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UNECE – UNESCAP

UN Development Account Capacity Building Project
on Interregional Transport Linkages

3rd Expert Group Meeting on Developing Euro-Asian Transport Linkages
(27 – 29 June 2005, Istanbul, Turkey)

Document 7. Proposed methodology for prioritization of investment projects along selected Euro-Asian routes

1.   Introduction

The 1st Expert Group Meeting, held in March 2004 in Almaty, Kazakhstan, in the framework of the UNECE-UNESCAP Euro-Asian Transport Linkages Project, agreed that the first phase of the project would focus on the formulation of interregional transport linkages between Europe and Asia. On the basis of set criteria, participating countries nominated the relevant "Euro-Asian Transport Linkages" (EATL) passing through their territories. The UNECE and UNESCAP (hereafter called the secretariat), based on country proposals, consolidated the nominated linkages, identified "missing links" between these linkages and proposed a number of routes that could be further developed, starting with an in-depth analysis to be conducted during the next Phase of the project (2005).

The 2nd Expert Group Meeting identified, selected and adopted the major rail and road routes of the EATL for priority development and cooperation, comprising a set of 8 rail routes with some branches and 10 road routes with branches.

The quality of transport infrastructure in the participating countries varies widely. Given that all countries have investment needs, and are competing for scarce resources, the secretariat requested countries to provide in their country report two tables on investment activities: the first on current/planned investment activities, and the second on newly proposed projects over the short term (up to 2010); medium term (up to 2015) and long term (beyond 2015). The responses from countries have been consolidated into an Information Note to accompany the discussion. As not all countries submitted country reports and new project proposals might have emerged, there is still a need to follow-up in order to develop a comprehensive picture of investment activities to complete in the region concerned.

As agreed at the 1st Expert Group Meeting, the proposed projects would have to be prioritized using a set of agreed criteria. In this regard, a first attempt to identifying investment priority needs and setting of criteria for prioritization of projects took place during the 2nd Expert Group Meeting.

2. Objective

On the basis of the above, all projects to be considered in this exercise should belong or being extensions of the already identified Euro-Asian Transport Linkages (EATL) routes.

Building on existing experience, a similar approach to that used for the elaboration of the TEM and TER Master Plan is proposed to be considered for project prioritization in the case of EATL, with the necessary adaptations.

The methodology will have three main phases:

PHASE A – Identification
↓
PHASE B – Evaluation
↓
PHASE C – Prioritisation

Identification: the initial screening process will group projects in two groups: those with committed funding and those without committed funding. Those projects with committed funding will be put in Category I.

Evaluation projects without committed funding with respect to more specific evaluation criteria

Prioritisation of the projects -based on the evaluation results- in order to classify them into three priority levels (Category I, II and III). After the completion of project's prioritisation, the identification of the projects that are or are not on the EATL routes will take place.

A definition of "project" follows:

> **Definition of Project**: A project is considered a new construction or the upgrade/rehabilitation of a transport infrastructure section. Also a project can be the construction or the upgrade/rehabilitation of a transport terminal/port (maritime or inland waterways) etc. The infrastructure section can vary in length however it should constitute an expenditure of almost 10 million $. An exception of the latter mentioned rule applies if the project involves a missing link or a bottleneck.

3. Data Needed

Countries will be requested to further elaborate the list of projects proposed in the country reports in the following manner:

a) For projects with funding committed (Category I), only additional technical information is needed.

b) For projects without funding committed, complete additional technical information and evaluation criteria questionnaire.

c) For newly proposed projects, complete all necessary information, to be reported by filling the respective fiche.

This procedure will take place during the evaluation phase of the methodology. The analysis of the procedure as well as the project fiches will be explained later in this document.

4. PHASE A - Project Identification

Within the identification phase, projects will be grouped according to whether they have committed funding or not.

