IIRSA

PROJECT PORTFOLIO ANALYSIS

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This technical note has the objective of presenting a methodology for the analysis and classification of the identified projects of the South American Integration and Development Hubs (IDH, in English, or EID for its Spanish acronym).

1. Introduction

The process seeks to generate elements of a technical nature that may help in the identification of high impact projects with respect to the strategic goals of the IIRSA Initiative and, consequently, allow for the concentration of efforts by the countries and the financial institutions on a feasible number of priority projects.

The methodology uses as inputs the Strategic Vision and each of the Hub's Business Vision and is based on the convergence of opinions of experts with knowledge on the economic, social and environmental situation of each Hub.

The process of the analysis is aimed at:

a. Broader understanding of the contribution of each group of projects to sustainable development through physical integration.
b. More concrete association between the integration strategy and the projects in their spaces.
c. Identification of the effects that the groups of projects have on the sustainability and better logistic functionality of the whole investment.

A shared vision of these elements is the starting point of a process aimed at building consensus with respect to the relative importance of the projects and their priorities.

The analysis process is composed of three stages:

1. Grouping of the projects of each Hub;
2. Setting up of the factors of analysis; and
3. Assessment of the groups of projects.

2. Grouping of projects

The grouping of investment projects is based on the possibility of exploiting the positive externalities of a group of investments, which may result in greater benefits than the sum of each of the effects of the individual projects that form the grouping. This additional benefit of the grouping is called *synergy*.

Projects are grouped according to the synergy criterion. Synergy is called *vertical* when the grouping takes place in accordance with *input–output* relations, in a functional systemic chain. And, it is called *horizontal* when it refers to the usage of common resources or because of the facility of implementation or operation. The synergy of the group of projects optimizes impacts and benefits and it is favorable for investment promotion.

The grouping is based mainly in transport and energy projects. Generally, telecommunications projects are considered in the grouping when they have a specific territorial location. The rest of telecommunications projects are kept in the project portfolio but they are not object of the grouping analysis.

The grouping process is based on the territory and takes into account the projects location, their relations with the dominant or potential economic activities and the associated social and environmental aspects.

The effects of the group of projects compose the *strategic function of the group of projects*, which in turn must be consistent with the strategic vision of sustainable development of the geo–economic space corresponding to its area of influence.

Projects are grouped around a project called the *anchor–project* of the group. This concept helps in the identification of the synergy among the projects. The anchor–project must have a catalytic–synergic power to justify the formation of a grouping around it. This project is not necessarily the bigger one, because it usually represents a bottleneck or a missing link of the infrastructure network that prevents the optimum use of the combined effects of the group for the benefit of social and economic development.

The anchor–project may be one already implemented. In this event, it is called *existing anchor–project*.

Each group is formed around an anchor–project or around an existing anchor–project. There are cases of isolated projects where grouping is not possible or recommended.

Environmental projects and programs, as well as those of a productive nature, may be articulated to the groups of infrastructure projects with clear benefits for the sustainable development of the geo–economic space where infrastructure investments are located.

Project groups in each Hub are identified according to a procedure composed of eight steps:

1. Business Vision: Territorial analysis, economic activities, environmental and social aspects, identified projects and other relevant information.

2. Definition of the groups as per a tentative process of identification of the horizontal or vertical synergy among the projects.

3. Identification of the anchor-project.

4. Identification of the strategic function of the group: the economic, social and environmental effects of the project package.

5. South American Strategic Vision: Analysis of the consistency of the function of the group with respect to the Strategic Vision and characteristics of the geo-economic space under consideration.

6. Identification of the projects that are missing in the group, including those that are necessary for the economic, social, environmental and institutional sustainability as well as those needed for the functionality of the infrastructure logistic chain.

7. Comparative analysis of the groups in each EID, search of the best functionality and synergy and eventual changes of projects among groups.

8. Identification of the particularly aspects of the sectoral process in each group of projects, taking into account its operation.

The grouping of projects is organized in multinational working groups, as follows:

1 CCT coordinator to chair the tasks.
1 CCT facilitator to provide content.
2 Participants per country to analyze and make decisions.
1 CCT advisor to provide methodological support.
1 Secretary to produce the report simultaneously.

