Prioritisation Methodology

March 2014
PRIORITISATION METHODOLOGY
Table of contents

1 Introduction .......................................................................................................................... 5
2 The Projects’ Prioritisation Process .................................................................................... 7
3 The Methodological Assumptions ...................................................................................... 8
    3.1 Background ...................................................................................................................... 8
    3.2 Procedure for prioritising projects .............................................................................. 9
4 Evaluation Criteria ........................................................................................................... 12
    4.1 Regional integration criteria .......................................................................................... 12
    4.2 Technical criteria .......................................................................................................... 13
    4.3 Economic criteria .......................................................................................................... 14
    4.4 Environmental criteria ................................................................................................ 15
    4.5 Policy-based criteria .................................................................................................... 16
    4.6 Criteria weights ............................................................................................................ 17
List of Figures
Figure 1: Procedure for prioritising projects ................................................................. 9

List of Tables
Table 1: Regional integration criteria evaluation scheme .................................................. 13
Table 2: Technical criteria evaluation scheme ................................................................. 14
Table 3: Economic criteria evaluation scheme ................................................................. 15
Table 4: Environmental criteria evaluation scheme ......................................................... 16
Table 5: Policy-based criteria evaluation scheme ........................................................... 16
Table 6: Setting the relative importance of criteria for project prioritization .................. 17
Table 7: Average weights for the evaluation criteria identified during IDEA I project .......... 18

List of Abbreviations
AHP                         Value Analysis
EC                          European Commission
EIA                         Environmental Impact Assessment
DG EuropeAid               (European Commission) Directorate General for External Cooperation
GDP                         Gross Domestic Product
IDEA                        Transport Interoperability and Dialogue
                           between the EU, Caucasus and Asian
IFIs                        International Financial Institutions
TRACECA                    TRANsport Corridor Europe Caucasus Asia
VA                          Analytic Hierarchy Process
1 Introduction

This document is produced within the framework of the IDEA II Project (Transport Dialogue and Networks Interoperability II) - a follow-up of the predecessor IDEA I project - which is funded by the European Commission DG External Cooperation (DG EuropeAid) as part of the TRACECA Programme.

The TRACECA Programme has the overall objective to improve the transport links of the EU Trans-European Networks (TEN-T) with the neighbouring countries Moldavia and Ukraine, South Caucasus countries, including Armenia, Azerbaijan and Georgia and the Central Asian countries, thus facilitating trade and enabling socio-economic and environment development in the region. Additionally, the Project’s purpose is to enhance regional transport dialogue and transport inter-modality between the EU and these countries through enhanced co-ordination and working with International Financing Institutions (IFIs), closer collaboration with and participation of IFIs and, where feasible, the private sector in TRACECA transport projects.

This document describes an approach to derive at and apply a unified methodology acceptable for TRACECA member states and the EC for prioritising infrastructure projects within the framework of the TRACECA Corridors.

The objective of prioritisation process is to obtain a TRACECA owned list of priority infrastructure projects of genuine regional or sub-regional significance. The projects should be prioritised according to the degree of contribution to balanced sustainable development of the TRACECA Corridor in terms of their economic, environmental and social impacts.

This document illustrates and explains the main principles and working assumptions underpinning the prioritisation methodological approach, including the evaluation criteria adopted.

The approach here presented takes stock from to the one already developed in the context of the former IDEA project and is updated to take into account the LOGMOS Master Plan and to increase its compatibility with other existing approaches.

In particular, with the aim of increasing the compatibility with the approach developed within SEETO\(^1\), minor modifications are introduced in order to: i) level the terminology in use in the two approaches; ii) increase the relevance of cross-border projects and iii) increase the relevance of projects having strong international commitments.

It is worthwhile to mention that some differences might inevitably exist between the prioritization processes to be performed in the context of IDEA and the ones to be

\(^{1}\) South East Europe Transport Observatory.
undertaken in other working programmes, these dissimilarities being driven by the different goals to be achieved.

Indeed, SEETO methodology is specifically developed for prioritizing only projects eligible for funding that are “mature enough to start” while the approach developed within IDEA is specifically designed to allow also the evaluation of projects with a lower level of maturity that still require some preparatory work to fully determine their feasibility and whose request for funding is primarily driven by the necessity to finalize the preparatory work.

