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WORKING PAPER 3

Indicators for Monitoring and Evaluation: An indicative methodology

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1. Introduction

Neither programme monitoring nor evaluation is a new task for the national and regional authorities responsible for managing the EU's Structural Funds. In recent years, Monitoring Committees have had experience both of quantifying programme aims and objectives and carrying out mid-term evaluations. This experience will inform and improve the monitoring and evaluation of future assistance.

The new regulations envisage a move away from purely financial monitoring. Existing monitoring, control, and evaluation procedures will be expanded upon and enhanced in order to ensure a more effective deployment of the Structural Funds.

These improvements reflect a more decentralised approach to programming and programme management as well as a clearer definition of monitoring and evaluation responsibilities at the Community, national and regional level.

It is in this context that the question of indicators has become particularly pertinent. Indicators raise a number of practical problems such as the consistency of the definitions used and the quantification of programme objectives.

The aims of this guide are thus as follows:

- To clarify the terminology used (output, result, impact) and translate the concepts into a form suited to the monitoring and evaluation of structural assistance.
- To propose a frame of reference. This cannot be definitive. Rather, it will be expanded upon as experience increases and further methodological guidance becomes available¹.
- To reconcile the diversity of monitoring methods and practices regarding indicators to the need for consistency at EU level by proposing a list of indicators appropriate to the main areas of assistance.

This guide must be used in a pragmatic and flexible fashion, taking account of, inter alia, available resources and in parallel to the efforts of national and regional authorities to improve the effectiveness of their monitoring systems.

¹ See Evaluation of Socio-economic Programmes: Selecting and Using Indicators for Monitoring and Evaluation, MEANS Collection Vol. 2, October 1998

2. Where to start

The monitoring and evaluation of structural assistance is a legal requirement although the arrangements for doing so depend upon the nature and content of the assistance in question. The aim is to establish the effectiveness of the implementation and the resources used by means of indicators defined at an appropriate level.

2.1. Regulatory provisions

The main provisions concerning monitoring indicators are set out in Article 36 of the General Regulation.

The regulation also contains several references to programming (Art. 16, 17 and 18) and evaluation procedures (Art. 40, 41, 42, 43 and 44). These articles establish: the operational foundations for monitoring and evaluating assistance (i.e. quantification of targets, financial and physical monitoring, output, result and impact indicators, performance measurement); the responsibilities of each of the levels of management involved (European Commission, Member States, and Monitoring Committees); and the associated reporting requirements (i.e., annual implementation reports, evaluation reports).

2.2. The programming framework

Indicators apply to all forms of structural assistance, i.e., Community Support Frameworks (CSFs), Single Programming Documents (SPDs), Operational Programmes (OPs) and also for “global grants” and major projects. To ensure an effective monitoring of these forms of assistance, particular attention should be paid to the lowest operational level (measure or project).

In general, these data must be included in the annual implementation reports (Art. 37) and must not be confined to financial reporting. In addition, indicators should offer a logically coherent description of the programme beginning with the most immediate level (actual expenditure) and proceeding to the most general level (the effects produced by that expenditure).

3. *The operational framework*

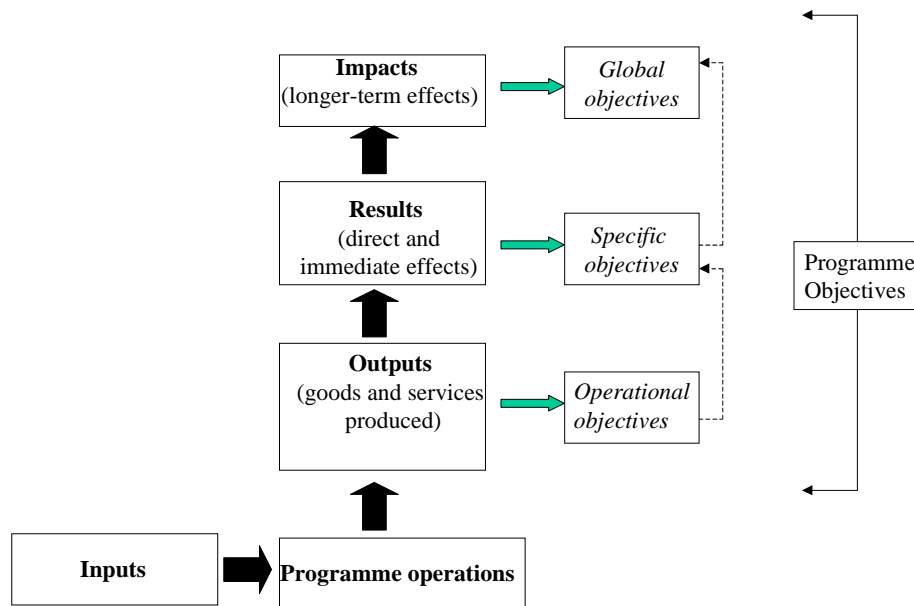
3.1. The general logic of the intervention

Essential parts of the preparation of Structural Fund programmes are the setting of objectives and the allocation of funding between operations in order to best achieve the objectives. There is a logical relationship between the allocation decisions and the objectives. This relationship can be visualised from the top down or from the bottom up. In practice, programming involves alternating between the two perspectives:

- from the top down: all assistance is programmed in a specific context relative to a defining **global objective**. This latter informs the strategy for assistance and gives rise to a certain number of **specific objectives**, broadly corresponding to the priority areas. Each specific objective is, in turn, implemented via measures. These permit the **operational objectives** to be achieved.
- from the bottom up:
 - Measures are implemented by administrations, agencies or operators using various (financial, human, technical or organizational) **means or resources (inputs)**.
 - Actual expenditure gives rise to a series of physical **outputs** (for example, kilometres of road built, number of training places provided, etc.) which demonstrate the progress made in implementing the measure.
 - **Results** are the (immediate) effects on the direct beneficiaries of the actions financed (e.g., reduced journey times, transport costs or number of “successful” trainees).
 - These results can be expressed in terms of their **impacts** on achieving the programme's global or specific objectives and are the principal bases for assessing the success or failure of the assistance in question. **Specific** impacts might include, for example, increased traffic of goods or a better match of skills to labour market requirements. **Global** impacts relate to the ultimate aim of assistance such as the creation of net jobs.

Figure 1 below sets out the logical sequence of Community assistance.

Figure 1: The intervention logic of a programme



Here, programme inputs are linked both to its outputs and, subsequently, to the achievement of its results and impacts. The means by which the programme achieves its operational, specific and global objectives are also shown.

In summary, then:

- **Operational objectives** are expressed in terms of outputs (e.g. the provision of training courses to the long-term unemployed);
- **Specific objectives** are expressed in terms of results (e.g. the improvement, through training, of the employability of the long term unemployed);
- **Global objectives** are expressed in terms of impacts (e.g. a reduction in unemployment among the previously long term unemployed).

3.2. Programming Structural Fund assistance

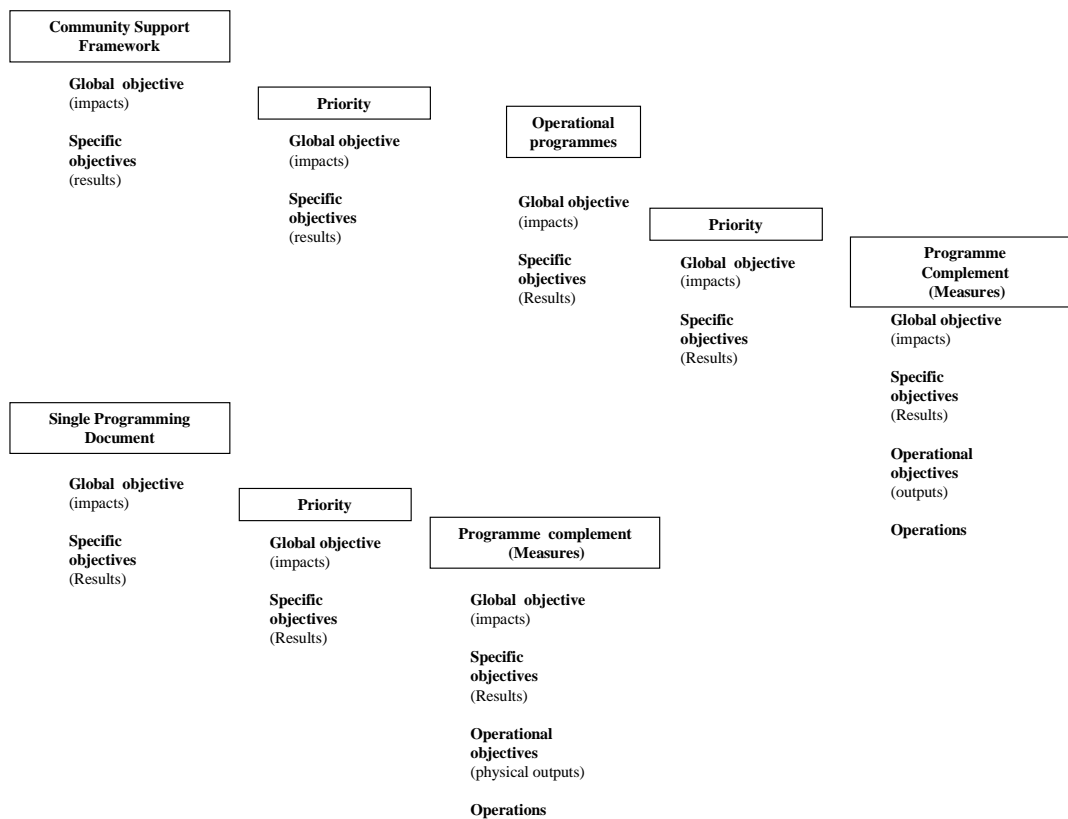
As noted above, Structural Fund assistance takes various forms: Community Support Frameworks (CSFs), Operational programmes (OPs), Single Programming Documents (SPDs), and the Programme Complements containing the measures. CSFs feature a number of priorities that are implemented via OPs. Each OP in turn comprises a consistent set of priorities composed of multi-annual measures. The SPDs have a simpler structure, made up of the elements contained in both a CSF and an OP.