The tasks are developed in front of observers: members of national delegations, specialists of multilateral institutions and consultants under the Coordinator supervision.

The reference material is: methodology (text and power point), list of projects, South American Strategic Vision, Business Vision of each EID and maps.

The grouping process generates the following products:

Definition of the groups of projects of each EID;
Identification of the anchor-project of each group of projects;
Formulation of the strategic function of each group of projects;
Identification of the main aspects for each group of projects regarding sectoral processes;
List of pending issues and aspects that require in-depth investigation.

3. Establishment of the factors of analysis

For the comparative analysis of the groups of projects, factors of analysis are defined. As for the IIRSA Initiative, some factors for analysis are suggested, which capture all the features of each project in terms of their positive impacts for integration and regional development and for the feasibility conditions to their implementation.

The participants in the analysis process must critically review these factors so that the convergence of opinions can be reflected. For this purpose, the National Coordinators of the Initiative and the CCT revised the structure and content of the factors[1]. The results are described below:

A. CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT THROUGH PHYSICAL INTEGRATION

1. Economic dimension

1.1 Increase of trade flows

Capacity of removing restrictions to the increase of national and international trade in identified sectors. Capacity to integrate new zones to regional and international trade.

1.2 Attraction of private investments in productive units

Capacity to generate investment opportunities in productive units in the area of influence of each group of projects.

[1] The analysis factors were revised by the National Coordinators in a meeting that took place in Buenos Aires 18-12-2003 and by the CCT in the meeting in Caracas 05 and 06-02-2004

Capacity to stimulate the development of local productive systems (clusters).
Capacity to create opportunities for the establishment of productive units in two or more countries in the space of the Hub, that allow the formation of regional productive chains or the increase of the efficiency of existing chains.

1.3 Increase of competitiveness

Capacity of reduction of transport or energy or telecommunication costs capable of increasing the competitiveness of goods and services produced in the area of influence of the group as well as the area of the Hub.
Capacity to satisfy infrastructure requirements of the current or future production, taking into account the value added of production, on the basis of the concepts established in the Strategic Vision.

2. Social dimension

2.1 Generation of employment and rent

Capacity of generation of employment and rent, , specially in productive units, current or future, even in micro and small enterprises supported by new infrastructure.

2.2 Improvement of population quality of life

Capacity to promote human development oriented to social segments with lowest rents.
Capacity to generate opportunities of access to health, education, knowledge and mobility for the population in the area of influence of the group of projects.

3. Environmental dimension

3.1 Natural resources conservation

Capacity to contribute to the most rational use of natural resources.
Linkage of the project group to the characteristics of the eco-systems of the space of the group of projects.

3.2 Environmental quality

Capacity of the group of projects to improve (or maintain) environmental quality, with respect to hydrics resources, soil and air, in the area of influence of the group of projects.

B. FEASIBILITY

1. Elements of feasibility

1.1 Institutional and regulatory framework

Existence of an adequate legal and institutional framework.
Level of risk in terms of regulatory framework and institutional environment of the sectors and countries where the project group is located.

1.2 Current and future demand consistence

Existence of a current or future demand that justifies the project group.
Level of risk around future demand projections for the project group.

1.3 Possibilities of mitigation of environmental risks

Level of risks in regard to environmental impacts.
Possibilities of mitigating environmental impacts, in comparison with other alternatives to respond to the same demand of infrastructure.
Possibilities of mitigating indirect impacts with regard to biological diversity, vegetation, hydric resources, pressure on indigenous land or traditional populations, preservation areas or weak eco-systems.
Level of risks with regard to the approval of the projects by environmental authorities.

1.4 Execution and operation conditions

Level of risks in regard to technology, equipment, building processes and conditions associated to the implementation and operation of the project group.

2. Financing

Capacity to attract private investments for the implementation of the infrastructure projects of the group, based on the expected profitability.
Capacity of public sector investment, taking into account efforts for fiscal equilibrium.
Capacity to attract private sector to public-private partnerships for the implementation of infrastructure projects and the existence of an appropriate PPPs legal framework.

