STRING
Interreg Europe

European Union
European Regional
Development Fund

ENGINES FOR CHANGE
JOINT METHODOLOGY

Responsible Partner: CRPA

June 2017

COLOPHON

Author(s): Andrea Porcelluzzi, Kees de Roest, CRPA

This document has been designed to assist STRING partners within the implementation of the ENGINES FOR CHANGE regional report.

This tool-kit has been proposed by CRPA and incorporates all the relevant recommendations of STRING Thematic Expert Assembly (TEA).

The final version has been agreed by all the partners during the TEA meeting held in Bologna, on June 2017.

CONTENTS

1. INTRODUCTION

1.1. What are “engines for change”?

According to the STRING application form, “engines for change” are the internal and external assets needed to reach the objectives of cluster development, with a specific focus on innovation. Identifying these assets and translating them in “learning needs” and “good practices” will be the objective of this part of the analysis.

Among the STRING partners the objectives of cluster development concerning innovation have been identified in five topics, that define the scope of the project:

A. Food industry innovation ecosystem frames (open labs, technopoles etc.)

European regions have different strengths and weaknesses in the performance of their so-called innovation ‘enablers’. The availability of sound innovation infrastructures and capacities is a key condition for smart growth in regions, showing potential for interregional exchange on e.g. research facilities, education levels of labour force and public R&D investments.

B. Cross-sectoral cooperation able to favour cross fertilization especially with High Tech and Health Sectors

When two sectors share complementary resources the forming of cross-sector collaborations can make use more effectively of the knowledge and capabilities of both and can create new opportunities to achieve greater corporate profitability and a stronger competitiveness. Unlike intra-sector alliances, cross-sector collaboration does not involve balancing the tension between cooperation and competition.

A growing interest by some sectors in reconsidering traditional adversarial relationships is yielding new forms of cooperation. Companies interested in participating in more intensive cross-sector collaborations need to know about the types of interactions in which companies can engage in cross-sector alliances. Cross-sectoral cooperation between the agrofood sector and ICT can yield very interesting innovations. The collaboration with the health sector has opened in several regions the road towards new functional food products.

C. *Improve role of agriculture and food innovation in regional development by harmonizing policy instruments*

The agrofood sector can benefit from both the EDRF and EADRF by means of resources from the Rural Development Programmes and the Regional Operational Programme. Relevant for the agrofood sector are also funds for training programmes derived from the ESF. These three policy instruments are ruled by different governance structures, which not always communicate sufficiently between each other. Good practices in regions where an effort towards a kind of harmonization of these policy instruments has been implemented are of highly interest for STRING. Harmonization could be intended also more broadly, including the potential synergies with other national and local funds.

D. *Promote added value by linking innovation and production to real consumer needs by improving the commercialisation of R+D outputs and stimulate a demand driven instead of supply driven production*

In many branches of the agrofood sector initiatives have been developed to create new market segments that meet new consumers' needs. Higher standards of animal welfare and of environmental sustainability can be offered to consumers, when in supply chains farmers, processors and retailers collaborate to comply with product specifications containing standards that go beyond legislation. The preservation of food quality related to the natural and human factors of specific territories may be guaranteed by collective agreements within supply chains about product specifications, that are in line with the EU legislation on quality food labelling such as PDO, PGI, organic farming. In many regions producers are doing efforts to create alliances in order to agree collectively on higher standards of food quality. Other initiatives able to increase value added in food supply chains is the valorization of by-products. Many of the good practices in the field of this topic are characterized by organizational innovations, but also by product and process innovations.

E. *Integration of SMEs in clusters and intercluster cooperation between the participating food regions*

In most regions agrofood companies are small or medium sized enterprises. In food clusters large companies compete and collaborate with SMEs. In large companies product and process innovations are often generated within laboratories, but SMEs cannot reach sufficient economies of scale to afford their

own research facilities. Innovations are either generated through intercompany collaboration or by connecting to regional innovation infrastructures. Many SMEs are however not "reached" by policy instruments designed to facilitate the collaboration between private companies and research institutes. Good practices where the concept of triple helix collaboration (public-private SMEs-research) is applied successfully are of high interest, as other regions may learn from these experiences.