Important

The Reform of the Structural Funds has introduced a new concept to the programming system - the **programme complement**. The principal consequence of this innovation is that responsibility for establishing programme content at the measure level and for quantifying the associated objectives now rests with the Member State. Ex ante evaluation will verify the consistency of the various programming levels.

As shown in Figure 2, each level of programming (CSF, priority, OP, etc.) is subject to the same categorisation of objectives. The global objective at the lower level corresponds to the specific objective at the higher level and, conversely, the specific objective at a higher level comprises the overall objective of the lower level. However, operational objectives exist at the measure level only.

Figure 2: Connections between levels and effects of assistance



In terms of indicators:

- Result and impact indicators can be defined at all levels of programming;
- Output indicators are quantified at the measure level only;
- A number of output indicators can be aggregated to define corresponding indicators at priority and programme level (see section 6)
- Causal links between the measure, priority and programme levels can be described through the evolution of the result and impact indicators measured at different levels.

An important aim of *ex ante* evaluation is to ensure that the internal logic of an intervention is throughout coherent.

3.3. Programme indicators: inputs, outputs, results and impacts

To be able to monitor a programme's implementation and judge its performance against the objectives set, it is necessary to use a set of indicators, which must be decided in advance or early on in the programme's implementation, so that data on them can be collected. They will in most cases be assigned target levels, which in aggregate will correspond to the objectives of the programme. The various levels of indicators are thus as follows:

- **Resource or input indicators** refer to the budget allocated to each level of the assistance. **Financial** indicators are used to monitor progress in terms of the (annual) commitment and payment of the funds available for any operation, measure or programme in relation to its eligible cost.
- **Output** indicators relate to activity. They are measured in physical or monetary units (e.g. length of road constructed, number of firms financially supported, etc.)
- **Result** indicators relate to the direct and immediate effect brought about by a programme. They provide information on changes to, for example, the behaviour, capacity or performance of direct beneficiaries. Such indicators can be of a physical (reduction in journey times, number of successful trainees, number of roads accidents, etc.) or financial (leverage of private sector resources, decrease in transportation cost) nature.
- **Impact** indicators refer to the consequences of the programme beyond the immediate effects on its direct beneficiaries. Two concepts of impact can be defined. Specific impacts are those effects occurring after a certain lapse of time but which are, nonetheless, directly linked to the action taken. Global impacts are longer-term effects affecting a wider population. Clearly, measuring this type of impact is complex and clear causal relationships often difficult to establish.

Table 1: Possible indicators for a major infrastructure project (road construction).

	Description	Indicators
Output	Construction of road	Implementation: - financial: cost, state of progress - physical: km constructed, level of progress
Result	Reduced journey time and transport costs	- Accessibility (ESS) ¹ - Time savings (in min) - Cost savings (%)
Specific impact	Increased safety Increased flows of persons and goods	- Traffic flows
Global Impact	Increase in socio-economic activity	- diversification of production - net job creation - Increased regional GDP per capita and per occupied person.

¹ ESS between A and B (Equivalent straight-line speed) measures the ease of access from one point to another, regardless of the distance between of these points.

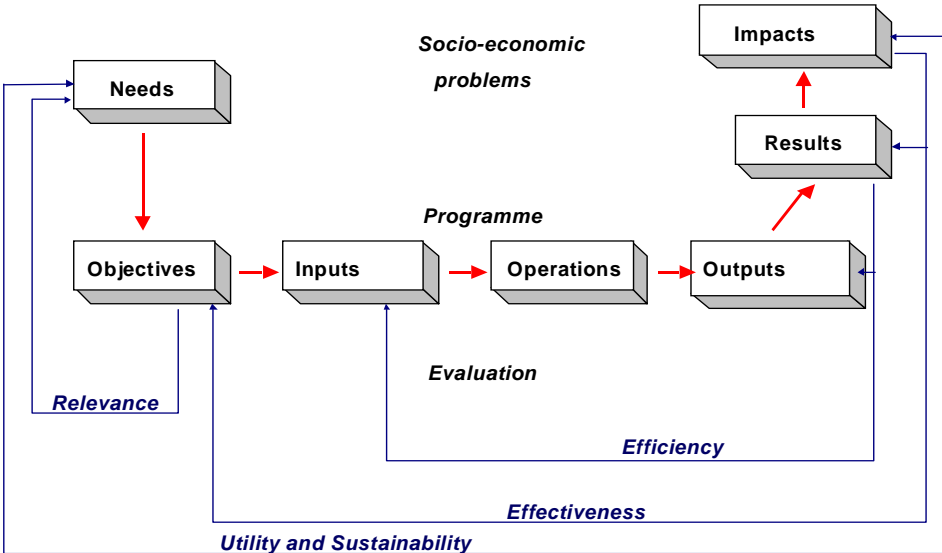
3.4. Indicators of effectiveness, efficiency and performance

In general, evaluations must address a set of specific issues to enable the assistance to be assessed in detail. Figure 3 shows how these issues are treated within a given programming framework.

Box 1: Evaluation issues

- **Relevance:** *To what extent are the programme's objectives relevant in relation to the evolving needs and priorities at national and EU level?*
- **Efficiency:** *How were the resources (inputs) turned into outputs or results?*
- **Effectiveness:** *How far has the programme contributed to achieving its specific and global objectives?*
- **Utility:** *Did the programme have an impact on the target groups or populations in relation to their needs?*
- **Sustainability:** *To what extent can the changes (or benefits) be expected to last after the programme has been completed?*

Figure 3: Key evaluation issues



Using the indicators defined in 3.3, we can measure such concepts as effectiveness and efficiency.

- **Effectiveness** compares what has been done with what was originally planned, *i.e.*, it compares actual with expected or estimated outputs, results, and/or impacts.
- **Efficiency** looks at the ratio between the outputs, results, and/or impacts and the inputs (particularly financial resources) used to achieve them.

Effectiveness and efficiency ratios can thus be calculated for each stage of the programme or measure, *i.e.*, in terms of output, result, and impact. They allow comparisons of what has been achieved with what was planned (*effectiveness*) or with the resources used (*efficiency*). These indicators can provide useful information for programme managers and evaluators, assisting them to make better (re)programming decisions.

Table 2 shows the complementarity between indicators and the measurement of effectiveness and efficiency.

Table 2: Effectiveness and efficiency indicators

	Indicators	Effectiveness	Efficiency
Operational objective (measure/operation)	Financial/physical output	Actual/planned output	Output compared to cost
Specific objective	Result	Actual/planned results	Result compared to cost
Global objective	Impact	Actual/planned impact	Impact compared to cost

Practical difficulties

In practice, measuring these ratios is relatively straightforward, but there are a number of difficulties arising.

Examining efficiency entails the following questions: Can the same results be produced using less input? Alternatively, can the same amount of input produce more results? Related to such questions is the problem of comparing the programme or measure with its possible alternatives. The main difficulty here is the choice of appropriate benchmarks. Benchmarks should preferably be established in advance so as to permit appropriate comparisons and clarify the quantification of objectives during the programming phase. This issue is discussed further on in Section 4.3.

It is also important to consider that even if a programme is efficient it might still contain serious shortcomings in its design. Objectives might not, for example, have been expressed with sufficient clarity or could even be absent entirely. In this respect, evaluators can perform a valuable role, transforming vague or global objectives into quantified, verifiable targets.

Also worth considering is that the concept of “effectiveness” tends to concern just one aspect of the programme's effects, *i.e.*, the expected positive results. Programmes, however, can also produce unexpected positive and/or negative results which the agreed indicators might not be able to detect.

The idea of **performance** has been referred to in much recent evaluation literature². By convention its scope is broadly defined, covering the effectiveness and efficiency (including management efficiency) indicators associated with the programme. The "performance reserve" system developed in accordance with Article 44 of the General Regulation is based on this concept.

² In the United States the term “performance” is used in the context of a shift in administration towards results, quality service, and user satisfaction (“Government Performance and Result Act). In the case of the World Bank, « performance » is defined in relation to the concepts resource *management* and efficiency (World Bank, 1997-Operations Evaluation Department, Lessons and Practices, 1997/10)

4. Setting up systems of indicators

4.1. Baselines and context indicators

Article 16 of the General Regulation stipulates that development plans must contain a quantified description of current disparities, gaps and development potential for the regions concerned. Context indicators reflect this stipulation and form part of the programming process. They provide a basis for:

- the socio-economic and strategic analyses (e.g. SWOT³ analyses) underpinning the programme's strategy;
- the monitoring of the general context;
- the implementation and establishment of quantified targets;
- the evaluation of the programme's socio-economic impacts.