3. Political convergence

Convergence among the countries considering the implementation of the group of projects of transnational characteristics.
Linkage between public policies, project and investment national and/or sub national priorities.
Possibilities to overcome eventual difficulties to implement the projects considering political, social or environmental pressures.
Capacity to sustain the priorities.

The factors conform an analytical structure of strategic factors and tactical and operational sub factors, as they are presented in annex 1.

The structure of factors may be weighted. The weight of the factors is determined by a working group formed by the GTE's participants, which aims opinion convergence with the support of the EXPERT CHOICE software.

The weight of the two strategic factors (contribution to sustainable development and feasibility) must be the same, taking into account that they are different dimensions of the evaluation, see Annex 2.

To allow the comparison of the evaluation results of the groups of projects, it is necessary that:

1. The analysis factors structure would be the same for every Hub and group of projects.
2. The weight would be the same for every group of each Hub or group of similar Hubs. The results of the evaluation can even be processed by a one-IIRSA weight as an additional element of analysis.

The final quality of the evaluation is directly linked to the knowledge of the experts on economic, social and environmental facts of the Integration and Development Hubs spaces.

Also, the objective of the evaluation is to deepen the analysis of the impacts of each group of projects. Despite of the numeric elements, the evaluation process is still qualitative and based on the opinion convergence of the experts.

4. Evaluation of the groups of projects

The evaluation of the groups of projects must be preceded by preparatory tasks[2].

In that sense the following actins are necessary:

1. To extent and improve the content of the strategic function of each group.;
2. To identify the estimated cost of every project of each group;
3. To identify specific aspects of the sectoral processes that are relevant to functioning of each group;
4. To prepare maps that allow to locate completely every project in each group, as well as the dominant or potentially dominant economic activities in the area of influence of the group;
5. To locate in the maps the areas of environmental preservation or reserved to indigenous people;
6. To collect data of geographical distribution of social development indicators in the area of influence of each group;
7. To analyze the strategies or possibilities of financing of the projects;
8. To clarify pending points of the grouping of projects phase.

It is recommended to involved in these preliminary works people from different fields, as follows:

a) Strategic function: experts with real knowledge of economic, social and environmental aspects of the territory of the groups, for example planning sectors, foreign trade, industrial competitiveness, agro-business, tourism, an other services, social development and environment.
b) Specific aspects of the sectoral processes: experts on infrastructure of the three sectors: transport, energy and telecommunications.
c) Financing: experts of planning, public investment and budget institutions.

The results of the preparatory works conform two products: the profile of each group of projects and the technical sheets of every project.

A working group formed by the GTE's participants, in the following phases, evaluates the group of projects of each Hub:

1. Definition of the weight of the analysis factors structure of each Hub or group of Hubs;
2. Evaluation of the groups of projects;

[2] For the preparatory tasks technical missions to every country were planned and executed.

3. Consolidation of information and results.

The grouping of projects is organized in multinational working groups, as follows:

1 CCT coordinator to chair the tasks.
1 CCT facilitator to provide content.
2 Participants per country to analyze and make decisions.
2 CCT advisor to provide methodological support.
1 Secretary to produce the report simultaneously.

The tasks are developed in front of observers: members of national delegations, specialists of multilateral institutions and consultants under the Coordinator supervision.

The reference material is: this IIRSA project portfolio analysis methodology, Annex 3 forms, the profiles of the groups of projects and the technical sheets of the projects.

The working groups have as a support the EXPERT CHOICE software[3].

The evaluation process generates the following products:

- Weighted structure of analysis factors;
- Classification of the group of projects of each Hub, according to its impacts with regard to sustainable development and feasibility condition of implementation.