If a project has already secured necessary funding, there is scope for collecting some additional data ("project technical specifications") but no need for the prioritization exercise. They will be directly prioritised as priority Category I.

The consultants will complete TEMPLATE 1. For each project in TEMPLATE[1] 1, the respective TEMPLATES 2 will be completed as well, as it is explained in section next.

5. PHASE B - Evaluation

The still very preliminary level of definition of most projects, the lack of precise information on the present situation, the imperfect knowledge of transport demand perspectives, the large array in types of projects as well as the specific objectives of EATL, mitigate in favour of utilizing a Multi-Criteria Analysis, instead of any other method, to compare and evaluate the identified projects.

Such a method will allow available information to be taken into account on projects, even at their very preliminary level of definition, as well as background data. At the same time some specific elements of particular interest for the decision-makers may be introduced.

5.1 Selection of criteria

The specific evaluation criteria are developed in two "dimensions":

- the horizontal dimension called "Functionality/ Coherence" expresses the role of the project in the functionality and coherence of the Euro-Asian Transport Linkages.

- the vertical dimension called "Socio-economic Efficiency/ Sustainability" expresses the socio-economic return on investment.

Under these two fundamental orientations of the evaluation process, the following criteria have been introduced, which are aimed at covering all of the objectives and specifics relating to the EATL exercise. The criteria were identified during the 2nd Expert Group Meeting.

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[1] All Templates can be found in ANNEX I of this document.

CLUSTER A - Horizontal Dimension: Functionality/ Coherence Criteria (C_A)

- Serve international connectivity (reaching a border crossing point or provide connection with a link that is border crossing); (C_{A1})

- Promote solutions to the particular transit transport needs of the landlocked developing countries; (C_{A2})

- Connect low income and/or least developed countries to major European and Asian markets; (C_{A3})

- The project crosses natural barriers, removes bottlenecks, raises substandard sections to meet international standards, or fills missing links in the EATL; (C_{A4})

CLUSTER B - Vertical Dimension: Socio-economic Efficiency and Sustainability Criteria (C_B)

- Have high degree of urgency due to importance attributed by the national authorities and/or social interest; (C_{B1})

- Pass economic viability test; (C_{B2})

- Have a high degree of maturity, in order to be carried out quickly (i.e. project stage); (C_{B3})

- Financing feasibility (C_{B4})

- Environmental and social impacts (C_{B5})

5.2   Quantification of criteria

Criteria can be quantified for each of the projects under consideration either by direct classification according to measurable characteristics, or by "quality attributes", assessed by expert judgment. Such subjective measurement is unavoidable in a multi-criteria analysis, whenever available information is not precise or reliable enough. The necessary information for criteria quantification will be extracted from project fiches.

5.2.1   Measurement of criteria

An <u>indicative</u> measurement for the above criteria -based on TEM and TER similar work as well as on Consultants experience-follows:

CLUSTER A - Horizontal Dimension: Functionality/ Coherence Criteria (C_A)

1. Serve international connectivity (reaching a border crossing point or provide connection with a link that is border crossing); (C_{A1})

   A: Greatly improves connectivity, B: Significantly improves connectivity, C: Somewhat improves connectivity, D: Slightly improves connectivity, E: Does not improve connectivity.

2. Promote solutions to the particular transit transport needs of the landlocked developing countries; (C_{A2})

The projects provides solution..

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

3. Connect low income and/or least developed countries to major European and Asian markets; (C_{A3})

The projects connects..

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

4. The project crosses natural barriers, removes bottlenecks, raises substandard sections to meet international standards, or fills missing links in the EATL; (C_{A4})

The project crosses natural barriers or removes bottlenecks and/ or missing links in EATL..

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

CLUSTER B - Vertical Dimension: Socio-economic Efficiency and Sustainability Criteria (C_B)

1. Have high degree of urgency due to importance attributed by the national authorities and/or social interest; (C_{B1})

The project is..