Baseline data refer to the initial value against which a context or impact indicator is subsequently measured. They should be established in relation to the programme objectives and could include, inter alia, the initial number of industrial jobs in the region or the current amount of private investment in a given sector or industry. In practice, there are major gaps in the availability of data for a number of key areas, especially for SMEs.

Baseline data are also indispensable if the programme's indicators are to be meaningful. For example, if the aim of a given measure is to increase the number of SMEs in a region, the most appropriate baseline data are the number of SMEs existing at the start of the programme. Once this information is collected, it will then be possible to conclude, quite specifically, that, say, 20% of the existing businesses in an eligible region benefited from Structural Fund assistance.

The scope of this information can be refined as the programme is implemented. Setting baseline data should be done in such a way that the hierarchy of objectives and targets included in the programme is adequately covered. In some cases it could be useful to collect specific data concerning the beneficiaries of the programme, such as SMEs. More detailed indicators by industry, size, or gender will provide a fuller description of the beneficiaries and make it possible to compare these with previous interventions and/or with initiatives in other regions.

Information sources

Baseline data are gathered primarily from official statistics. Sometimes, however, these sources can be problematic. Typical problems include:

- the non-availability of data on an appropriate geographical level;
- delays in the publication of data (for example, Eurostat data on per capita GDP are published with a two to three year delay);
- gaps in official statistics in relation to the requirements of the programme (for example, the distinction between full-time and part-time workers might not feature in official statistics);

³ Strengths – Weaknesses – Opportunities – Threats

- the non-availability of data that is sufficiently disaggregated by sector.

In some cases official statistics will have to be supplemented with surveys or, possibly, indirect indicators (for example, SME turnover data can offer some approximation of competitiveness).

In addition, since 1992-93 the Commission has developed, in co-operation with Member States, a common system of quantified indicators to measure gaps in development. An initial list of context indicators was developed in which the indicators were categorised into twelve groups: basic indicators (per capita GDP, etc.), road transport, rail transport, telecommunications, energy, water, environment, education and training, research and technological development, industry and services, agriculture, and tourism. The quantified data were entered into a database, QUID, which is currently being revised.

4.2. Operational monitoring

The CSFs, SPDs, and other forms of assistance must contain a minimum amount of information to allow proper monitoring of their implementation. Global objectives and specific targets should, wherever possible, be stated and quantified along with any expected results. A detailed description of measures together with a quantification of the associated operational objectives should be contained in the **programme complement** drawn up at Member State level.

Once Monitoring Committees and Managing Authorities have been set up in accordance with the regulatory provisions, their first task will be to establish operational monitoring arrangements.

These arrangements should cover the following areas:

- The definition of the data to be collected in order to provide the necessary information on outputs, results, impacts, and corresponding indicators. The methods used to quantify the data or estimates generated by surveys must be specified (sample, panel data, databases, monitoring mechanisms, etc.) as well as authorities or bodies responsible for their collection.
- The definition of data to be provided to the Monitoring Committee and the frequency and timing of their transmission.
- The definition of operational links with the evaluation activities (*ex ante*, mid-term, and *ex post*)
- The definition of programme-specific indicators for use to allocate the performance reserve at mid-term.

The preparatory work for setting up a monitoring system must also serve to detect the gaps that the information systems contain. This may require relying on technical assistance and outside experts to fill gaps and deficiencies, improve the general implementation conditions, and make monitoring more effective.

4.3. Monitoring indicators

It will be incumbent upon the body responsible for the monitoring task, *i.e.*, the managing authority, to define, on the basis of existing priorities and capacity, the structure of the monitoring system and the **level of detail** at which monitoring is to be undertaken in order to meet the needs of different user groups (including the Commission).

While the monitoring of financial implementation is generally well established, the monitoring of physical outputs, results and impacts shows scope for further improvement.

It will be necessary to ensure regular monitoring of the physical and financial progress of the measures and, whenever possible, of the results as well. Available administrative and managerial resources are an important factor but, as a minimum, results should be monitored at least for the programme's most relevant measures.

Specific impact assessment (in terms of specific objectives) can begin only when the monitoring systems provide **adequate information** on progress and the corresponding results (*e.g.*, the immediate or direct effects on employment, immediate placement of trainees into employment).

The operation of the monitoring system should reflect this **gradual approach**, taking account of specific circumstances and needs as well as the level of resources available to undertake these activities.

4.4. Ex ante quantification

In general, the objectives and related indicators corresponding to the programmes, priorities, and measures should be quantified. Otherwise, the extent to which the original objectives are being met cannot be measured. The data permitting the quantification of programme objectives are usually available. Inevitably, as with all such forecasting exercises, an element of judgement is required in addition to data processing. The quantification can use baseline data and reference or benchmark values drawn from prior monitoring and evaluation exercises, for example the average cost of a job created or safeguarded in a given sector.

Baseline data provide information on the socio-economic conditions in the territory concerned, including target groups, such as the number of SMEs and their level of performance or innovation. They permit the establishment of quantified targets and enable the likely effects (results and impacts) of the planned actions to be estimated.

Benchmarks offer a further source of information for quantifying the objectives associated with measures and enable the effectiveness and efficiency of the actions in question to be compared. Such data should be used with caution, however, and are no substitute for the types of indicators generated by a monitoring system.

Evaluation data also can be useful in terms of helping to quantify objectives and indicators as well as for estimating expected impacts, especially those related to jobs created or safeguarded (Box 2).

Box 2: Quantifying effects on employment: from gross to net jobs

Structural assistance produces a number of effects on employment, either directly (*e.g.*, jobs created by an assisted SME) or indirectly (*e.g.*, jobs induced by a new infrastructure). The quantification of (direct) employment effects is therefore extremely important. The two main indicators of (direct) employment effects are new and safeguarded jobs. Safeguarded jobs are those that would have been lost without the intervention. Job effects can be estimated in gross or net terms. The latter figures take into account deadweight (employment effects that would have happened without the intervention) and displacement (losses of employment in other firms and areas) and are a much better basis of comparison when appraising projects for selection and assessing the efficiency and effectiveness of programmes.

The Commission recommends all Member States to work on improving their estimation and collection of data on direct employment effects first in gross terms and then move over to net job effect quantification.

See [Measuring the Employment Effects of Community Structural Interventions](#), MEANS Collection No 3, 1996

The level of quantification required depends on the nature of the intervention. In the case of infrastructure measures, it is more straightforward to set quantified targets at the outset (for example, number of kilometres of road to be constructed) based on the technical and economic characteristics of the projects to be financed. But, it is often not possible to measure precisely the target to be attained since the number of beneficiaries (SMEs or trainees) cannot be precisely established *ex-ante*. For such measures, which do not lend to direct quantification, it is more appropriate to set a range of possible targets or to rely on indirect or qualitative indicators, which values may be refined during the implementation phase.

4.5. Using indicators for evaluation

The evaluation work for each programme can be broken down into three phases, namely, *ex ante*, mid-term, and *ex post*. For each of these phases, evaluations have to address a set of specific issues about the performance of programmes. Indicators represent thus a major source of information on which evaluation should be based. At the same time, indicators are subject to specific assessments at different stages.

The ***ex-ante* evaluation**⁴ should feature the following elements:

- The linkage and consistency between global objectives, specific objectives, and measures to be contained in the programme complement;
- The existence and relevance of the output, result, and impact indicators for each level of assistance;
- The reliability of the level of quantification of the objectives;

The evaluator should play an active role in improving the quality of indicator systems.

⁴ See European Commission, [The Ex-ante Evaluation of the 2000-2006 interventions, Working paper No 2](#) (1999)

The **mid-term evaluation** should examine the degree of effectiveness achieved on the basis of the indicators collected during monitoring. It will also assess the quality and relevance of these indicators.

Finally, the **ex post evaluation** will, using final monitoring data, compare the expected objectives with those actually achieved (including impacts).

5. Implementing the monitoring indicators

The principal aspects of the monitoring process are described below.

5.1. Data collection

The purpose of the monitoring arrangements set up as part of the management system for structural assistance is to collect the data and information required to measure the indicators established *ex-ante*.

Such data collection should be the work of the authorities responsible for implementing the assistance although expert help can be sought where necessary. Much the same applies with regard to the implementation of the monitoring systems (see §3.1).

Optimal use of existing operational information systems should be encouraged as should the avoidance of wasteful duplication by different bodies. The information supplied by the national and regional authorities and that obtained from the statistics departments should be used extensively. Efforts must also be made to help consolidate or improve existing data.

Some information, notably financial implementation data, is already supplied in the form of standardised tables, at measure, priority and programme level. These data are useful to verify the quality of physical output data.

Both financial and physical data should be collected in accordance, where possible, with the sectoral nomenclature proposed by the Commission (see Annex I).

To ensure effective monitoring, output indicators should be produced for all or most measures. A somewhat more selective approach can be adopted for both results and impact indicators. Whilst the latter cannot be collected either systematically or at regular intervals, they should be compiled during the evaluation (as distinct from the monitoring) process.