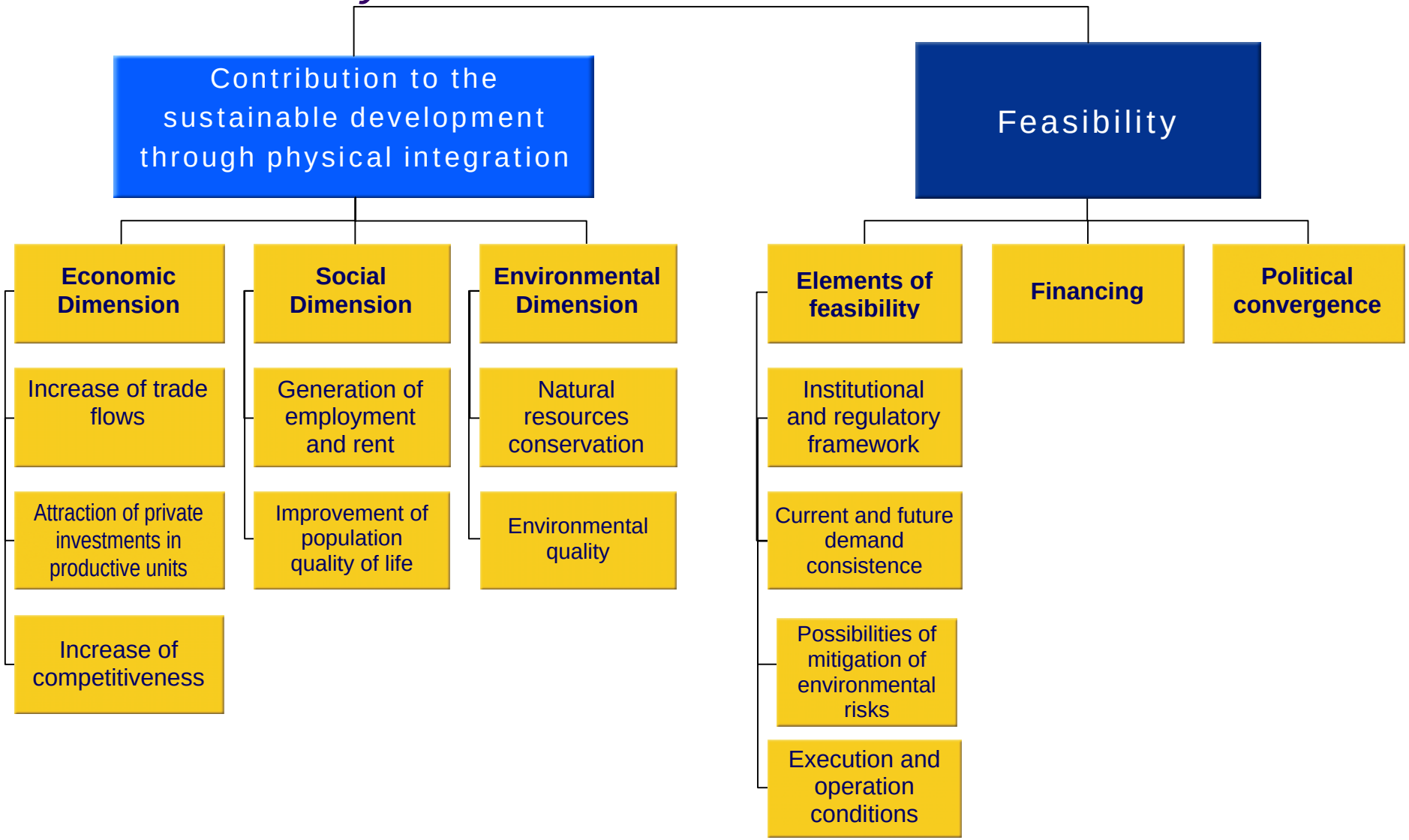
In this way, it is possible to generate indicative planning elements and consolidate an IIRSA project portfolio based on a *regional vision* of projects of grater impact and feasibility, essential elements to establish priorities and concentrate resources and efforts in projects of grater contribution to sustainable development through physical integration in South America.

[3] The software *Expert Choice* helps to save time and improve the quality of the working group decisions. The simultaneous supervision of the evaluation works identifies the issues of grater discrepancy in order to seek consensus.