A: In the national plan and immediately required (for implementation up to 2008), B: In the national plan and very urgent (for implementation up to 2010), C: In the national plan and urgent (for implementation up to 2015), D: In the national plan but may be postponed until after 2015, E: Not in the national plan.

2. Pass socio-economic viability test; (C_{B2})

The project is expected to increase traffic (both existing and generated) …

A: More than 15%, B: 10-15%, C: 5- 10%, D: less than 5%, E: Will not affect traffic

3. Have a high degree of maturity, in order to be carried out quickly (i.e. project stage); (C_{B3})

Project's is at stage of…

A: Tendering, B: Feasibility study, C: Pre-feasibility study, D: Planning, E: Identification

4. Financing feasibility; (C_{B4})

Projects' financing feasibility is..

A: Excellent, B: Very Good, C: Good, D: Medium, E: Low

5. Environmental and social impacts; (C_{B5})

    The project has potentially has negative environmental or social impacts (pollution, safety, etc).

    A: No impact, B: Slight impact, C: Moderate impact, D: Significant impact, E; Great impact.

5.2.2 Derivation of criteria

The criteria scores for each project, according to the above quantification, will be derived following the next steps:

Step 1:

Based on the completed TEMPLATE 1 and part of TEMPLATE 2 (with information received from the countries from country reports), the Consultants will communicate them to the countries to further fill TEMPLATE 2 with additional information.

Step 2:

Upon receipt of TEMPLATES 2 completed fully by the countries the consultant will propose the default set of criterion scores to be used for the evaluation of the projects (See TEMPLATE 3 in Annex I).

For projects that no data or insufficient data are provided, the scores will be produced using the Delphi method. The Delphi team will be constituted from:

The external consultant

The UNECE representative

The UNESCAP representative

Step 3:

Upon completion of TEMPLATE with default set of criterion scores to be used in the evaluation of project proposals, filled by the consultants, will be communicated to the country experts. The respective work will be advanced on the basis of the default scores proposed by the consultants and in case of disagreement, country experts may fill up the respective column of their country with their proposed scores, providing explanations on the reasons for changing the scores and return it.

According to the quantification of criteria – as described above – the A value is 5 (the highest) in terms of score. Respectively for value E, is 1 (the lowest).

In Annex II the typology of criteria quantification is shown.

It has to be noted here, that the good communication between the externals and the country experts is necessary in order to quantify as good as possible all the criteria.

5.2.3 Weighting/ Hierarchy of Criteria

Having the criteria scores, the evaluation of projects is complete. But in order to proceed with the prioritization of projects criteria weights must be defined.

Country experts will receive TEMPLATE 4 with proposed default set of weights, filled by the consultants, based on the Paired Comparison Method (see Annex III). In case they disagree they may also fill up the respective column of their country with their proposed scores, providing explanations on the reasons for the reasons of changing the weights (See TEMPLATE 4).

The template for criterions weights is TEMPLATE 4, and like the other Templates is in Annex I.

In Annex II the typology of criteria quantification is shown.

It has to be noted here, that the good communication between the externals and the country experts is necessary in order to weight as good as possible all the criteria.

Furthermore, if country experts provide their own weights, with the proper justification of course, we might avoid putting a project into the wrong/unwanted priority category.

6. PHASE D - Prioritization

6.1 Projects total score

To prioritize the projects, we must first obtain their final/ total scores. This will be purely a responsibility of the Consultant.

To derive the project's **total score in each country** we will use linear additive model. The Total Score – for all dimensions together - of each project **in each country** will be the weighted sum of the criteria scores and takes values between 1 (the lowest) and 5 (the highest).

6.2 Projects' priorities

The combination of the criterions scores and priorities puts each project in one of the four priority categories or reserve category.

If the project already has committed funding, it belongs to priority category **I**.

If the project scores between 4-5 then it belongs to priority category **II**.

If the project scores 3 -4 then it belongs to priority category **III**.