In the first part of the analysis phase each region has identified two topics with successful experiences, and two topics which instead represent a challenge for the regional context. The second part of the analysis, while keeping a general overview on the regional agro-food sector, should be focused on these specific topics. The "engines for change" methodology foresees as a first step an **analysis of the regional agrofood context**: assessing the regional innovation landscape will help to identify the tangible and intangible assets supporting the innovation process in each region. Strengths and weaknesses can be reflected in the presence (or absence) of key assets in the local context. Such assets might include R&D capacity, human resources, financial capital in support of entrepreneurship and innovation, legal and regulatory environment, physical infrastructure, governance model, cultural background, etc. An asset can be tangible (e.g. an infrastructure) or intangible (e.g. a certain governance model or cultural background); some of them are deeply rooted in the peculiarities of the regional territory, others are common in several areas, but specifically differentiated within the local context. Knowledge is an asset as well, that can be directly addressed by the STRING project. The regional analysis of the context will serve as a basis to identify and to share **4 good practices** for each region, related either to thematic or policy management (at least one per category).

1.2. Structure of the ENGINES FOR CHANGE report

The structure of the report reflects the methodology proposed. **First a general analysis on the regional agrofood cluster** will be presented, detailing three key aspects: the market structure, the innovation ecosystem and the governance and networks of the agrofood sector. For each subchapter first the collection of a synthetic set of indicators is foreseen, and then a descriptive box to detail the topic.

Then, using the information collected as background, **the Selected Policy Instrument (SPI) will be analyzed** by each region, according to the five STRING topics: a description will be provided of how each subtopic is addressed by the policy instrument, and the outcome of this description will be assessed by

the STRING partners with their regional stakeholders, in order to identify strengths and weaknesses. This assessment will led to the **identification of the learning needs** related to the policy instrument selected. The strengths identified, instead, will serve as a basis **for a selection of the good practices.**

As the final goal of the project is the improvement of the Selected Policy Instrument (SPI) the learning needs should be strictly related to it and to the challenges distinguished during the Engines for Change analysis. Good practices instead could be taken also from a different context, as it is possible to find also in other fields of policy application relevant examples that can be inspiring and capable to be translated in the STRING context, as far as they are related to STRING topics. The four good practices will be identified and described according to a common template.

In the following chapters an overview of the report can be found, as well as a detailed description of the content required for each section, including a specific description of the good practice selection and description. Finally, two templates (engines for change report template and good practice template) have be attached as annexes to this document.

STRUCTURE OF ENGINES FOR CHANGE REPORT

1. OVERVIEW OF THE AGROFOOD SECTOR

1.1. Agrofood market

1.1.1. General description

1.1.2. Market structure

1.1.3. Internazionalization

1.1.4. Main food productions

1.2. Innovation ecosystem

1.2.1. Regional innovation trend

1.2.2. Education

1.2.3. Public allocation on Research and Development

1.3. Networking and associations

2. ENGINES FOR CHANGE ANALYSIS

2. Sources of information

The report should rely mainly on already existing information. Most part of the data required has been collected within the preparatory phase of the regional **Operational Programmes**, and therefore publicly available. These documents (ex ante evaluation, 3S plan etc.) should be the starting points of the analysis. If needed, following their bibliographic references it will be possible to extend the research.

National and **regional statistics** available in public databases represent another important elements.

The **local stakeholder groups** are to be considered key assets to implement this deliverable: partners should consider the opportunity to request more and more focused insights and data, but also to assess the information already collected.

3. REGIONAL AGROFOOD CLUSTER ANALYSIS

3.1. Overview of the regional agrofood sector

The aim of this part of the methodology is to provide an overview of the regional agrofood sector and to identify the key assets of its innovation system. The outcome of this first overview will serve as an input to design the STRING analysis of the innovation in the regional agrofood sector. Each section is defined by a quantitative assessment, collecting data on specific indicators, and a qualitative description of the context, based on the data collected. Each region should find the last available data and indicate the source.

3.1.1. General description

Starting point is the regional fact sheet developed during the first phase. The brief description already developed should be enhanced illustrating the regional indicators. It is important to position the regional situation within the European context, and in particular with the STRING regions. CRPA will elaborate (in the third column of the table below) the average data of the regions participating in STRING, in order to have a benchmark .