Such information is essential if Monitoring Committees are to be able to determine the extent to which the assistance has been implemented. It is also of value in enabling operators to understand what their actions have actually produced. All monitoring activities should be detailed in the implementation reports specified in the regulatory provisions.

5.2. Initial data analysis

Once it has been collected, data should be developed, processed and an initial interpretation prepared in order to assist the monitoring body.

In general, this analysis is a further task for the authorities and bodies responsible for the assistance. However, if some analyses are deemed too complex, outside experts or those organisations responsible for the initial data collection should be invited to assist them.

5.3. Presenting the data to the Monitoring Committee

The Monitoring Committees are responsible for ensuring that implementation is both effective and of satisfactory quality. Their tasks include reviewing progress, especially the degree to which the quantified targets associated with each of the measures have been achieved.

Information presented to the Monitoring Committees should include:

- monitoring systems data (baseline data, monitoring indicators);
- mid-term evaluation data (including, where necessary, revisions of the indicators); and
- mid-term data on the general socio-economic context and programme additionality.

Monitoring Committees may decide, on the basis of the distinctive features of the assistance in question, which data are necessary and the date at which they should be available.

To monitor a CSF, OP or SPD, Monitoring committees should receive on an annual basis monitoring information covering financial implementation, physical outputs and programme management.

As monitoring systems become operational, it will become possible, using appropriate indicators, to measure both results and effectiveness as well as to make some initial estimates of possible impact.

The information that is produced should normally be available at programme level.

All of this information must be included in annual implementation reports (see §5.4 below). By mid-point, a summary of this annual information, together with some measurement of effectiveness (i.e., in terms of outputs and results) should be available.

An annual meeting between the Commission and the managing authority will take place in order to examine the results achieved during the preceding year. This meeting may be followed by recommendations to improve the quality of management.

5.4. Annual implementation reports

In the case of all multi-annual assistance, the Member State's designated managing authority will submit an annual implementation report to the European Commission within six months of the end of each full calendar year of implementation. This report will detail the progress made in implementing the assistance over the preceding year (§3.6). A final report shall be sent to the Commission not later than six months after the final eligibility date.

These reports must be drafted by the Member States on the basis of the following elements:

- data on the context in which the assistance was implemented;
- progress made in achieving the priorities and specific targets of the measures and, where relevant, progress on major projects, as demonstrated quantitatively using the monitoring indicators adopted for this purpose; and
- the financial implementation of the assistance at measure level based on quantified indicators.

To help in drawing up these reports, a general framework will be adopted in accordance with the implementation procedures to ensure their consistency and permit a Community-wide report on their findings.

The Commission will ensure that the information contained in the reports is consistent.

5.5. Mid-term evaluation reports

The Monitoring Committees will receive mid-term evaluations enabling them to ‘examine, in the light of the *ex ante* evaluation, the initial results of the assistance, the relevance of the targets and the extent to which they have been attained’. (Art. 42).

As part of this more general work, the evaluator will have to make a general appraisal of the system of indicators and its level of quantification. In addition, s/he will assess the degree of effectiveness achieved, expressed as a percentage of the target (see Table 3).

Table 3: Mid-term effectiveness

	Indicator 1		Indicator 2	
	Unit	% target	Unit	% target
Measure 1				
Measure 2				
...				
Measure x				

Effectiveness indicators will concern, primarily, outputs and results. Some impact indicators may also be available, but as a rule these will be measured at a later stage of the programme's implementation. A limited number of monitoring indicators will be selected to help measure the programme's overall **performance** with a view to allocating the reserve. This will be supplemented by other indicators concerning financial implementation and the general quality of management (including monitoring, control, project selection, and evaluation).

5.6. Electronic data transmission

Computerisation of data will be needed to facilitate the management, monitoring and evaluation requirements. The Commission will provide Member States with the specification necessary to facilitate the exchange of data between the Commission and the Member State.

6. *Core indicators, performance indicators, and list of indicators*

6.1. Core indicators

The large number of measures included in a programme often leads to the development and quantification of a large number of monitoring indicators. Using these indicators can prove cumbersome, particularly by parties other than local operators. For practical and strategic reasons, sets of indicators focusing specifically on the needs of the user groups in question, should be developed.

Core indicators are indicators, which can be used to make comparisons between similar programmes or measures. They can, in some cases, be aggregated to a higher level. However, the diversity of practices and definitions suggest that different indicators can be categorised as “core” by different user groups depending upon the objectives being pursued.

Indicators can, for example, have a strategic importance in the sense that they reflect specific priority areas of Community-wide interest.

For example, employment is an EU policy objective and simultaneously a priority in most forms of assistance. An important core impact indicator is therefore the number of (net) jobs generated by structural assistance.

Programme managers may, in line with their own needs, have an interest in identifying simple indicators that are easy to estimate and monitor over time and which can also be applied to various measures and operations.

For example, encouraging SMEs is a priority in many regional and sectoral programmes. It is thus appropriate to try and establish how many SMEs (existing or new) have actually been assisted by the various measures concerned (core output indicator) or to measure the effects of assistance on the private sector spending (core result indicator) or the survival rate of SMEs after 18/36 months (core impact indicator).

Although certain programmes pursue common objectives such as job creation, SME competitiveness, etc., the means for achieving these aims can vary. As a result, specific regional or sectoral indicators are often defined. In this case, a more diverse set of indicators might be developed to supplement core indicators; certain horizontal priorities such as environment and equal opportunities can be treated differently across various programmes; as a rule, the choice of these indicators will depend on the programme's operational context (sectoral or regional).

Generally speaking, the number of core indicators must be small to ensure that they are appropriate and manageable with regard to programme monitoring and comparative or thematic analyses. They may refer to outputs, results, and/or impacts (see Table 4).

Table 4: Assistance to SMEs: Examples of core indicators

Input	% of Funds allocated to applicant SME projects
Output	Number of firms receiving financial support (grants)
Result	Leverage effect (private sector spending generated by the programme)
Impact	% survival rate of new businesses after 18 / 36 months Net employment created or maintained (FTEs in SMEs and in SMEs with women owners)

The use of core indicators can help disseminate good monitoring practices across the Union, improve benchmarking, provide more reliable information and a comprehensive picture of the effects of a programme or a set of programmes.

6.2. Performance Indicators

Indicators may also be selected according to functional characteristics, such as the need for indicators capable of measuring programme performance. According to the reserve scheme defined in art. 44, "Each Member State, in close concertation with the Commission, shall assess under each Objective and not later than 31 December 2003 the performance of each of their operational programmes or single programming documents on the basis of a limited number of monitoring indicators..."

These indicators reflect three main concerns:

- Effectiveness, i.e. a comparison of actual and planned outputs as well as some results (such as gross employment)
- Quality of management
- Financial implementation

A common feature of these indicators is that they measure the mid-term results in relation to their specific initial targets. They are not designed to compare or contrast actual levels of performance across programmes.

A specific guidance document has been prepared by the Commission services in order to help Member States implement the performance reserve scheme⁵.

6.3. List of suggested indicators

The Commission is required to propose a list of suggested operational indicators to help programme managers prepare their programming documents. This list, presented in annex, is not intended to be exhaustive. Sets of indicators, expressed in terms of outputs, results and impacts have been identified for the main areas of assistance. It also contains a more restricted set of core indicators, defined according to their significance and relevance in terms of the main EU priorities such as Employment, SMEs, RTD Information Society, Environment and Equal opportunities. Indicators have been selected mainly on the basis of their appropriateness in terms of making comparisons within and between programmes. In some cases, they can be aggregated at regional or national level (see Annex II and III).

Table 5: Selected indicators for various types of infrastructure

⁵ See European Commission, *Implementation of the Performance Reserve for Objectives 1,2 and 3*, Working Paper No4 (1999)

	Industrial site	Road from A to B	Rehabilitation of urban wasteland
Inputs	Development cost	Construction cost	Project cost
Outputs	Floorspace developed	Length constructed	Area rehabilitated
Results	Attractiveness of the site compared with neighbouring sites	Gain in accessibility (ESS)	Change in number (and socioprofessional profile) of inhabitants within a 1-km radius
Impacts	Floorspace acquired by enterprises after 1 year Growth of employment in participant enterprises	Number of vehicles using the road after 1 year Percentage of regional enterprises satisfied with accessibility (context)	Percentage of town's inhabitants willing to stay (context)

7. *Overcoming the problems of using indicators*

The indicators produced by the monitoring systems should provide information useful to improve the quality and effectiveness of assistance. They should also be relevant and measurable at different stages of programme implementation. Given their quantitative nature, they may shed light on the programming exercise and provide reference points for monitoring and evaluation.

Indicators are not always easy to use. Some of the problems which can arise are discussed below:

- There can be difficulties in establishing clear cause-and-effect relationships between the planned actions, results achieved and impacts with regard to the final objectives.

An improvement in the economic situation, for example, might be due to factors external to the programme. In such a situation it might be useful to use methods for estimating the impacts of a measure on a given group compared with a similar (control) group to which the measure does not apply.⁶

- The relative complexity of measurement methods can also be problematic.

Outputs and results are relatively straightforward to measure in that they are quite close to the 'measure' level. In contrast, impacts must be measured from outside the operational context. They need not, therefore, be particularly visible or obvious and this has adverse consequences in terms of their measurability. In addition, impact is often the cumulative effect of a number of measures and this can further complicate analysis.