The basic difference between the goals of the two processes clearly shapes the nature and the depth of evaluations to be performed: while SEETO focuses on analysing more in depth a small set of evaluation criteria which are considered to be informative for the assessment of mature projects, the IDEA approach has a wider perspective investigating less in depth on more evaluation criteria for assessing also the strategic relevance of projects still in the preparation stage.

It is clear that projects allowed to complete their preparation after their prioritization within IDEA might be as well subsequently scrutinized by other processes more focused on prioritizing “ready-to-go” projects.

The presented approach is also designed to interact with the Logmos Master Plan, which has been conceived as a living tool whose shape and contents must evolve over the course of time. The master plan sets guidelines and identifies priorities both in terms of infrastructure and policy measures and in terms of actions. The prioritization process should have an open dialogue with the Master Plan, the pipeline of priority projects and measures selected through this process should not only be consistent with the framework provided by the Master Plan but must also enrich the Master Plan with new projects and measures in order to make it evolving over time.
2 The Projects’ Prioritisation Process

Delivering a list of sound and bankable projects with significant regional or sub-regional importance is a primary goal of IDEA Projects. Central to this reasoning is that projects should be prioritised on the basis of their degree of contribution to a transport system that is balanced in its social, economic and environmental dimensions within the TRACECA area.

For this reason a comprehensive approach for projects evaluation and prioritisation is needed.

Such approach is built upon a number of steps:

• Identification of priority project options;
• List of projects for priority rankings;
• Project description (template);
• Identification of evaluation criteria and values;
• Setting the relative importance of criteria;
• Running the evaluation.

More importantly, this approach embraces a methodology for appraisal, which, according to a set of evaluation criteria (regional, technical, economic, environmental and policy), should guide through the prioritisation process leading to the selection of projects for feasibility and funding.
3 The Methodological Assumptions

3.1 Background

Methodologically, the IDEA II Project substantially confirms the four-steps approach already developed in the predecessor IDEA project. The approach is based on:

- **Analysis of the socio-economic context and the objectives**, e.g. performing a qualitative assessment of the socio-economic context and the objectives that the proposed project investment is expected to achieve.

- **Clear identification of the project**, i.e. evaluating its direct and indirect costs and benefits.

- **Feasibility assessment and identification of possible alternative options**, i.e. justifying the project design against alternative scenarios: “business as usual”, “do–minimum”, “do–something” and “do–something else”.

- **Financial and economic analysis, and risk assessment**.

Following best practices in prioritising corridor projects and based on the Commission’s methodology developed for the High-Level Group (HLG) and the EU-Mediterranean partnership (MEDA), the Value Analysis (VA) approach was adopted in combination with the Analytic Hierarchy Process (AHP) and adapted to the specifics of the region.

The AHP through its structured approach best fits dealing with the complex decisions of identifying the appropriate project ranking for the TRACECA network. Rather than prescribing the priority “correct” projects, the AHP helps the countries find the projects that best suit the pre-defined criteria “needs” and their understanding of the problem.

On the one hand, the VA enables to compare the value of different projects with respect to each other (ranking), i.e. to compare the utility value of a specific project with that one of the others. As a result, the “best value” options receive the highest value compared to other option (projects). It should be noted that results can only be seen relative to each other, because the values are derived from a comparison.

On the other hand, and given that the weighing process of the criteria is critical for acceptance of the final ranking of projects, the AHP allows to streamline process of comparative ratings between pairs of criteria to arrive at numerical values for the weight of each criterion.

Overall, this also enabled to properly consider and combine specific country characteristics together with regional dimension and regional value added.

Such a method, the VA approach offers transparency in the decision-making process and is frequently adopted in some European countries for prioritising transport investment projects.
Such a method is particularly suitable at the prioritising stage, as most criteria cannot be expressed in monetary terms such as regional integration, etc.

### 3.2 Procedure for prioritising projects

The methodological approach provides the framework where the project prioritisation procedure is performed, which consists of four major steps:

1. Establish priority projects options, particularly
   a. Compile an updated list of projects for priority ranking
   b. Obtain description for each project
2. Identify evaluation criteria and their values (weighing)
3. Set a scale of the target compliance for evaluation
4. Run evaluation.