Table – main regional indicators

INDICATOR		REGIONAL LEVEL	NATIONAL LEVEL	STRING PARTNERS (AVERAGE)
GDP per inhabitant	€			
% of agriculture in GDP	%			
% of agriculture in employment	%			
% of food & beverages in GDP	%			
% of food & beverages in employment	%			
R & D as percentage of GDP	%			
% of SMES in the total of agro-food business	%			
Export of agrofood as % of total production	%			

3.1.2. Market structure, Internazionalisation, main food productions

In these sections the regional agrofood market system will be illustrated in detail, according to three main drivers: **market structure** (including as quantitative indicators: number of firms, production volume – turnover, number of employees, GDP and GDP per employee); **market internazionalisation** (import, export and agrofood balance trade); **food productions per sector**, meaning the most representative agrofood supply chain in terms of turnover.

The tables will focus on the last available data, synthetizing the current situation. In the description boxes should be mentioned also the trend in the last years and the comparison with the national context.

The NACE codes to be considered for the quantitative indicators are:

1. Agriculture - Nace code

A - Agriculture, forestry and fishing

2. Food sector - NACE codes:

C10 Manufacture of food products

C11 Manufacture of beverages

C12 Manufacture of tobacco products

The whole supply chain should comprehend wholesale and retail markets as well, but it has been not included in this part of the analysis because disaggregated statistics for food and beverages are hard to find. For the same reason technological suppliers for food industry are not explicitly addressed by the analysis.

In case these elements should be considered specifically relevant in a regional context (and the editor of report can have access to the related disaggregated data) they can be mentioned in the description of the market structure (1.1.2) and/or in the general description (1.1.1). Such sectors can be identified by the following NACE codes:

C22.2.2 - Manufacture of plastic packing goods

C28.3.0 - Manufacture of agricultural and forestry machinery

C28.9.3 - Manufacture of machinery for food, beverage and tobacco processing

G46.3 - Wholesale of food, beverages and tobacco

G46.6.1 - Wholesale of agricultural machinery, equipment and supplies

G47.2 - Retail sale of food, beverages and tobacco in specialised stores

G47.1.1 - Retail sale in non-specialised stores with food, beverages or tobacco predominating

I56 - Food and beverage service activities

3.1.3. Innovation Ecosystem

The innovation ecosystem will be assessed according to three key aspects: Regional innovation trend, Education and Public allocation on Research and Development.

A first general indicator that should be mentioned is the positioning of the Region within the European Innovation Scoreboard (RIS), which distinguishes between[1]

- Regional Innovation leaders (Noord Brabant, Central Denmark)
- Strong innovators (Alsace)
- Moderate innovators (Emilia Romagna, Debrecen, Castilla y Leon)
- Modest innovators (Kovasna)

One of the limitation of the RIS approach is that agriculture is not taken into consideration . Furthermore it might be difficult to find disaggregated data for the specific agrofood sector at regional level. For this reason the subchapter “Regional innovation trend”(see engines for change template) foresees first a collection of regional innovation indicators not correlated with the specific sector, in order to illustrate a primary overview of the regional attitude toward innovation and its positioning within the national context.

[1] Regional Innovation Scoreboard 2016, https://ec.europa.eu/growth/industry/innovation/facts-figures/regional_en

Table – regional innovation indicators

People with high school education (30-34 years)
Employment in R&D (for 1000 inhabitants)
Ratio of public expenditure in R&D on GDP
Ratio of business expenditure in Innovation on GDP
Average regional expenditure for employee (thousands euros)
EPO patents (for thousand inhabitants)

Then a specific set of indicators has been identified in order to provide an insight of the innovation attitude specifically related to the regional agrofood sector. As already mentioned above, it is difficult to find data with a sufficient level of disaggregation, and the two main sectors (agriculture and food & beverages) do not share the same set of statistics. For these reasons three different typology of indicators have been identified, that could be considered as a proxy to assess the inclination of farm holdings and enterprises toward innovation, that are:

Table – agrofood regional innovation indicators

AGRICULTURE: number of farm holdings using ICT
FOOD: number of enterprises applying ISO 9001 (quality management)
FOOD: number of holdings applying ISO 14001 (environmental management)

On the side of the potential supply of innovation opportunities, the number of research and/or knowledge transfer centers, public or private institutes and universities, that are involved in the agrofood sector research, both on the side of food industry and/or of agriculture will be requested

On the side of education, two different set of indicators have been identified: for agriculture, data related to agricultural training of farm managers (identified by the CAP indicator C24, available at national level on EUROSTAT, whichis available at regional level in the national statistics); for the food and beverages industry, the number of enterprises (>10 employees) implementing continuing-vocational-training.