- Data can be unavailable at crucial decision-making stages (e.g. for programme adjustments).
- There are difficulties in combining certain indicators. Whereas financial indicators can be aggregated to all levels (measure, priority, programme, CSF, or SPD), physical indicators are more difficult to aggregate, and it may be sometimes inappropriate to do so.

This means that it is important to choose the appropriate physical indicators for each level of assistance in order to be able to measure the corresponding quantifiable results and impacts.

Monitoring indicators tend to be more readily established and quantified when they relate to the measure, or project level. They are more difficult to define and use at a more aggregated level (programme, priority, and CSF). It is therefore essential, not simply to define indicators, but to use quantitative (and qualitative) information about the various items of assistance.

- Finally, it is important to capture, as far as possible, the indirect or unexpected effects of assistance (e.g. substitution effects) which influence results and impacts, particularly those relating to job creation and maintenance.

⁶ See Evaluation of Socio-economic Programmes: Evaluation Tools, MEANS Collection Vol. 3, 1998.

8. Bibliography

The bibliography concerning indicators is very extensive. The following titles have been selected because they are general and recent.

- | | |
|-------------------------------------|---|
| EKOS (1998) | Baselines and quantification in the UK Objective 2 programmes, Glasgow |
| European Commission (1995) | Common Guidelines for monitoring and interim evaluations, Luxembourg |
| European Commission (1997) | 2 nd Report on Science and Technology indicators, Luxembourg |
| European Commission (1998) | Evaluating the application of the principle of equal opportunities in Structural Funds interventions: Methodological proposals |
| European Commission (1999) | Guidelines for systems of monitoring and evaluation of ESF interventions in the period 2000-2006 |
| MEANS Handbook (1996) | Quality assessment of evaluation reports |
| MEANS Programme (1999) | Evaluating socio-economic programmes: evaluation design and management, Vol.1 |
| | Evaluating socio-economic programmes: selection and use of indicators for monitoring and evaluation, Vol. 2 |
| | Evaluation socio-economic programmes: principal evaluation techniques and tools, Vol. 3 |
| | Evaluation socio-economic programmes: technical solutions for evaluating in partnership, Vol. 4 |
| | Transversal evaluations of impacts on the environment, employment and other intervention priorities, Vol. 5 |
| | Glossary of 300 concepts and technical terms, Vol. 6 |
| Ministerio de Medio Ambiente (1999) | Indicadores para el seguimiento y evaluación de los Fondos Structurales: Guia practica. Dirección general de Calidad y evaluación ambiental |

EXPLANATORY NOTE

The managing authority and the Monitoring Committee carry out the monitoring using physical and financial indicators specified in the operational programme, single programming document, or in the programme complement. In drawing up their indicators, article 36 foresees that the MS should take into account the indicative methodology and list of examples of indicators as well as the categorisation of fields of intervention proposed in this document.

As a general rule, the indicators shall relate to the specific character of the assistance concerned, its objectives and the socio-economic, structural and environmental situation of the Member State concerned and its regions, as appropriate. They shall also take account, where appropriate, of the existence of regions or areas receiving transitional support.

A list of the categorisation of fields of intervention (annex 1), suggested core indicators (annex 2) as well as a general list of suggested monitoring and evaluation indicators (annex 3) is included below. The overall purpose of this indicative list is to assist the Member States in preparing and carrying out the next programming period.

Annex 1: Categorisation of fields of intervention

The attached list of categories of fields of intervention of the Structural Funds is based on Article 36 of the General Regulation and has been drawn up to assist the Commission services with their tasks related to reporting on the activities of the Structural Funds⁷.

In addition to inclusion in the regular annual reports on the Structural Funds and to contribute to Communications on different Community policies, such information by category is necessary to enable the Commission to meet demands for information from other EC institutions, from Member States as well as from the public.

The categorisation may also facilitate follow-up and monitoring and provide solid foundation on which to base the evaluations.

In drawing up the measures within the Structural Fund programmes, Member States may follow a categorisation best suited to their own national and regional situation, which may, if they so wish, be based on the Commission's categorisation. The important issue for the Commission however is simply to be able to prepare summary information across the programmes on the activities of the Funds. Therefore, the Programming Complement should show the link between each measure and the corresponding category in the Commission list. For example this link could be shown by means of applying the appropriate code to each measure or to clarify the correspondence between national codes and the Commission's categories. The annual implementation reports on the programmes should also show the link. The list is not totally new as it has been developed from the 14 basic categories used by the Objective 1 Member States in the additionality exercise during the current programming period.

It should be noted that none of the above are obligatory requirements from the Commission. These are however, designed to facilitate the monitoring and evaluation of the programmes.

⁷ Concerning "11", "12" and "13", a more detailed list is to be proposed to the STAR-Committee.

Structural Funds: Fields of intervention by category and sub-category

1. Productive Environment

11 Agriculture

- 111 Investments in agricultural holdings
- 112 Setting up of young farmers
- 113 Vocational training
- 114 Improving processing and marketing of agricultural products

12 Forestry

- 121 Investments in forest
- 122 Improving harvesting, processing and marketing of forestry products
- 123 Promoting new outlets for the use and marketing of forestry products
- 124 Establishment of associations of forest holders
- 125 Restoring forestry production potential damaged by natural disasters and fire and introducing appropriate prevention instruments
- 126 Afforestation of non-agricultural land
- 127 Improving/maintaining the ecological stability of protective forests
- 128 Training

13 Promoting the adaptation and the development of rural areas

- 1301 Land improvement
- 1302 Reparcelling
- 1303 Setting up of farm relief and farm management services
- 1304 Marketing of quality agricultural products
- 1305 Basic services for the rural economy and population
- 1306 Renovation and development of villages and protection and conservation of the rural heritage
- 1307 Diversification of agricultural activities and activities close to agriculture, to provide multiple activities or alternative incomes
- 1308 Agricultural water resources management
- 1309 Development and improvement of infrastructure connected with the development of agriculture
- 1310 Encouragement for tourist activities
- 1311 Encouragement for craft activities
- 1312 Preservation of the environment in connection with land, forestry and landscape conservation as well as with the improvement of animal welfare
- 1313 Restoring agricultural production potential damaged by natural disasters and introducing appropriate prevention instruments
- 1314 Financial engineering

14 Fisheries

- 141 Adjustment of the fishing effort
- 142 Renewal and modernisation of the fishing fleet
- 143 Processing, marketing and promoting of fisheries products
- 144 Aquaculture
- 145 Equipment of the fishing ports and protection of the coastal marine zones
- 146 Socio-economic measures (including aids to the temporary stopping and compensation for technical restrictions)
- 147 Actions by professionals (including vocational training, small coastal fishing)

15 Assisting large business organisations

- 151 Investment in physical capital (plant and equipment, cofinancing of state aids)
- 152 Environment-friendly technologies, clean and economical energy technologies
- 153 Business advisory services (including internationalisation, exporting and environmental management, purchase of technology)
- 154 Services to stakeholders (health and safety, providing care for dependants)

155 Financial engineering

16 Assisting SMEs and the craft sector

- 161 Investment in physical capital (plant and equipment, cofinancing of state aids)
- 162 Environment-friendly technologies, clean and economical energy technologies
- 163 Business advisory services (information, business planning, consultancy services, marketing, management, design, internationalisation, exporting, environmental management, purchase of technology)
- 164 Shared business services (business estates, incubator units, stimulation, promotional services, networking, conferences, trade fairs)
- 165 Financial engineering
- 166 Services in support of the social economy (providing care for dependants, health and safety, cultural activities)
- 167 Vocational training

17 Tourism

- 171 Physical investment (information centres, tourist accommodation, catering, facilities)
- 172 Non-physical investments (development and provision of tourist services, sporting, cultural and leisure activities, heritage)
- 173 Shared services for the tourism industry (including promotional activities, networking, conferences and trade fairs)
- 174 Vocational training

18 Research, technological development and innovation (RTDI)

- 181 Research projects based in universities and research institutes
- 182 Innovation and technology transfers, establishment of networks and partnerships between businesses and/or research institutes
- 183 RTDI Infrastructure

2. Human Resources

21 Labour market policy

22 Social inclusion

23 Developing educational and vocational training (persons, firms)

24 Workforce flexibility, entrepreneurial activity, innovation, information and communication technologies (persons, firms)

25 Positive labour market actions for women

3. Basic Infrastructure

31 Transport infrastructure

- 311 Rail
- 312 Roads
- 313 Motorways
- 314 Airports
- 315 Ports
- 316 Waterways
- 317 Urban Transport
- 318 Multimodal Transport
- 319 Intelligent Transport Systems

32 Telecommunications infrastructure and information society

- 321 Basic infrastructure
- 322 Information and Communication Technology (including security and safe transmission measures)
- 323 Services and applications for the citizen (health, administration, education)
- 324 Services and applications for SMEs (electronic commerce and transactions, education and training, networking)

33 Energy infrastructures (production, delivery)

- 331 Electricity, gas, petrol, solid fuel
- 332 Renewable sources of energy (solar power, wind power, hydro-electricity, biomass)
- 333 Energy efficiency, cogeneration, energy control

34 Environmental infrastructure (including water)

- 341 Air
- 342 Noise
- 343 Urban and industrial waste (including hospital and dangerous waste)
- 344 Drinking water (collection, storage, treatment and distribution)
- 345 Sewerage and purification

35 Planning and rehabilitation

- 351 Upgrading and Rehabilitation of industrial and military sites
- 352 Rehabilitation of urban areas

36 Social infrastructure and public health

4. Miscellaneous

41 Technical assistance and innovative actions (ERDF, ESF, EAGGF, FIFG)

- 411 Preparation, implementation, monitoring, publicity
- 412 Evaluation
- 413 Studies
- 414 Innovative actions

Annex 2: Core indicators

This annex contains a selection of core indicators which have been identified in relation to different Community priorities in accordance with the Commission's Guidelines⁸.