If the project scores 1 -3 then it belongs to priority category **IV**.

If the project has not pass the pre-selection phase then it belongs to reserve category.

The classification of priorities is:

- **I**: projects, which have funding secured and are ongoing or planned and are expected to be completed in the near future (up to2010).
- **II**: projects which may be funded and implemented rapidly (up to 2015).
- **III**: projects requiring some additional investigations for final definition before likely financing (up to 2020).
- **IV**: projects requiring further investigations for final definition and scheduling before possible financing

- **Reserve**: projects to be implemented in the long run, including the projects where insufficient data existed.

After the completion of project's prioritisation, the identification of the projects that are or are not on the EATL routes will take place. This will help to "map" the current and expected status of the infrastructure along the routes.

Annex I: Data Templates *& Guidelines for their completion*

Annex II: Multicriteria Appraisal Method Typology

Annex III: Pair Comparison Weighting Technique

DATA TEMPLATES **& GUIDELINES FOR DATA COLLECTION**

The project fiches (TEMPLATE 1 and TEMPLATES 2A, 2B, 2C and 2D) follow in pages next.

The guidelines for data collection are in general:

- if data are in existing project's studies, then these data should be used
- if data are not in existing studies then estimates should be made from the country experts
- if data are not existent in project's studies and estimates are impossible to be made then relevant studies and projects should be used (i.e. TEM and TER)
- if none of the above is possible leave it blank

Templates 3 & 4 will be completed by consultant and then circulated to countries for check and changes (if country wishes so).

Also the country will have to complete a cover page similar to the country report.

COVER PAGE

COUNTRY: _____

NAME OF NATIONAL FOCAL POINT: _____

ADDRESS: _____

_____

_____

_____

TELEPHONE: _____

FAX: _____

EMAIL: _____

DATE SUBMITTED: _____

SIGNATURE: _____

TEMPLATE 1 – Identified Projects

Project ID	Related infrastructure	Project Name	Project cost (MIO)	Security of funds (Y/N)
	Sections	*e.g. Rehabilitation of: Ankara by-pass*	*Please indicate the currency*	

TO BE COMPLETED BY THE CONSULTANT

TEMPLATE 2A – Road and related infrastructure Project Fiche

Project Name:

Projects Group: *Funded/ Unfunded*

Note: If Funded, fill in Section 1 only. If Unfunded, fill in Sections 1 and 2.

Section 1. Project Technical Characteristics:

1. Location (latitude/longitude or alternatively a map):

2. Road Class[1]:

3. Length (in km):

4. Number of carriageways:

5. No of lanes:

6. Design Speed (km/h):

7. Annual Average Daily Traffic[2]:

8. Estimated % of freight vehicles[3]:

9. Expected (total) traffic increase (in % - *both existing and generated*):

10. Road toll implementation: ☐ YES   ☐ NO

Section 2. Project Information Concerning Criteria of CLUSTER A

11. Is the project serving international connectivity? ☐ YES ☐ NO

If **yes** is it expected to:

A: Greatly improves connectivity, B: Significantly improves connectivity, C: Somewhat improves connectivity, D: Slightly improves connectivity, E: Does not improve connectivity.

12. Will the project promote solutions to the particular transit transport needs of the landlocked developing countries? ☐ YES ☐ NO

If **yes** is the project providing solution:

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

13. Will the project connect low income and/or least developed countries to major European and Asian markets? ☐ YES ☐ NO

If **yes** is the project providing connection:

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

14. Will the project cross natural barriers, removes bottlenecks, raises substandard sections to meet international standards, or fills missing links in the EATL? ☐ YES ☐ NO

If **yes** is the project crosses..:

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

15. Will the project have a high degree of urgency due to importance attributed by the national authorities and/or social interest? ☐ YES ☐ NO

If **yes** the projects is:

A: In the national plan and immediately required (for implementation up to 2008), B: In the

national plan and very urgent (for implementation up to 2010), C: In the national plan and urgent (for implementation up to 2015), D: In the national plan but may be postponed until after 2015, E: Not in the national plan.