Annex I

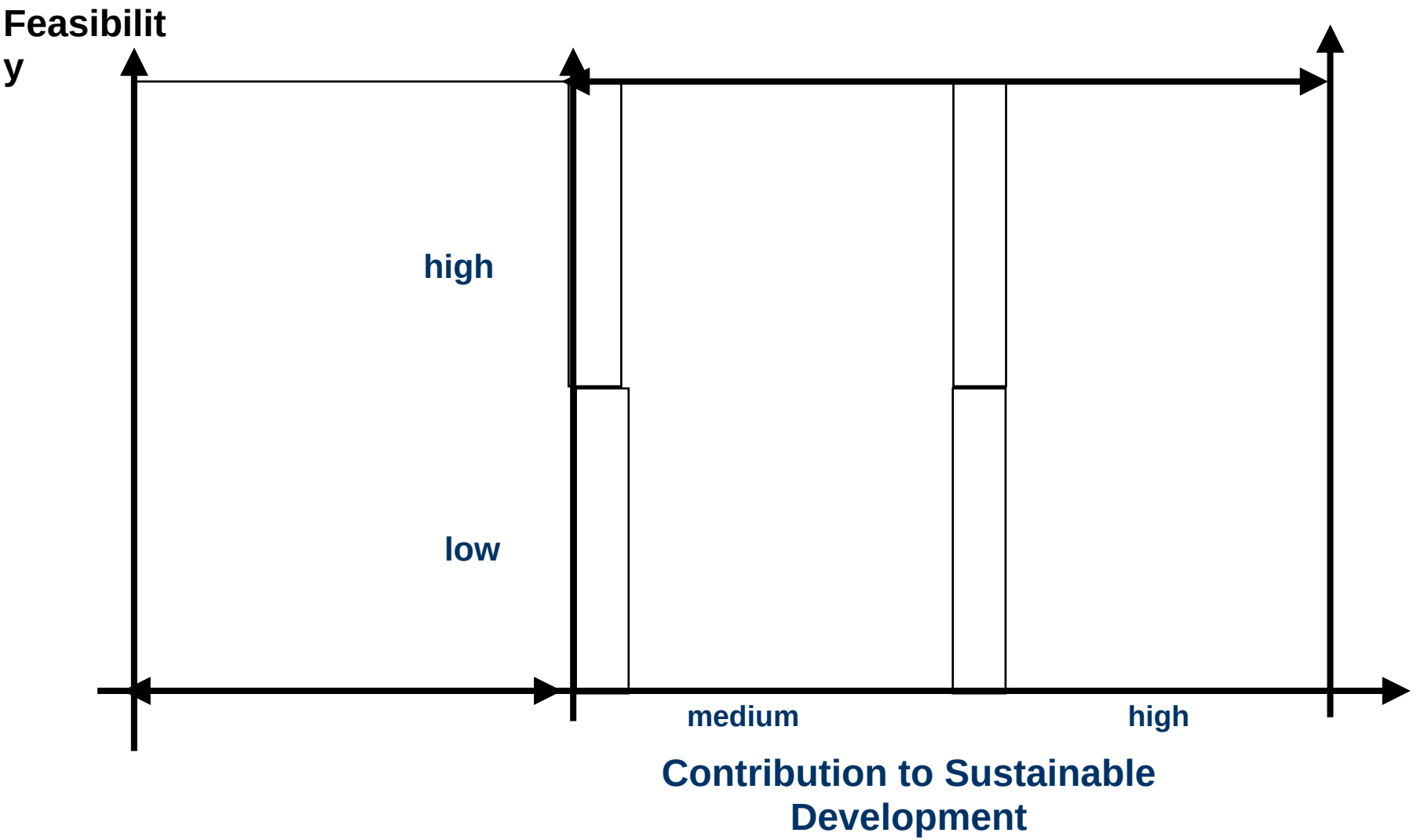
Factors Analysis Structure

Factors Analysis Structure



Annex II

Classification of the Groups of Projects


Feasibilit
y
high
low
medium
high
Contribution to Sustainable
Development

Annex III

Evaluation of the Group of Projects

PROJECT GROUPS EVALUATION

HUB:

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT THROUGH PHYSICAL INTEGRATION

1. Economic dimension

1.1. Increase of trade flows

Key questions	Comments
What is the impact of the group of projects over the ability to remove restrictions to the commerce?	To considerate the magnitude of the markets and the productive systems linked by the group of projects. To take into account the particularly aspects of the sectoral processes that conform the identified groups. To considerate local, intraregional and extra regional trade flows. To indicate if there are groups of projects in competition or complementary to existent demands in the Hub territory.
What is the impact of the group on the integration of new areas to the regional trade flow?	To consider isolated spaces in the territory of the group of projects.
What is the impact of the group of projects on local development and the reduction of regional disparities based on the increase of trade flows?	