This list covers only the main indicators of effects of the implementation of programmes in terms of "outputs", "results" and "impacts".

- **Output** indicators relate to activity. They are often measured in physical or monetary units (e.g. number of kms of a road built, number of firms having received financial support, number of training places provided etc.)
- **Result** indicators represent the direct and immediate effects generated by a programme. They provide information on the changes that affect the behaviour (or performance) of direct beneficiaries. These indicators may also be of a physical (reduction in journey time, number of successful trainees, number of roads accidents, etc.) or financial nature (induced investment by the private sector, decrease in transportation cost etc.).
- **Impact** indicators represent the consequences of the programme beyond the immediate effects on its direct beneficiaries. Two notions of impact may be defined, depending on whether these are effects occurring after a certain lapse of time (*specific* impacts) but are directly linked to the action taken, or longer-term effects affecting a larger population (*global* impacts).

The Commission intends to use these core indicators in order to better disseminate good monitoring and evaluation practices across the Union, to improve benchmarking, to provide more reliable statistics for inter-regional comparisons and, finally, to give a more comprehensive picture of the effects of the programmes.

Methodology for selecting the core indicators

The criteria used for selecting these indicators have been the following:

- *Relevance* (to common priorities and objectives)
- *Quantification* (ability to set targets and, where appropriate, establish baselines)
- *Reliability* (clarity of definition and ease of aggregation)
- *Availability* (on the ground for entry into the monitoring system)"

The different indicators are presented as one "fiche" per priority. It should also be noted that this selection represents a limited number of suggestions and, as such, is not meant to be exhaustive.

It should be noted that none of the above are obligatory requirements from the Commission. These are however, designed to facilitate the monitoring and evaluation of the programmes.

⁸ Structural Fund and Cohesion fund. Guidance for future programmes (2000-2006) - Working document of the Commission, Feb.1999. A supplementary selection of indicators specifically for rural and agricultural interventions will be available at a later stage.

Sheet A: Employment

Employment is a paramount objective of the Structural Fund interventions. This is mainly achieved by improving the conditions within the assisted areas and promoting wider economic development. This policy objective needs to be reflected in how job creation is forecast and measured.

For quantifying the effects on employment, it should be noted that structural intervention produces a certain number of direct effects (*e.g.*, jobs created by an assisted SME) or indirect effects (*e.g.*, jobs induced by a new infrastructure). For a more precise evaluation and comparison of the real effects on employment, net effects on employment should be estimated. This is based on the gross effects (overall impact stated by the beneficiaries), taking into account the dead-weight (beneficial effects that would have been obtained in any event), displacement effects (effects on employment that generate job losses inside the same target area), and multiplier (or indirect) effects. This should also help to avoid the problem of double-counting. To improve the accuracy of these estimates, a distinction should be made between jobs that are maintained (jobs that would have been lost in the absence of the intervention) from new jobs linked to the form of assistance.

The Commission has developed a method aimed at creating a common reference framework for evaluating employment effects and quantifying more precisely the expected employment effects set out in the programmes and measures⁹.

Thus, the employment indicators should be constructed taking into account of the following elements:

- Conversion into FTE (Full Time Equivalent) jobs¹⁰
- Distinction Gross/Net employment effects (this implies, on the national level, the existence of or the development of a methodology for estimating net employment taking due account of displacement, dead-weight and indirect effects)
- Breakdown between new jobs and safeguarded jobs
- Further subdivision between men and women in order to have information on the effects on equality of opportunity.

The information is, in principle, available at the project level and is then aggregated at the level of the measures and the programmes.

The choice of using only core impact indicators for employment reflects the medium to long term objective of the Structural Funds. Nevertheless, employment may also be measured as a direct and immediate effect on the project-level.

⁹ DGXVI has published a methodological note on calculating net employment effects entitled *Counting the jobs* : How to evaluate the employment effects of Structural Funds(1997)

¹⁰ Part-time jobs may be converted into FTEs on the basis of two to one. Jobs can be defined as permanent if they continue after the end of the intervention or if they last for a pre-defined period after the end of the intervention.

Core impact indicators*

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(1, 2, 3)	Employment (created)	Additional jobs in the firm or institution that would not have existed without the programme, measure or project (the level at which measurement is made should be specified at the monitoring or evaluation stage).	Number Gross/Net FTE Men/Women
(1, 2, 3)	Employment (safeguarded)	Those jobs that are maintained in the firm or institution as a result of the project/programme and which would otherwise have been lost (the level at which measurement is made should be specified at the monitoring or evaluation stage).	Number Gross/Net FTE Men/Women

* Code () : see annex I

Sheet B: Transport infrastructure networks

The importance of transport infrastructure for improving the competitiveness and the accessibility of regions is recognised in the context of the Structural Funds. Indeed, networks and transport systems have a crucial role to play in terms of assisting economic development in the regions. Economic actors need reliable and reasonably priced access to markets and citizens need to have access to a good public transport system. The objective of the regional development programmes are, in this sense, to remove the obstacles and “missing links” that enterprises and travellers face and to improve the quality of the transport systems and transport infrastructure in general.

In addition, the Trans-European Networks-Transport (TENs-T) have the potential for opening up the European territory by generating new opportunities for the peripheral regions as well as addressing the problem of missing intra-European links.

The indicators reflect this focus on improvement of the links including those with TENs.

Core output indicators *

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(311)	Rail infrastructure	High speed railway infrastructure (constructed or upgraded)	Km Degree of network completion (%)
(313)	Motorway infrastructure	Motorways constructed or upgraded	Km Degree of network completion (%)

Core result indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(311, 313)	Time saved	Reduction in journey time	(journey time x freight/passengers volume)
(311, 313)	Accessibility gains	Indicator measuring accessibility allowed by new transport infrastructure using the most efficient mode of transport	ESS (Equivalent Straight line Speed) ¹¹

* Code () : see annex I

¹¹ ESS stands for Equivalent straight-line speed, and it measures the ease of access from one point to another, regardless of the distance between these points. It is computed by dividing the straight-line distance between the two points by the rapidest possible trip duration between them.

Core impact indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(31)	Traffic flows	Traffic flows of vehicles/passengers/freight after one year (broken down into categories of transport – rail/road/air/sea)	Increase (%)
(31)	Environmental impact	Environmental impact in terms of increased or decreased pollution (CO ₂ , Nox...)	Increase or decrease (%)
(31)	Employment (created and safeguarded)	Jobs in the company or institution created or safeguarded as a result of supported transport projects.	Number and % of total jobs (Men/Women)

Sheet C: Energy infrastructure networks

A sustainable regional development needs an efficient, competitive and diversified energy sector. The Community places particular importance on improving safety and quality of energy distribution as well as on cost reduction. Renewable energy sources and improvement of energy networks are also part of this priority.

Core output indicators*

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(331)	Installed capacity	New or upgraded capacity, broken down by source of energy (electricity, gas etc.)	KW/MW Degree of network completion (%)

Core result indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(331)	Population served	Users connected to the new or upgraded network	Number
(331)	Cost for final users	Reduction in energy cost	Euro/KWh

Core impact indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(332)	Renewable energy sources	Increase in share of renewable energy sources compared to total energy supply	% compared to total
(331)	Efficiency	Efficiency increases in supported plants and installations leading to a better use of resources	Tonnes Petrol Equivalents
(33)	Emissions	Environmental impact in terms of increased or decreased pollution (CO ₂ , Nox...)	% change from baseline
(33)	Employment (created and safeguarded)	Jobs in the company or institution created or safeguarded as a result of supported energy projects.	Number and % of total jobs (Men/Women)

* Code () : see annex I

Sheet D: Telecommunications and Information society

The rapid development of telecommunications and the Information Society (IS) have opened vast new possibilities for economic development. It has enlarged the commercial options for companies and may help peripheral areas to keep employment and to develop new areas of activity (on-line electronic commerce for instance) less dependent on the localisation factors.

An efficient telecommunication infrastructure is a basic condition for these types of services and the general access to the Information Society, even if it is not the only one. Other actions in this priority also include the promotion of e.g. new telecommunication and/or information technology services.

Core output indicators*

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(322)	Digitalisation	Digital telephone lines	Number and % increase
(324)	Information Technology Start-ups	Start-up firms providing Information Technology related services (on-line, e-commerce, etc.)	Number

Core result indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(324)	Information Technology services	SMEs developing and commercialising Information Technology services	Number
(324)	Information Technology services	INTERNET PoP (Point of presence) per local call area	Number

Core impact indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(32)	Employment (created)	Additional jobs in the company or institution created as a result of assisted Information Society related projects	Number and % of total jobs (Men/Women)

* Code () : see annex I

Sheet E: Environment

The European environment is still under pressure considering the quality of the soil, water and air. Efforts in terms of environmental infrastructure in the areas of, for instance, waste treatment or water supply are important factors in the economic development of the regions. Other factors acting for a better environment are also the promotion of clean technologies, training and tools such as eco-audits for SMEs.