3.1.4. Networks and association

In this subchapter the networking system and the associations representing farmers and enterprises will be described. The aim is to assess the level of aggregation of the sector and the role of cooperatives or competitive attitude among the actors involved. It will be requested to list and describe the most important associations and the share of the relevant enterprises represented in the sector (for instance, the percentage of cheese producers represented by a cheese producers association). Also the number of cooperatives will be considered an indicator of the economic interaction existing within the sector.

4. ENGINES FOR CHANGE ANALYSIS

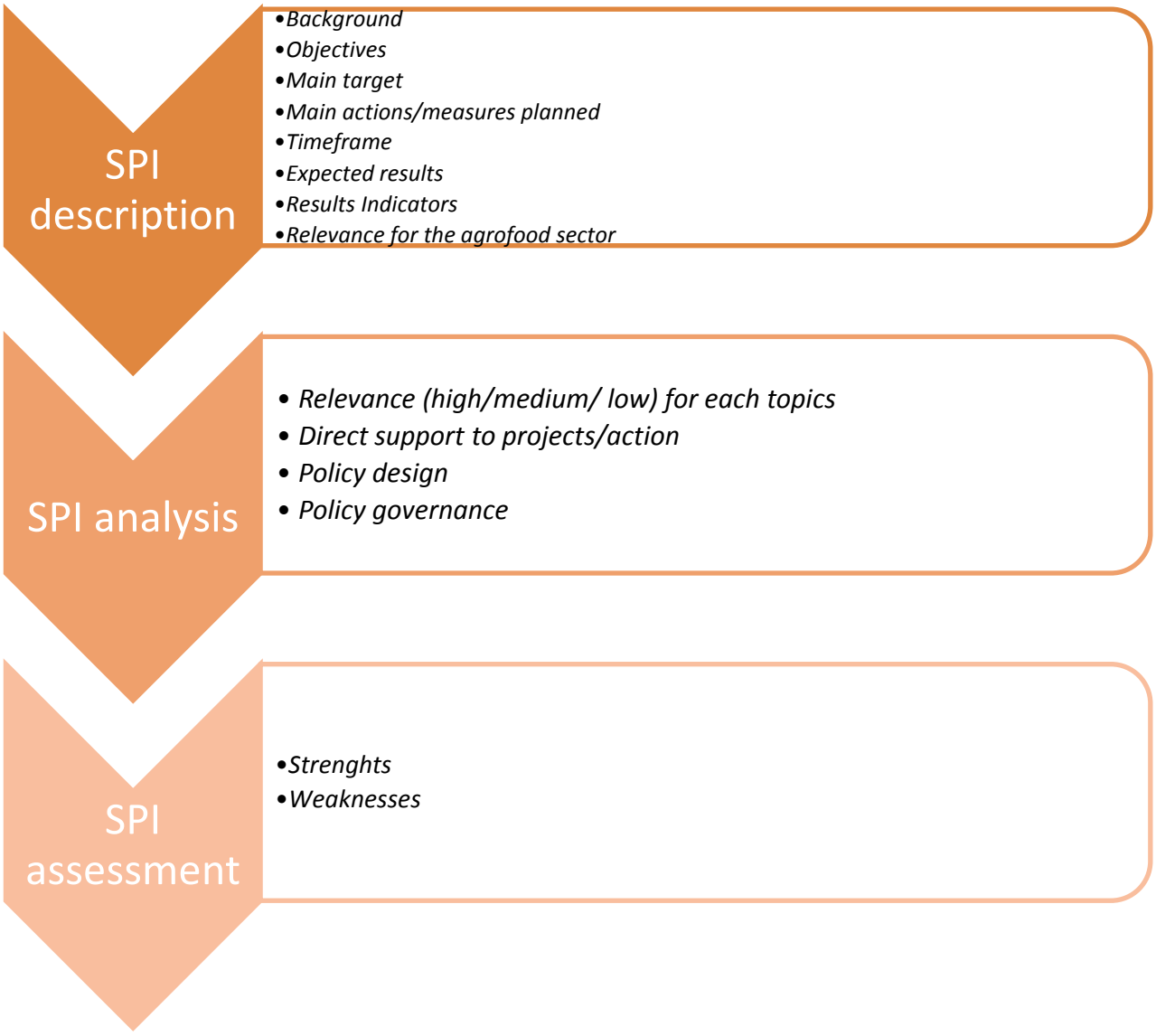
In this section the STRING partners will deepen the analysis started with the presentation of the case studies, during the first part of the analysis phase. In that first step it was asked to identify which of the five STRING topics represents successful experiences and which instead are current challenges for the regional context, setting the regional ambitions toward these objectives. Now it will be required to extend this first overview, and to assess these ambitions.