**Figure 1: Procedure for prioritising projects**

The entire approach is based on a **participatory approach** involving the TRACECA member states both during the methodology development, weighting of criteria, defining the project options, preparation of projects outlines and ultimately the evaluation of the projects. This is granted through work sessions in the respective country and circulation of documents.

The advantage offered by this methodology lies not only in the transparency of results; it also obviously lies in the fact that the criteria utilized can be subject to scrutiny and
consensus among TRACECA countries. This facilitates reaching consensus and creating comparable results and ultimately the acceptance of the prioritisation list.

Going into details of the prioritisation procedure, a mechanism of project options and targets system is designed.

**Project options** imply that a set of principles have to be satisfied when applying for the pre-selection of projects to be prioritized, i.e.:

- The infrastructure projects form part of the TRACECA network.
- The prioritization exercise must be done on the most updated list of priority projects. Priority projects also need very strong ownership and political support at national and international level.
- Projects must have a profile that is responsive to the criteria of evaluations.

Projects are only pre-selected and evaluated if they are consistent with some basic requirements, i.e.:

- they have to be functional to the completion of the TRACECA network;
- they have a strong ownership and political support;
- they are of regional value and responsive to evaluation criteria;
- they require the TRACECA intervention, since projects in the construction phase or with committed finance are not considered for prioritisation;
- they contribute to an optimised use of each transport mode as well as to the re-balancing of transport modes;
- they respect relevant EU legislation and international conventions and rules (EIA, Public procurement procedures, etc.).

Moreover, project descriptions are also needed to support the evaluation process. A specific template for them covering all the information was already made available from the predecessor IDEA Project. Finally, data and information collected are to be checked by the relevant National Secretary of the TRACECA countries. This allows producing a first set of project fiches and summarising the available data, which helps in identifying those critical issues on which further information are judged as needed.

**Targets System** means that the projects prioritisation is based on the extent each projects contributes to fulfil the goals the TRACECA Programme is pursuing. Following the experience gained within the TEN-T and MEDA frameworks in the project identification, three targets are chosen:

- **Improving transport operation, safety and security**, through a reduction in the number and severity of accidents caused by international traffic and in security incidents to international operators.
- **Improving economic efficiency**, mainly through cost savings to international users of the transport system and to operators offering transport services.
• **Enhancing environmental sustainability** of the transport system through a reduction in air pollution, noise, green house gases and other environmental impacts.
4 Evaluation Criteria

Key component of the project prioritization process is the design and use of the evaluation criteria. Five criteria are defined:

- Regional Integration;
- Technical;
- Economic;
- Environmental;
- Policy-based.

Each criteria head on is further divided into sub-criteria, for which a number of items are available to evaluators for their replies, and to which an evaluation scale is applied.

4.1 Regional integration criteria

The purpose of the regional integration criteria is to evaluate the degree of contribution of each project to the regional integration. In this respect, the evaluation takes into consideration the links existing at both intra- (between regions of the same country) and inter-state (between different countries) levels. Additionally, a distinction is made between direct and indirect connections. The regional integration criteria are divided into four sub-criteria, described as follows:

- **Project location**: whether the project fulfils the requirements of the LOGMOS Master Plan being part of the TRACECA core network, an access link, or neither of them.

- **Regional cooperation**: to what extent the project is expected to increase trade and services exchanges between regions directly or indirectly connected by the project; the unit of measurement is the volume of international flows.

- **Regional development**: if an economic impact assessment has been completed, to what extent the project is expected to impact on regional development; the unit of measurement might be either gross domestic product (GDP), or value added or employment.