One suggestion for a horizontal indicator of the mainstreaming of environmental priority would be to classify, at the project-level application stage, all projects in the following categories:

The project¹²:

1. Is it positive in environmental terms?
2. Is it neutral in environmental terms?
3. Is it negative in environmental terms?

Core output indicators*

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(345)	Water treatment and purification	Capacity improvements for water treatment and purification plants	m ³
(343)	Waste disposal and recycling	Capacity created in waste disposal facilities and/or recycling facilities	% increase (tonnes)
(162, 18, 344)	Environmental technologies	Firms receiving financial support to introduce environmental technologies or to develop eco-products	Number (of which new SMEs)

Core result indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(343)	Population served (waste disposal)	Households served for collection of municipal solid waste	Number and % population
(344, 345)	Population served (water supply)	Households served by new/ improved networks or water supply systems	Number and % population

¹² In terms of management indicators and categorisation of projects, the 5th Programme of policy and action in relation to the environment and sustainable development ("Towards Sustainability") can be used. One way of using this at programme or measure level is mentioned in "Environment and Sustainable Development: A guide for the ex-ante evaluation of the environmental impact of regional development programmes", Commission, 1999.

* Code () : see annex I

Core impact indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(1, 2, 3)	Reduction of pollution	Environmental impact in terms of decreased pollution (CO ₂ , NO _x ...)	% decrease
(16, 18, 34)	Employment (created and safeguarded)	Jobs in the company or institution created or safeguarded as a result of supported environmental projects.	Number and % of total jobs (Men/Women)

Sheet F: Research & Development, Technology and Innovation (RDTI)

The promotion of RDTI capacities in the regions is key to future economic growth and the development of new activities. Priorities for the Community are thus to improve the innovation capacity of the regions, particularly in SMEs, to encourage networking between research institutes and companies within the region, the Member State and the Community as well as to develop human resources through training.

Core output indicators*

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(182)	Networking	Joint R&D projects (collaborative projects between firms and research institutions supported)	Number
(182)	RTDI projects and technology purchase	Firms receiving financial support for RTDI projects and technology purchase	Number

Core result indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(182)	RTDI investment induced	Investment in RDTI induced by enterprises involved in supported joint projects	% increase

Core impact indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(182)	Innovation	New products/processes marketed by firms receiving financial support	Number
(18)	Employment (created)	Additional jobs in the company or institution created as a result of assisted RDTI projects	Number and % of total jobs (Men/Women)

* Code () : see annex I

Sheet G: SMEs

SMEs are a major source of economic restructuring, innovation and employment. Low figures for numbers of SMEs and business start-ups are almost always correlated with development problems and unemployment. This applies across all sectors, whether in manufacturing, services and primary industries, and in all types of regions, both rural and urban.

Core output indicators*

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(161)	SME support (existing)	Existing SME receiving financial support (i.e. grants, loans or equity investment <u>excepting</u> consultancy , information/advice support)	Number, Men/Women owners, Size (micro/small and medium) ¹³
(161)	SME support (new)	New SME receiving financial support (i.e. grants, loans or equity investment <u>excepting</u> consultancy , information/advice support)	Number Men/Women owners, Size (micro/small and medium)
(162)	SME cross-border networking	SMEs involved in cross-border projects	Number, Men/Women owners, Size (micro/small and medium)

Core result indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(16)	SME investment (leverage effect)	Direct private investment in financially supported firms	Mio Euro and % of total investment

Core impact indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(16)	Employment (created and safeguarded)	Jobs in the company or institution created or safeguarded as a result of supporting SMEs.	Number and % of total jobs (Men/Women)
(161)	Survival rate	New SMEs receiving financial support which are still in business after 18 months	Number and % of total new SMEs receiving financial support (Men/Women)

* Code () : see annex I

¹³ Micro enterprises are defined as: less than 10 employees. Small and medium sized enterprises are defined as less than 250 employees or a turnover of no more than 40 million euro. (Recommendation of 3 April 1996 in OJ107 of 30.04.96, page 4).

Sheet H: Human Resources Development

The core indicators presented below correspond to two different goals:

- A set of output indicators aiming to measure the volume of activity that has to be collected at the measure level and aggregated at the various levels of the programme. They are common to all the measures of the same type (assistance to persons, assistance to systems) and represent a "common minimum" which is to be forwarded to the Commission by electronic means. Furthermore they have to be consistent with the financial input indicators (commitments, real payments)
- Indicators quantifying the strategic objectives associated with the policy domains or priorities. They can be linked with indicators included in the National Action Plans. They are output or impact type indicators, often on a national level and therefore cannot in general be aggregated up from the measure to the priority level. These indicators are given as examples and are not meant to be exhaustive.

Core output indicators*

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
21 to 25	Assistance to persons	Number of beneficiaries in a scheme or measure	Number and/or % by characteristics: In, out, carryover Men/women Status on the labour market (employees, independent, Unemployed (short or long term), inactive (of which at school))
21 to 25	Assistance to systems, accompanying measures	Number of projects	Number

Core result and impact indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
21	Labour market policy	Reduction in the youth unemployment rate	% (Men/Women)
22	Exclusion	Reduction in the rate of LTU	% (Men/Women)
23	Employability and LLL	Increase in the participation rate of the labour force to training Reduction in school drop-out rates	% (Men/Women) % (Men/Women)
24	Adaptability, Entrepreneurship	Increase in the number of SMEs using continuous training Number of new businesses	% and number
25	Specific actions for women	Increase in female activity rate ¹⁴	%

Sheet I: Equal opportunities

Equal opportunities are one of the horizontal priorities, together with the environment, set out in

* Code () : see annex I

¹⁷ « Concentration » of Men/Women in the labour market can be defined as when the proportion of women for a given sector is above 70% or below 10%.

Structural Fund Regulations and Policy guidelines. The gender perspective needs to be included where appropriate in policy-making and thus become “mainstreamed”. This means that all indicators should include, whenever relevant, a break down in terms of gender. For instance, job created/safeguarded and business start-up figures are typical examples to be distinguished by gender.

One suggestion for a horizontal indicator of the mainstreaming of equal opportunities would be to classify, at the project-level application stage, all projects in the following categories:

<p>The project is it:</p> <ol style="list-style-type: none"> 1. Equality-neutral 2. Equality-oriented (low equality of opportunity content) 3. Equality project (medium to high equality of opportunity content)

In addition to the above mainstreaming, there are certain specific indicators that are especially useful to measure the advancement of equal opportunities such as the number of female entrepreneurs promoting projects in the regions or general employment indicators measuring women job figures.

Core output indicators*

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(166)	Services in support of the social economy	Organisations and schemes receiving financial support	Number

Core result indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(161)	Female entrepreneurship	Women project owners	Number (public/private)

Core impact indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
25	Specific actions for women	Increase in female activity rate in the labour market ¹⁷	%

* Code () : see annex I

Sheet J: Urban development

Urban areas play an essential role for the European economy. They are the centres of communication, culture, creativity, innovation and entrepreneurship but also the sources for overconsumption of energy and severe pollution. This implies that the role of the urban areas as growth poles in the regions must be maintained but also that actions in favour of the environment and the regeneration of urban areas accompany the cities in assuming this role.

Core output indicators*

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(352)	Community development	Community organisations 'projects supported	Number
(352)	Urban renewal	Urban renewal projects supported	Number

Core result indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(352)	Attractiveness of the area	Businesses/commerce settling in the renewed area	Number

Core impact indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(35)	Employment (created and safeguarded)	Jobs in the company or institution created or safeguarded as a result of assisted urban projects.	Number and % of total jobs (Men/Women)

* Code () : see annex I

Sheet K: Fisheries

Interventions in this field will rely on 5 priorities: adjustment of fishing efforts, modernisation of fleets, processing, trade and promotion of products, aquaculture, and other subsidies (including harbour facilities, socio-economic measures and support to producer organisations).

Core output indicators*

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(142)	Fishing vessels	Fishing vessels laid up (scrapped/ modernised/ replaced)	Number/ tonnage

Core result indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(142)	Catch	Catch of laid-up vessels during their latest year of activity	Tons / year / species

Core impact indicators

<i>Code</i>	<i>Type of indicator</i>	<i>Definition</i>	<i>Measurement</i>
(142)	Depleted stocks	Reduction in catches of depleted stocks fished	Tons by species

* Code () : see annex I

Annex 3: Examples of monitoring and evaluation indicators

This list is based on the categorisation of fields of intervention and gives several examples for monitoring and evaluation indicators within each category. The list is indicative and aims at supporting the setting-up of national indicator systems.

The list includes output, result and impact indicators in most 3-digit categories, although it should not be seen as being exhaustive.

It may also be helpful for the selection of the effectiveness indicators for the performance reserve. A specific guidance document has been prepared by the Commission services in order to help Member States implement the performance reserve scheme (Working paper 4).

It should be noted that none of the above are obligatory requirements from the Commission. These suggested indicators are however, designed to facilitate the monitoring and evaluation of the programmes.