IMPACT	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11

VS = Very Strong - S = Strong - M = Moderate - W = Weak - N = No Impact

PROJECT GROUPS EVALUATION

HUB

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT THROUGH PHYSICAL INTEGRATION

1. Economic dimension

1.2. Attraction of private investments in productive units

Key questions	Comments
What is the impact of the group of projects over the increase of the capacity to attract private investments in productive units (agribusiness, industry and services) for its area of influence?	
What is the capacity of the group of projects to stimulate the development of local productive systems in its area of influence?	The local productive system could be an enterprise, groups of enterprises, productive chains and clusters.
What is the impact on favorable conditions to the formation of integrated productive chains in two or more countries in the space of the Hub?	The mentioned favorable conditions are related to the increase of the productive chains competitiveness, market access and input access.

IMPACT	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11

VS = Very Strong - S = Strong - M = Moderate - W = Weak - N = No Impact

PROJECT GROUPS EVALUATION

HUB

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT THROUGH PHYSICAL INTEGRATION

1. Economic dimension

1.3. Increase of competitiveness

Key questions	Comments
What is the impact of the group of projects over the increase of competitiveness of goods and services produced in the existing productive units in its area of influence?	The increase of the competitiveness is a consequence of the reduction of transport, energy or telecommunication costs, time reduction and the improvement of the quality of services. Also consider the effects presented in the territory outside the group of projects, for example electric power systems, gas pipes and telecommunications (fiber optic) or through already implemented or currently operative projects.
Taking into account the dominant production pattern in the area of influence of the group of projects, what is the expected effect on the basic requirements to increment value-added to the local production?	To consider the infrastructure requirements, taking into account the value added of goods and services produced services in the area of influence of the groups of projects (see Strategic Vision)

IMPACT	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11

VS = Very Strong - S = Strong - M = Moderate - W = Weak - N = No Impact

PROJECT GROUPS EVALUATION

HUB

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT THROUGH PHYSICAL INTEGRATION

2. Social dimension

2.1. Generation of employment and rent

Key questions	Comments
What is the impact of the group of projects on the generation of employment and rent in the area of influence?	To consider the generation of employment and rent, specially in current or future productive units served by new infrastructure, even in micro and small enterprises.

IMPACT	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11

VS = Very Strong - S = Strong - M = Moderate - W = Weak - N = No Impact

PROJECT GROUPS EVALUATION

HUB

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT THROUGH PHYSICAL INTEGRATION

2. Social dimension

2.2. Improvement of population quality of life

Key questions	Comments
What is the impact of the group of projects and correlated economic activities with respect to social inclusion and human development considering lower income levels?	To compare, among the groups, the geographical distribution of the population and the social indicators in their areas of influence.
What is the impact of the group of projects over the population in its area of influence considering education, health services, access to information and mobility?	To consider also the effect of the group of projects implementation on taxes that derive from the productive activities promoted by new infrastructure that would be applied in social development initiatives.

IMPACT	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11

VS = Very Strong - S = Strong - M = Moderate - W = Weak - N = No Impact

PROJECT GROUPS EVALUATION

HUB

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT THROUGH PHYSICAL INTEGRATION

3. Environmental dimension

3.1. Natural resources conservation

Key questions	Comments
What is the expected impact of the group of projects over the conservation or the most rational use of natural resources in its area of influence, taking into account the characteristics of the eco-system?	To verify if the projects of the groups are the most appropriate to the eco-system characteristics in their area of influence. The groups of projects that present the grater negative impact have the lesser degree with respect to natural resources conservation.