- **Cross-border projects**: a specific relevance should be given to those projects removing administrative and technical barriers at border crossing sections, whose impact might be regarded as: (i) **high** when both unified *technical standards and procedures* will be implemented in adjacent countries, (ii) **medium** when only unified *technical standards* but not *procedures* will be implemented, (iii) **low** when only unified *procedures* but not *technical standards*, and (iv) **none** when neither unified *technical standards and procedures* will be implemented (i.e. no border-crossing project).
### Table 1: Regional integration criteria evaluation scheme

<table>
<thead>
<tr>
<th>The project fulfils the requirement of LOGMOS Master Plan and is located on:</th>
<th>TRACECA Core Network</th>
<th>On access link to TRACECA Core Network</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>The project impact on regional cooperation is:</td>
<td>High (int. flows &gt;= 10%)</td>
<td>Medium (int. flows 2 - 10%)</td>
<td>Low (int flows &lt;= 2%)</td>
</tr>
<tr>
<td>The calculated project impact on regional development is expected to be:</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>The project impact on border-crossings improvement is:</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
</tr>
</tbody>
</table>

#### 4.2 Technical criteria

Key in the technical criteria is the project relevance in terms of its physical characteristics and the main expected impacts on transport demand and networks interoperability. The former makes a distinction between new and improved existing links or nodes, whilst the latter embraces major impacts and potential benefits of a specific transport project.

In this respect, the expected impacts of a project intervention are grouped into the following five categories:

- Impacts in term of **creating a new link or node or upgrading existing ones**.
- Impacts on **inter-modality**, which may be regarded as: (i) **high** when problems of inter-modality cease to exist, (ii) **medium** when inter-modal connections are improved, (iii) **low** when inter-modality is only indirectly influenced by the project, and (iv) **none** when no effects on inter-modality are expected.
- Impacts on **travel costs reduction** and **travel time savings for international transport**, which both may be regarded as: (i) **high** if costs are significantly reduced or savings are significantly increased, (ii) **medium** if reduction or increase are not significant, (iii) **low** if reduction or increase are minor.
- Impacts on **reliability** and **safety**, which may be regarded as: (i) **significant** when serious safety and reliability problems are eliminated, (ii) **medium** when reliability and safety are slightly improved, and (iii) **low** when the project has only indirectly impacts.
Table 2: Technical criteria evaluation scheme

<table>
<thead>
<tr>
<th>The project is creating a new link or node or upgrading an existing ones:</th>
<th>Upgrade</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The project impacts on inter-modality are:</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The project impacts on travel costs reduction for international transport are:</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The project impacts on travel time savings for international transport are:</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The project impacts on reliability/safety are:</th>
<th>Significant</th>
<th>Medium</th>
<th>Low</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
</tbody>
</table>

4.3 Economic criteria

The basic concept underpinning these criteria is to evaluate the degree of economic and financial soundness for the proposed projects.

On the one side, from the economic standpoint, the evaluation process looks at the project implementation level, i.e. analysing whether: (i) pre- and/or feasibility studies are already available, (ii) estimation of investment and operational costs are already done, or, lastly, (iii) no action is undertaken.

On the other side, from the financial point of view, the evaluation aims to measure the estimated investment costs, by grouping them into three thresholds: (i) below Euro 12 Million, (ii) between Euro 12 and 20 Million, (iii) and over Euro 20 Million. This is associated to the estimated investment period, which is considered as well, as both costs and completion time are two project characteristics that enter in the evaluation of project risk, and, therefore are carefully considered by financial institutions. Again, three thresholds are proposed: (i) below five years, (ii) between five and twelve years, and (iii) above twelve years.

Finally, two further indicators are also included into the economic and financial criteria. The first one refers to the possible support from private funding, while the second one relates the status of the legal framework for concession, the latter being intended as a prerequisite for private participation into the project.
Table 3: Economic criteria evaluation scheme

<table>
<thead>
<tr>
<th>Economic assessment</th>
<th>Feasibility</th>
<th>Pre feasibility</th>
<th>Estimated costs</th>
<th>Ongoing studies</th>
<th>No action</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Estimated investment volume</th>
<th>Below 12 Mln Euro</th>
<th>Between 12/20 Mln Euro</th>
<th>More than 20 Mln Euro</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Estimated investment period</th>
<th>Equal or below 5 years</th>
<th>Between 6 and 12 years</th>
<th>Longer than 12 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Private funding is interested in the project</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Legal framework for concession is</th>
<th>In place</th>
<th>In process</th>
<th>Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4.4 Environmental criteria

Impacts produced on environment are clearly crucial when prioritising transport projects. Therefore, a set of environmental criteria is designed to take into account the positive or negative impacts, which may be regarded as follows.

