not a viable alternative, and shall be eliminated from consideration. At least one viable land use scenario shall be identified.

- If both Sub-steps 3a – 3b are satisfied, then proceed directly to Step 4 (Common practice analysis).
- If one of the Sub-steps 3a – 3b is not satisfied then the project activity cannot be considered additional by means of barrier analysis. Optionally proceed to Step 2 (Investment analysis) to prove that the proposed A/R CDM project activity without the financial benefits from the CDM is unlikely to produce economic benefit (Option I) or to be financially attractive (Option



II and Option III). If the Step 2 (Investment analysis) is not employed then the project activity cannot be considered additional.

Step 4. Common practice analysis

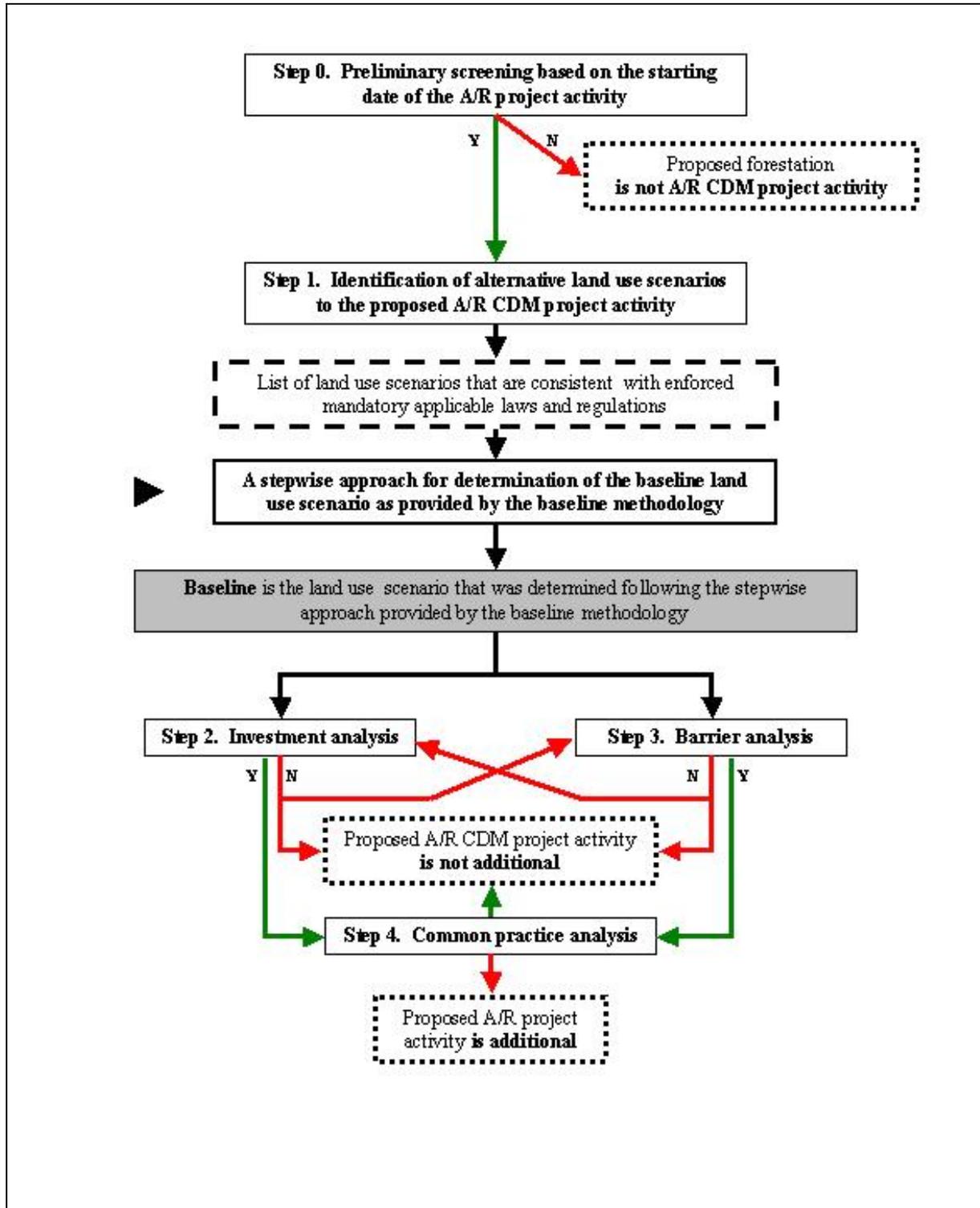
33. The previous steps shall be complemented with an analysis of the extent to which similar forestation activities have already diffused in the geographical area of the proposed A/R CDM project activity. This test is a credibility check to demonstrate additionality that complements the barrier analysis (Step 2) and the investment analysis (Step 3).

34. Provide an analysis to which extent similar forestation activities to the one proposed as the A/R CDM project activity have been implemented previously or are currently underway. Similar forestation activities are defined as that which are of similar scale, take place in a comparable environment, *inter alia*, with respect to the regulatory framework and are undertaken in the relevant geographical area, subject to further guidance by the underlying methodology. Other registered A/R CDM project activities shall not to be included in this analysis. Provide documented evidence and, where relevant, quantitative information. Limit your considerations to the period since 31 December 1989.

If forestation activities similar to the proposed A/R CDM project activity are identified, then compare the proposed project activity to the other similar forestation activities and assess whether there are essential distinctions between them. Essential distinctions may include a fundamental and verifiable change in circumstances under which the proposed A/R CDM project activity will be implemented when compared to circumstances under which similar forestations were carried out. For example, barriers may exist, or promotional policies may have ended. If certain benefits rendered the similar forestation activities financially attractive (e.g., subsidies or other financial flows), explain why the proposed A/R CDM project activity cannot use the benefits. If applicable, explain why the similar forestation activities did not face barriers to which the proposed A/R CDM project activity is subject.

→ If Step 4 is satisfied, i.e. similar activities can be observed and essential distinctions between the proposed CDM project activity and similar activities cannot be made, then the proposed CDM project activity cannot be considered additional. Otherwise, the proposed A/R CDM project activity is not the baseline scenario and, hence, it is additional.

Figure 1: Indicative flowchart of the tool for the demonstration and assessment of additionality in A/R CDM project activities.





History of the document

Version	Date	Nature of revision
02	EB35, Annex 17 19 October 2007	Applicability conditions added. Explicit consideration of lands forested since 31 December 1989. A common practice analysis test added.
01	EB21, Annex 16 30 September 2005	Initial adoption