16. Will the project potentially create negative environmental or social impacts (pollution, safety, etc)? ☐ YES ☐ NO

If **yes** the size of impact is:

A: No impact, B: Slight impact, C: Moderate impact, D: Significant impact, E; Great impact.

Project Information Concerning Criteria of CLUSTER B

17. Project cost (in million):

18. Expected Starting Date:

19. Expected Completion Date:

20. IRR:

21. Project's stage: ☐ Construction ☐ Tendering ☐ Study/Design

☐ Planning ☐ Identification

22. Expected Funding Sources (and the % of funding for each one):

    a. ….

    b. ….

    c. …..

    d. ….

[1] *If AGR (M=Motorway, E=Express road, O=Ordinary road); if AH (P=Primary, I= Class I, II= Class II, III=Class III), or both if applicable.*
[2] *For the year 2000 and latest year, if available.*
[3] *Freight vehicles include any vehicles used to transport freight, such as trucks and trailers.*

NOTE: The shadowed cells information will be completed by the consultant for each identified road project, based on the countries reports. And then countries will have to complete the white cells, following the note in cells "Projects Group". In the case of a newly proposed project that was not initially proposed in the country report, countries will have to complete all data. The same stands for missing information from the country report, which will be indicated in red letters from the consultant.

TEMPLATE 2B – Rail and related infrastructure Project Fiche

Project Name:

Projects Group: *Funded/ Unfunded*

Note: If Funded, fill in Section 1 only. If Unfunded, fill in Sections 1 and 2.

Section 1. Project Technical Characteristics:

1. Location (latitude/longitude or alternatively a map):

2. Length (in km):

3. Track gauge (mm):

4. No of tracks:

5. Traction: ☐ Electrified ☐ Non-Electrified

6. Signaling type: ☐ Automatic ☐ Manual

7. Maximum allowed speed - passenger trains:

8. Maximum allowed speed - freight trains:

9. Average Daily Train Traffic - Passenger trains[1]:

10. Average Daily Train Traffic - Freight trains[1]:

11. Expected (total) traffic increase (in % - *both existing and generated*):

12. Volume of cargo moved (tones and TEUs)[1]:

Section 2. Project Information Concerning Criteria of CLUSTER A

13. Is the project serving international connectivity? ☐ YES ☐ NO

If **yes** is it expected to:

A: Greatly improves connectivity, B: Significantly improves connectivity, C: Somewhat improves connectivity, D: Slightly improves connectivity, E: Does not improve connectivity.

14. Will the project promote solutions to the particular transit transport needs of the landlocked developing countries? ☐ YES ☐ NO

If **yes** is the project providing solution:

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

15. Will the project connect low income and/or least developed countries to major European and Asian markets? ☐ YES ☐ NO

If **yes** is the project providing connection:

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

16. Will the project cross natural barriers, removes bottlenecks, raises substandard sections to meet international standards, or fills missing links in the EATL? ☐ YES ☐ NO

If **yes** is the project crosses..:

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

17. Will the project have a high degree of urgency due to importance attributed by the national authorities and/or social interest? ☐ YES ☐ NO

If **yes** the projects is:

A: In the national plan and immediately required (for implementation up to 2008), B: In the national plan and very urgent (for implementation up to 2010), C: In the national plan and urgent (for implementation up to 2015), D: In the national plan but may be postponed until after 2015, E: Not in the national plan.

18. Will the project potentially create negative environmental or social impacts (pollution, safety, etc)? ☐ YES ☐ NO

If **yes** the size of impact is:

A: No impact, B: Slight impact, C: Moderate impact, D: Significant impact, E; Great impact.