**Positive environmental impacts** emerge when reduction in emissions, noise, etc. is made possible by interventions in terms of routes shortening, traffic diversion, elimination of congestion, etc.

By contrast, **negative environmental impacts** are usually tied to the completion of the infrastructure and might require: (i) mitigation interventions and, therefore, increase investment costs, or (ii) negotiating with the affected people and therefore increase completion time.

Two sub-criteria are here proposed. The first one deals with the **adverse environmental impacts of the infrastructure**, and requires assessing whether the infrastructure determines: (i) no effects, (ii) minimal effects (only minor mitigation interventions might be required), (iii) serious effects (expensive intervention required), and (iv) irreversible effects (no intervention is possible).

The second criterion is linked to the contribution of the project to the **re-balancing of transport modes in favour of the most environmentally friendly ones** which can be measured through changes in emission due to traffic: (i) sensible reduction in emissions, noise, energy consumption, (ii) medium, (iii) minimal or (iv) none and, finally, (v) negative whether there is an increase in emissions.
### Table 4: Environmental criteria evaluation scheme

<table>
<thead>
<tr>
<th>Infrastructure negative environmental effects</th>
<th>None</th>
<th>Minimal</th>
<th>Serious</th>
<th>Irreversible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution to re-balancing transport modes</td>
<td>none</td>
<td>minimal</td>
<td>serious</td>
<td>irreversible</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contribution to re-balancing transport modes</th>
<th>Sensible</th>
<th>Medium</th>
<th>Minimal</th>
<th>None</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure negative environmental effects</td>
<td>□</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contribution to re-balancing transport modes</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td></td>
<td>□</td>
</tr>
</tbody>
</table>

#### 4.5 Policy-based criteria

The last group of evaluation criteria concerns the policy context and, more specifically, how the projects fit into each country’s strategy for developing the infrastructure network.

A **first criterion** evaluates whether a project has a strong commitment at national levels i.e. whether (i) is included in the **national transport master plan/strategy**, or (ii) is mentioned in **other national planning or policy documents** less relevant than a national master plan or (iii) it is not a priority for the National Government.

The **second criterion** focuses on the **international commitment** of the project by other TRACECA countries **excluding the presenting country**, i.e. whether the project is endorsed by (i) more than two countries, (ii) two countries (iii) one country (iv) or whether it has no international commitment.

**Thirdly**, dependency on other projects completion, even not in the transport sector, is also considered as it may be an external variable that might affect the project feasibility. Here three possibilities are identified: (i) the project does not depend on any other project, (ii) it is dependent on a project that is already ongoing, or, finally, (iii) it depends on investment not yet started.

Finally, the **last criterion** pays attention to the project **readiness to go** for funding, and three thresholds are established: (i) immediate, (ii) less than 3 years, or (iii) more than 3 years.

### Table 5: Policy-based criteria evaluation scheme

<table>
<thead>
<tr>
<th>Project has commitment of National Government</th>
<th>YES</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project has International commitment of other TRACECA countries</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project has commitment of National Government</th>
<th>YES It is included in National Transport Master Plan/Strategy</th>
<th>YES It is included in other National Policy Documents</th>
<th>NO The project is not priority for the National Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project has International commitment of other TRACECA countries</td>
<td>YES More than two countries</td>
<td>YES Two countries</td>
<td>YES One country</td>
</tr>
<tr>
<td>Project has commitment of National Government</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Project has International commitment of other TRACECA countries</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>
4.6 Criteria weights

Projects are to be assessed by different experts according to five criteria, each criterion has to be compared to any other. Table 6 illustrates the relative importance of criteria for project prioritization, as already developed in the context of IDEA project.