IMPACT	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11

VS = Very Strong - S = Strong - M = Moderate - W = Weak - N= No positive impact

PROJECT GROUPS EVALUATION

HUB

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT THROUGH PHYSICAL INTEGRATION

3. Environmental dimension

3.2. Environmental quality

Key questions	Comments
What is the capacity of the group of projects to improve (or maintain) environmental quality (less pollution) with respect to hydric resources, soil and air?	The groups of projects that present potential risks to environmental quality reduction (pollution and other negative effects) have the lesser degree in this evaluation.

IMPACT	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11

VS = Very Strong - S = Strong - M = Moderate - W = Weak - N = No positive impact

PROJECT GROUPS EVALUATION

HUB	

FEASIBILITY

1. Elements of feasibility

1.1. Institucional and regulatory framework

Key questions	Comments
Taking into account the involved sectors, what is the level of risk that faces the implementation of the group of projects in relation to the current regulatory framework in the country (es) where the projects are located?	It is recommended to analyze each project and estimate the medium condition of the group. Considering the hypothesis of a negative condition of great magnitude provoke by the anchor-project or by one of the main projects of the group, it is necessary to take that as a determinant in the group evaluation.

CONDITION	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11

HF = Highly Favorable - F = Favorable - M = Moderately Favorable - W = Weakly Favorable - N = Not Favorable

PROJECT GROUPS EVALUATION

HUB	

FEASIBILITY

1. Elements of feasibility

1.2. Current and future demand consistence

Key questions	Comments
What are the conditions that guarantee the existence of a current or future demand, that justifies the group of projects? Is the level of risk favorable in terms of credibility of future demand projections for the project group?	

CONDITION	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11

HF = Highly Favorable - F = Favorable - M = Moderately Favorable - W = Weakly Favorable - N = Not Favorable

PROJECT GROUPS EVALUATION

HUB	

FEASIBILITY

1. Elements of feasibility

1.3. Possibilities of mitigation of environmental risks

Key questions	Comments
What is the possibility to mitigate environmental impacts at a reasonable cost of the predictable impacts of the group of projects?	It is recommended to consider also the indirect impacts with respect to biological diversity, vegetation, hydric resources, pressure on indigenous land or traditional population, protected areas or weak eco-systems.
What is the possibility of approval by environmental authorities in the country (es)?	It is recommended to analyze each project and estimate the medium condition of the group. Considering the hypothesis of a negative condition of great magnitude provoke by the anchor-project or by one of the main projects of the group, it is necessary to take that as a determinant in the group evaluation.

CONDITION	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11

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PROJECT GROUPS EVALUATION

HUB	

FEASIBILITY

1. Elements of feasibility

1.4. Execution and operation conditions

Key questions	Comments
Is the level of risk compatible to the technology, equipment, construction processes and general requirements associated to the implementation and operation of the group of projects?	

CONDITION	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11

HF = Highly Favorable - F = Favorable - M = Moderately Favorable - W = Weakly Favorable - N = Not Favorable

PROJECT GROUPS EVALUATION

HUB	

FEASIBILITY

2. Financing

Key questions	Comments
Is the group of projects capable to attract private investments, based on the expected profitability?	To analyze each project and estimate the medium condition of the group, in a proportional way to the estimated value of the projects.
Is there investment capacity at the public sector level to support the projects of the group?	To take into account the estimated values of the project to be implemented in the short and medium term and the annual investment capacity of the countries involved in the group.
Is the group of projects capable to attract public-private partnerships?	To verify the existence of a proper regulatory framework.
Is there a favorable possibility to obtain financing to implement the projects of the group?	

CONDITION	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11

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PROJECT GROUPS EVALUATION

HUB	

FEASIBILITY

3. Political convergence

Key questions	Comments
Is there convergence among the countries considering the implementation of the group of projects of transnational characteristics? Is there convergence between the group of projects and public policies and investment national and/or subnational priorities? Is the context favorable to overcome eventual difficulties to implement the groups considering political, social or environmental pressures, even to sustain these priorities during the process of implementation of the projects?	It is recommended to analyze each project and estimate the medium condition of the group. Considering the hypothesis of a negative condition of great magnitude provoke by the anchor-project or by one of the main projects of the group, it is necessary to take that as a determinant in the group evaluation.

CONDITION	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11

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