Project Information Concerning Criteria of CLUSTER B

19. Project cost (in million):

20. Expected Starting Date:

21. Expected Completion Date:

22. IRR:

23. Project's stage: ☐ Construction   ☐ Tendering   ☐ Study/Design

☐ Planning   ☐ Identification

24. Expected Funding Sources (and the % of funding for each one):

a. ….

b. ….

c. …..

d. ….

[1]For the year 2000 and latest year, if available.

NOTE: The shadowed cells information will be completed by the consultant for each identified rail project, based on the countries reports. And then countries will have to complete the white cells, following the note in cells "Projects Group". In the case of a newly proposed project that was not initially proposed in the country report, countries will have to complete all data. The same stands for missing information from the country report, which will be indicated in red letters from the consultant.

TEMPLATE 2C – Inland waterways and related infrastructure Project Fiche

Project Name:
Projects Group: *Funded/ Unfunded*   *Note*: If Funded, fill in Section 1 only. If Unfunded, fill in Sections 1 and 2.
Section 1. Project Technical Characteristics: 1. Location (latitude/longitude or alternatively a map):   2. Length (in km):   3. Max. admissible LNWL[1]:   4. Mi. bridge clearance at HNWL[2]:   5. Lock dimensions: 6. Permitted operational speed (km/h):   7. Yearly vessel traffic[3]:   8. Expected (total) traffic increase (in % - *both existing and generated*):
Section 2. Project Information Concerning Criteria of CLUSTER A   9. Is the project serving international connectivity? ☐ YES ☐ NO   If **yes** is it expected to: A: Greatly improves connectivity, B: Significantly improves connectivity, C: Somewhat improves connectivity, D: Slightly improves connectivity, E: Does not improve connectivity.   10. Will the project promote solutions to the particular transit transport needs of the landlocked developing countries? ☐ YES ☐ NO   If **yes** is the project providing solution: A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not   11. Will the project connect low income and/or least developed countries to major European and Asian markets? ☐ YES ☐ NO   If **yes** is the project providing connection: A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not   12. Will the project cross natural barriers, removes bottlenecks, raises substandard sections to meet international standards, or fills missing links in the EATL? ☐ YES ☐ NO   If **yes** is the project crosses..:   A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not   13. Will the project have a high degree of urgency due to importance attributed by the national authorities and/or social interest? ☐ YES ☐ NO   If **yes** the projects is: A: In the national plan and immediately required (for implementation up to 2008), B: In the national plan and very urgent (for implementation up to 2010), C: In the national plan and urgent (for implementation up to 2015), D: In the national plan but may be postponed until after 2015, E: Not in the national plan.

14. Will the project potentially create negative environmental or social impacts (pollution, safety, etc)? ☐ YES   ☐ NO

If **yes** the size of impact is:

A: No impact, B: Slight impact, C: Moderate impact, D: Significant impact, E; Great impact.

Project Information Concerning Criteria of CLUSTER B

15. Project cost (in million):

16. Expected Starting Date:

17. Expected Completion Date:

18. IRR:

19. Project's stage: ☐ Construction   ☐ Tendering   ☐ Study/Design

☐ Planning   ☐ Identification

20. Expected Funding Sources (and the % of funding for each one):

   a. ….

   b. ….

   c. …..

   d. …..

[1] *Low Navigable Water Level*

[2] *Highest Navigable Water Level*

[3] *For the year 2000 and latest year, if available.*

NOTE: The shadowed cells information will be completed by the consultant for each identified inland waterway project, based on the countries reports. And then countries will have to complete the white cells, following the note in cells "Projects Group". In the case of a newly proposed project that was not initially proposed in the country report, countries will have to complete all data. The same stands for missing information from the country report, which will be indicated in red letters from the consultant.

TEMPLATE 2D – Ports (sea and inland waterway), Inland container depot/Intermodal freight terminal/Freight village/Logistic centre and related infrastructure Project Fiche

Project Name:	

Projects Group: *Funded/ Unfunded*

Note: If Funded, fill in Section 1 only. If Unfunded, fill in Sections 1 and 2.