**Table 6: Setting the relative importance of criteria for project prioritization**

<table>
<thead>
<tr>
<th>Regional Criteria are</th>
<th>4 MORE IMPORTANT</th>
<th>compared to</th>
<th>Technical Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Criteria are</td>
<td>3 SLIGHTLY MORE IMPORTANT</td>
<td>compared to</td>
<td>Economic Criteria</td>
</tr>
<tr>
<td>Regional Criteria are</td>
<td>2 EQUALLY IMPORTANT</td>
<td>compared to</td>
<td>Environment Criteria</td>
</tr>
<tr>
<td>Regional Criteria are</td>
<td>1 SLIGHTLY LESS IMPORTANT</td>
<td>compared to</td>
<td>Policy Criteria</td>
</tr>
<tr>
<td>Regional Criteria are</td>
<td>0 LESS IMPORTANT</td>
<td>compared to</td>
<td>Environment Criteria</td>
</tr>
<tr>
<td>Technical Criteria are</td>
<td></td>
<td></td>
<td>Policy Criteria</td>
</tr>
<tr>
<td>Technical Criteria are</td>
<td></td>
<td></td>
<td>Economic Criteria</td>
</tr>
<tr>
<td>Technical Criteria are</td>
<td></td>
<td></td>
<td>Environment Criteria</td>
</tr>
<tr>
<td>Economic Criteria are</td>
<td></td>
<td></td>
<td>Policy Criteria</td>
</tr>
<tr>
<td>Economic Criteria are</td>
<td></td>
<td></td>
<td>Economic Criteria</td>
</tr>
<tr>
<td>Environment Criteria are</td>
<td></td>
<td></td>
<td>Policy Criteria</td>
</tr>
</tbody>
</table>

Criteria weights are to be derived from pair comparisons expressed by each country, and in order to summarise the experts’ judgments, a measure of the relative importance of each criterion is needed. Such a measure is estimated starting from the expert responses as follows.

Five criteria compared to each other give rise to ten pair comparisons in total. Each pair has therefore a ‘weight’ of 0.1 (or 10%) in the explanation of how relevant criteria are. At the same time, the result of each comparison is expressed on a rating scale (“More important”, “Slightly more important”, “Equally important”). To keep this into account, the total weight of each pair is split between the two criteria as follows:

- When one criteria is rated as “more important” (rate 4) it gets the whole weight (0.1) while its counterpart gets 0;
- When one criteria is rated as “slightly more important” (rate 3) it gets a weight of 0.075 while its counterpart gets 0.025;
- When one criteria is rated as “equally important” (rate 2) it gets a weight of 0.05 and also its counterpart gets 0.05;
When one criteria is rated as “slightly less important” (rate 1) it gets a weight of 0.025 while its counterpart gets 0.075;

When one criteria is rated as “less important” (rate 0) it gets 0 while its counterpart gets the whole weight 0.1.

Simply the sum of the weights attributed to each criteria for a given country is the average rating of that criteria. The average across-countries provides the final rating used to weight criteria. Table 7 illustrates the computed average weights for the distinct evaluation criteria developed in the context of the predecessor IDEA project.

**Table 7: Average weights for the evaluation criteria identified during IDEA I project**

<table>
<thead>
<tr>
<th>Evaluation criteria</th>
<th>Average weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional criteria</td>
<td>0.281</td>
</tr>
<tr>
<td>Technical criteria</td>
<td>0.187</td>
</tr>
<tr>
<td>Economic criteria</td>
<td>0.188</td>
</tr>
<tr>
<td>Environment criteria</td>
<td>0.160</td>
</tr>
<tr>
<td>Policy criteria</td>
<td>0.185</td>
</tr>
</tbody>
</table>

*Source: IDEA Project, 2009*

It emerges how the regional criteria were considered by far the most important criteria. The remaining criteria performed in a similar manner, with the exception of the environment criteria, which ranked last.

As a methodological remark, it should be noted that the chosen split rule between weights, especially in those cases when criteria are rated as “slightly more important” or “slightly less important” (and so one gets a weight of 0.75 and the other gets 0.25) is arbitrary. One may well choose to use another rule (e.g. 0.67 and 0.33). Yet, since the final average ratings do not show large differences between the five criteria, a different rule would probably not cause a dramatic difference.

It is also important to point out that:

- the final score of each question is to be computed through the average of all the answers given by different evaluators;

- missing answers are to be excluded from the evaluation (the average is to be computed on the numbers of valid answers).