First the selected policy instrument (SPI) will be described, using the following key elements:

- *Background*
- *Objectives*
- *Main target*
- *Main actions/measures planned*
- *Timeframe*
- *Expected results*
- *Indicators of results*
- *Relevance of the SPI for the agrofood sector*

Then a detailed analysis of the impact of the SPI on the five STRING topics will be assessed through the Engines for Change Matrix. This matrix will be completed in two steps: first a descriptive analysis of the thematic and policy management aspects involved in the implementation of the five topics, then an evaluation of these elements, to be done involving directly the local stakeholder groups.

Eventually the strengths and weaknesses that will emerge from the stakeholder consultation will serve as a basis for the identification of the regional “learning needs” and “good practices”.



4.1. The Engines for Change Matrix

The **Engines for change matrix** has been designed in order to have a common format for the SPI analysis. This will allow to compare the results emerging from the single regional analysis and to give a detailed background for the matching phase foreseen for the interregional learning exchange.

The elements to be included under the columns “thematic” and “policy management” should be only descriptive, while the evaluation should be left under the column “stakeholder assessment”.

Example: If a specific element is missing, just leave the box empty. If this absence will be evaluated as a weakness, then in the appropriate column it will be written "lack of xyz". Not necessarily not addressing a specific topic is a weakness, but it depends from the regional context and ambitions set during the first phase of the analysis (case studies).

The relevance and the impact of the SPI on the five STRING topics will be detailed examining if and how the SPI is directly addressing the relevant topic through "thematic" aspects or policy management related.

RELEVANCE should be considered *high* if, for example, the topic is explicitly included within the main objectives of the SPI; *medium* if the SPI could influence the topic, but it is not primarily focused on it; *low* if the topic it is outside the range of action of the SPI, but nonetheless could have some effects on it.

THEMATIC elements include all the examples of actual projects financed by the SPI, directly by the managing authority or by supported beneficiaries.

POLICY MANAGEMENT aspects instead are related directly to the policy structure. In particular, policy design elements are the means or mechanisms through which policy objectives are reached, but includes also the objectives set themselves.

Example: a specific set of condition asked for granting a financial support to projects, a peculiar model of stakeholder inclusion in the implementation of the policy, innovative non –financial supports etc.

TOPIC	RELEVANCE (HIGH/ MEDIUM/ LOW)	THEMATIC	POLICY	STAKEHOLDERS ASSESSMENT
1. Food industry innovation ecosystem frames (open labs, technopoles etc.)				*Strenghts (S1.1, S1.2, S1.n)* *Weaknesses (W1.1, w1.2, W.1.n)*
2. Cross-sectoral				*Strenghts (S2.1, S2.2, S2.n)* *Weaknesses (W2.1, w2.2, W.2.n)*

cooperation able to favour cross fertilization especially with High Tech and Health Sectors				
3. Improve role of agriculture and food innovation in regional development by harmonizing policy instruments				*Strenghts (S3.1, S3.2, S3.n)* *Weaknesses (W3.1, w3.2, W.3.n)*
4. Promote added value by linking innovation and production to real consumer needs by improving the commercialisation of R+D outputs and stimulate a demand driven instead of supply driven production				*Strenghts (S4.1, S4.2, S4.n)* *Weaknesses (W4.1, w4.2, W.4.n)*
5. Integration of SMEs in clusters and intercluster cooperation between the participating food regions				*Strenghts (S5.1, S5.2, S5.n)* *Weaknesses (W5.1, w5.2, W.5.n)*

4.2. Stakeholders involvement

The first source of information should be the official documents of the Operational Programme.