Project Type: ☐ Sea Port   ☐ Inland Waterway Port ☐   Inland Container Depot

☐ Intermodal Freight Terminal ☐ Freight Village/Logistic Center

Section 1. Project Technical Characteristics:

1. Location (latitude/longitude or alternatively a map):
2. Maximum draft of vessels served (in m) – PORTS ONLY:
3. Ships berths available (in m) – PORTS ONLY:
4. Handling facilities (specific equipments)[1]:
5. Open/ covered storage space (in m^2):
6. Customs and services available:
7. Types of ships handled (refer to specific types i.e. Dry cargo-bulk-container-Ro/Ro Passenger):
8. Bulk cargo handling capacity (tonnes/day)[2]:
9. Container handling capacity (TEU/day):
10. Annual throughput (tones and TEUs)[3]:
11. Expected (total) traffic increase (in % - *both existing and generated*):

Section 2. Project Information Concerning Criteria of CLUSTER A

12. Is the project serving international connectivity? ☐   YES ☐   NO

If **yes** is it expected to:

A: Greatly improves connectivity, B: Significantly improves connectivity, C: Somewhat improves connectivity, D: Slightly improves connectivity, E: Does not improve connectivity.

13. Will the project promote solutions to the particular transit transport needs of the landlocked developing countries? ☐   YES ☐   NO

If **yes** is the project providing solution:

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

14. Will the project connect low income and/or least developed countries to major European and Asian markets? ☐   YES ☐   NO

If **yes** is the project providing connection:

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

15. Will the project cross natural barriers, removes bottlenecks, raises substandard sections to meet international standards, or fills missing links in the EATL? ☐   YES ☐   NO

If **yes** is the project crosses..:

A: Greatly, B: Significantly, C: Somewhat, D: Slightly, E: Does not

16. Will the project have a high degree of urgency due to importance attributed by the national authorities and/or social interest? ☐ YES ☐ NO

If **yes** the projects is:

A: In the national plan and immediately required (for implementation up to 2008), B: In the national plan and very urgent (for implementation up to 2010), C: In the national plan and urgent (for implementation up to 2015), D: In the national plan but may be postponed until after 2015, E: Not in the national plan.

17. Will the project potentially create negative environmental or social impacts (pollution, safety, etc)? ☐ YES ☐ NO

If **yes** the size of impact is:

A: No impact, B: Slight impact, C: Moderate impact, D: Significant impact, E; Great impact.

Project Information Concerning Criteria of CLUSTER B

18. Project cost (in million):

19. Expected Starting Date:

20. Expected Completion Date:

21. IRR:

22. Project's stage: ☐ Construction ☐ Tendering ☐ Study/Design

☐ Planning ☐ Identification

23. Expected Funding Sources (Name the sources and the % of funding for each one):

   a. ….

   b. ….

   c. …..

   d. ….

[1] *Cranes-gantries-mobile-forklifts-20'/40' containers. Also indicate availability of rail/road transhipment facilities.*
[2] *Where applicable.*
[3] *For the year 2000 and latest year, if available.*

NOTE: The shadowed cells information will be completed by the consultant for each identified ports (sea and inland waterway), Inland container depot/Intermodal freight terminal/Freight village/Logistic centre project, based on the countries reports. And then countries will have to complete the white cells, following the note in cells "Projects Group". In the case of a newly proposed project that was not initially proposed in the country report, countries will have to complete all data. The same stands for missing information from the country report, which will be indicated in red letters from the consultant.

TEMPLATE 3 Project Criteria Scores (*each country complete the relevant column, if so wishes***)

Criteria	Default Set of Scores by consultants*	AFT	ARM	AZT	BL	BG	CN	GE	IR	KZ	KG	MD	RO	RU	TJK	TU	TM	UKR	UZB
C_A																			
C_{A1}																			
C_{A2}																			
C_{A3}																			
C_{A4}																			
C_B																			
C_{B1}																			
C_{B2}																			
C_{B3}																			
C_{B4}																			
C_{B5}																			

* Or provided by the Delphi team when necessary.
** In case country experts disagree with proposed scores, they may fill up the respective column of their country with their proposed scores,   providing an adequate justification of the wanted change.

TEMPLATE 4 Project Criteria Weights (*each country complete the relevant column, if so wishes***)

Weights	Default Set of Weight by consultants*	AFT	ARM	AZT	BL	BG	CN	GE	IR	KZ	KG	MD	RO	RU	TJK	TU	TM	UKR	UZB
W_A																			
W_{A1}																			
W_{A2}																			
W_{A3}																			
W_{A4}																			
W_B																			
W_{B1}																			
W_{B2}																			
W_{B3}																			
W_{B4}																			
W_{B5}																			
SUM																			

* Or provided by the Delphi team
** In case country experts disagree with proposed weights. They may fill up the respective column of their country with their proposed weights providing an adequate justification of the wanted change.

1. *ANNEX II*

MULTICRITERIA APPRAISAL METHOD TYPOLOGY

2.

Criteria Quantification

According to the quantification of criteria – as described in text– the A value is 5 (the highest) in terms of score. Respectively for value E, is 1 (the lowest).

Therefore:

$$C_{Ji} \in [1,5]$$

Where:

J = A or B and

i = 1,….,5

Weighting/ Hierarchy of Criteria

The sum of criteria weights should be 1.

Therefore:

$$W_{Ji} \in [0,1] \text{ and}$$

$$\sum_{J=A}^{C}\sum_{i=1}^{5} W_{Ji} = 1$$

where:

J = A or B and

i = 1,….,5

Projects total score

To derive the project's **total score in each country** we use the following relationship:

$$\text{T.S.}_{Project/Country} = \sum_{J=A}^{C}\sum_{i=1}^{5} C_{Ji} * W_{Ji}$$

where:

$C_{Ji} \in [1,5]$

$W_{Ji} \in [0,1]$

J = A or B and

i = 1,….,5

Therefore:

$TS_{Project/Country} \in [1,5]$

3.   *ANNEX III*

4.   *PAIR COMPARISON WEIGHTING TECHNIQUE*

4.1   The weights were derived by paired Comparison method

4.2

4.3   Paired comparison[2]

Paired comparison approach is a scaling approach. In simple terms using this approach in order to derive criteria weights the only question to be answered is "is this criterion more important than the other?". This means that the paired comparison matrix (see Table A-I next) can be filled with zeros and ones, where one represents "is more important". By adding these values over the column, a measure is obtained for the degree to which a criterion is important compared to all other criteria, if finally these measures are standardised, a set of criteria weights is created.

	W_1	W_2	…	W_N
W_1				
W_2				
…				
W_N				

Table A-I: An example of Paired Comparison matrix

Standardisation formulas for this task are many, but for this project there is only one that suits us:

Standardisation formula: a transformation of 'raw' scores to scores with a range from 0 to 1 with an *additivity constraint[3]*. The formula is as follows:

$$\text{Standardised score } w_i = \frac{'raw'\,score..w_i}{\sum 'raw'\,scores} \textbf{ (A-I)}$$

Basically each 'raw' score is divided by the sum of all 'raw' scores. This kind of transformation is especially appropriate in standardising various sets of different criterion weights; since an application of **(A-I)** implies that all those weights will then add up to unity.

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[2] The idea was based on **Appendix 4.II, pg.60 – Chapter 4: Assessment of priority weights and preferences** from the book **"Multicriteria Evaluation in Physical Planning"** by **P.NIJKAMP, P.RIETVELD** and **H.VOOGD**.

[3] Final scores added should equal 1