The regional stakeholder groups have a crucial role to develop this part of the analysis (and also in the strictly related good practice collection). The stakeholders will be required to:

1. help identifying if and where the SPI is addressing the STRING TOPICS;
2. assess them in terms of positive or negative effects;
3. identify learning needs
4. suggest good practices

The direct experiences of the applicants with the SPI could provide interesting indicators of the degree of implementation of such measures, as the % of beneficiaries on the total of the applicants, the perceived obstacles due to bureaucracy, financial issues, etc.
Questions to be posed during the description of the Selected Policy Instrument (SPI):

- *This topic was relevant during the policy design process of the SPI? How?*
- *This topic has been taken into account in the final policy design? How?*
- *Does the SPI foresee financial support on projects/action related to the topic? Describe.*
- *This topic influenced the SPI governance? How?*

Question to be posed to the stakeholder group during the assessment:

- *Which are the strengths and weaknesses of the policy instrument related to the specific topic?*
- *Should this topic be more relevant within the SPI?*
- *Is the specific element related to SPI addressing the topic at its best potential?*
- *Should it be implemented better?*
- *Should it be replaced?*

From weaknesses to learning needs

Resuming the weak elements identified in the previous section, the partners should translate them in "learning needs". These will be done assessing them analyzing *why* the specific element was not completely successful and proposing which could be the potential area of development.

STRING TOPIC	ISSUES	LEARNING NEEDS Should it be addressed by
Wn.n description	Policy governance strategy? Lack of resources? Lack of competences? Other? (Specify)	Supporting specific projects? Supporting specific infrastructures? Improving policy design or governance? Other? (Specify)

If relevant, a concrete example could be described to illustrate a specific need.

5. GOOD PRACTICES COLLECTION

5.1. Good Practices selection

According to the Joint Secretariat (https://www.interregeurope.eu/help/glossary/#index-G) in the context of the Interreg Europe programme, a good practice (GP) is defined as *an initiative (e.g. methodologies, projects, processes, techniques) undertaken in one of the programmes thematic priorities which has already* ***proved successful*** *and which has the* ***potential to be transferred*** *to a different geographic area. Proved successful is where the good practice has already provided tangible and measurable results in achieving a specific objective.*

Therefore, in order to identify a practice as "good" it must be not only successful, but also:

- Its objective should be specific, and its achievements measurable (VALIDITY)
- It could be potentially transferred in other context (TRANSFERABILITY)
- It should be cost-effective (SUSTAINABILITY)

Starting from the positive initiatives collected in the previous step, STRING partners should find an actual initiative or experience that embed the elements of strength identified in the relevant topic. Nonetheless the analysis can be expanded outside the limit of the regional SPI, but should be related anyway to the STRING topics and within the agro-food sector. Also during this phase the involvement of stakeholders is fundamental.

Only GPs that have actually been in practical function for a while should be chosen, therefore they could have been implemented also in the last programming period.

Partners will identify **four GPs**, selecting the ones that respond to the above-mentioned criteria. A track of possible questions to assess the GPs selected is provided below. It should be considered only as a hint to guide the selection, and not as a mandatory list.

VALIDITY means not only that the good practice has been effective, but also that its effectiveness can be proved and that it is a consequence of a well-structured process.

The initiative selected as GP should be assessed using the same indicators expressed by the initiative itself.

What are the results achieved?

How the results have been measured?

The assessment of the results are well documented?

Can the results be assessed financially (if relevant)?

The whole process is well represented/documented?

Is this documentation accessible?

TRANSFERABILITY means the potential of replication of the GP in other contexts.

Which are the key elements for the implementation of the GP?

Are the key elements of success of the GP internal (and therefore they could be influenced directly) or external?

Is it depending on specific people/service/knowledge?

Is it linked to some specific factors of the local context (infrastructures, socio/cultural aspects etc?

Can these elements be transferred?

If not, can these elements be replaced?

SUSTAINABILITY means that the costs and benefits of the GP should be evaluated. Costs are to be intended broadly. The analysis should focuses on two key aspects: financial costs but also management costs. Management costs could imply the effort required by dedicated human resources, but also the administrative burdens requested to implement it.

What are the financial costs of the GP?

How these costs were covered? Was it funded? Has it a sponsorship?

Is it complex to implement and operate?

Is it time consuming?

Which phase of the initiative was more demanding: planning, implementation, actors involvement,etc.?

Does it implies long and/or complex administrative procedure? If so, how much depends on the complexity of the initiative itself (for instance number of partners directly involved) and how much on the local context (high level of bureaucracy due to national legislation)?

Does it require a specific commitment and/or dedicated human resource(s)?

Following these guidelines, each region shall select its good practices, both thematic or management related. At least one for each category must be selected.