EXAMPLES OF MONITORING AND EVALUATION INDICATORS

1. PRODUCTIVE ENVIRONMENT

N.B. The figures for gross/net employment created or safeguarded should be broken down, whenever relevant, in terms of men/women.

Fields of intervention	Output	Result	Impact
13 Promoting the adaptation and the development of rural areas¹⁵			
1306 Renovation and development of villages and protection and conservation of the rural heritage	<ul style="list-style-type: none"> ● m² of village squares/roads renewed ● Number of buildings renewed ● Number of projects receiving financial support 	<ul style="list-style-type: none"> ● Number of inhabitants living in the vicinity (less than 1 km) of renewed areas ● Number of enterprises / shops installed in assisted areas 	<ul style="list-style-type: none"> ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs) ● % inhabitants wishing to stay in the area in the next 5 years
1309 Development and improvement of infrastructure connected with the development of agriculture	<ul style="list-style-type: none"> ● Number of projects granted assistance 		
14 Fisheries			
142 Renewal and modernisation of the fishing fleet	<ul style="list-style-type: none"> ● Number of vessel owners briefed ● Number/ tonnage of fishing vessels laid up (scrapped/ modernised/ replaced) 	<ul style="list-style-type: none"> ● Catch of laid-up vessels during their latest year of activity (tons / year / species) 	<ul style="list-style-type: none"> ● Reduction in catches of depleted stocks fished (tons by species) ● % stocks fished above MBAL¹⁶
143 Processing, marketing and promoting of fisheries products	<ul style="list-style-type: none"> ● Tons/year of processed products 	<ul style="list-style-type: none"> ● Increase of processing capacity (%) 	<ul style="list-style-type: none"> ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs) ● Value added per employee generated after 2 years
144 Aquaculture	<ul style="list-style-type: none"> ● Number of farms receiving financial support ● Additional capacity of supported farms (tons / year) 	<ul style="list-style-type: none"> ● Number of fishermen reconverted in aquaculture 	<ul style="list-style-type: none"> ● % increase of production of assisted farms (tons/year) after one year ● Value added in assisted farms after one year (%) ● Value added per employee of farms after one year (%) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
145 Equipment of the fishing ports and protection of the coastal marine zones	<ul style="list-style-type: none"> ● Port capacity constructed or rehabilitated (number of boats, tonnage) ● Number of portside units built or surface area (Ha) 	<ul style="list-style-type: none"> ● Average turnaround time of vessels 	<ul style="list-style-type: none"> ● Tonnage of vessels using the port after one year ● Catch landed (tons/ year/species) ● Surface area (m²) of port side units bought or rented ● Reduction in number of incidents (%) ● Value added generated in the port area (%) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)

¹⁵ A supplementary list of indicators specifically for rural and agricultural interventions will be available at a later stage.

¹⁶ MBAL - Minimum Biological Acceptable Level is an estimate of the mature stock level of a species. Below this level there is an increasing risk that the reproductive potential of the stock will collapse. High percentages of stocks fished that are below the MBAL indicate an increased risk of resource depletion.

Fields of intervention	Output	Result	Impact
147 Actions by professionals (including vocational training, small coastal fishing)	<ul style="list-style-type: none"> ● Number of recognised qualifications available ● Volume of training received (hours x trainees) ● Number of ex-fishermen retrained 	<ul style="list-style-type: none"> ● % trainees successfully completing the course (Men/Women) 	<ul style="list-style-type: none"> ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
15 Assisting Large Business Organisations			
151 Investment in physical capital (plant and equipment, cofinancing of state aids)	<ul style="list-style-type: none"> ● Number of large businesses receiving financial support 	<ul style="list-style-type: none"> ● Direct private investment in financially supported firms (in Meuro and % of total investment) ● Floor space constructed / refurbished (m²) 	<ul style="list-style-type: none"> ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs) ● Increase in turnover of firms that have received financial support after two years (%)
152 Environmental-friendly technologies, clean and economical energy technologies	<ul style="list-style-type: none"> ● Number of environmental audits supported ● Number of businesses receiving environmental advice from experts ● Number of firms receiving financial support to introduce environmental technologies and to develop eco-products 	<ul style="list-style-type: none"> ● Number of recipient firms newly established in the environment sector ● % firms qualifying for certification in respect to environmental norms 	<ul style="list-style-type: none"> ● Increase in turnover of assisted firms in the environment sector after two years (%) ● Number of new products / processes introduced ● Environmental impact of firms activities in terms of decreased pollution (CO₂, NO_x, etc. in %)
153 Business advisory services (including internationalisation, exporting and environmental management, purchase of technology)	<ul style="list-style-type: none"> ● Number of assisted businesses¹⁷ ● Number of advisory services provided 	<ul style="list-style-type: none"> ● Number of businesses becoming new exporters ● Number of businesses exporting to new markets ● % businesses satisfied with services provided 	<ul style="list-style-type: none"> ● % export sales¹⁸ in turnover of assisted businesses after 18 months ● Increase in value added generated after 18 months ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
154 Services to stakeholders (health and safety, providing care for dependants)	<ul style="list-style-type: none"> ● Number of businesses receiving financial support ● Number of nurseries receiving financial support 	<ul style="list-style-type: none"> ● % of employees having access to services provided ● Satisfaction rate of clients (male/female) 	<ul style="list-style-type: none"> ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
155 Financial engineering	<ul style="list-style-type: none"> ● Number/volume of guarantee funds receiving financial support ● Number of leasing operation schemes receiving financial support 	<ul style="list-style-type: none"> ● Number of companies satisfied with funding provided 	<ul style="list-style-type: none"> ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)

¹⁷ A minimum of definition of assistance is required to avoid five-minute conversations with businesses being counted as support. Within the framework of UK objective 2 programmes, " assistance " is set a minimum of 5 days of support, or its financial equivalent (#3500 ECU).

¹⁸ Export sales are defined as the value of all sales and contracts by businesses to consumers, companies and organisations outside the region concerned. A further indicator may be the value of sales beyond the country concerned.

Fields of intervention	Output	Result	Impact
16 Assisting SMEs and the Craft Sector			
161 Investment in physical capital (plant and equipment, cofinancing of state aids)	<ul style="list-style-type: none"> ● Number of SMEs receiving financial support (Men/Women owners) ● Number of new SMEs receiving financial support (Men/Women owners) 	<ul style="list-style-type: none"> ● New/increased sales in SMEs (MEuro) ● Direct private investment in financially supported firms (in Meuro and % of total investment) ● number of women project owners in private projects (% of total) 	<ul style="list-style-type: none"> ● Survival rate¹⁹ of new SMEs receiving financial support still in business after 18 months (%) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs) ● Increase in turnover of firms having received financial support after two years
162 Environment-friendly technologies, clean and economical energy technologies	<ul style="list-style-type: none"> ● Number of firms receiving financial support to introduce environmental technologies or to develop eco-products ● Number of environmental audits supported ● Number of SMEs involved in cross-border projects ● Number of SMEs receiving environmental advice from experts 	<ul style="list-style-type: none"> ● Number of recipient firms newly established in the environment sector ● % firms qualifying for certification in respect to environmental norms ● Reduction in SME energy cost (%) ● Direct private investment in financially supported firms (in Meuro and % of total investment) 	<ul style="list-style-type: none"> ● Turnover of assisted firms in the environment sector after two years ● Number of new products / processes introduced ● Increase in sales of environmentally friendly products (%) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs) ● Environmental impact of firms activities in terms of decreased pollution (CO₂, NO_x, etc. in %)
163 Business advisory services (information, business planning, consultancy services, marketing, management, design, internationalisation, exporting, environmental management, purchase of technology)	<ul style="list-style-type: none"> ● Number of SMEs (Men/Women owners) receiving advisory services²⁰ 	<ul style="list-style-type: none"> ● Number of SMEs becoming new exporters ● Number of SMEs exporting to new markets ● % SMEs satisfied with services provided 	<ul style="list-style-type: none"> ● % export sales²¹ in turnover of assisted SMEs after 18 months ● Increase in value added generated after 18 months ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
164 Shared business services (business estates, incubator units, stimulation, promotional services, networking, conferences, trade fairs)	<ul style="list-style-type: none"> ● Ha of industrial sites made available. ● Number of projects receiving financial assistance 	<ul style="list-style-type: none"> ● Direct private investment in financially supported firms (in Meuro and % of total investment) ● Satisfaction rate of beneficiaries (male/female) 	<ul style="list-style-type: none"> ● Increase in value added after 18 months (%) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs) ● Regional firms of which SMEs as a % of suppliers to assisted businesses after 18 months ("knock-on effects")
165 Financial engineering	<ul style="list-style-type: none"> ● Number/volume of venture and seed capital funds receiving financial support ● Number/volume of guarantee funds receiving financial support ● Number of leasing operation schemes receiving financial support 	<ul style="list-style-type: none"> ● Number of new businesses launched/developed (Men/Women) ● Number of SMEs satisfied with funding provided (Men/Women) 	<ul style="list-style-type: none"> ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)

¹⁹ The survival rate is the proportion of new businesses that are still trading after 18 months. This is beyond the normal subsidy period and is sufficient to gauge whether or not the business is basically viable.

²⁰ A minimum of definition of assistance is required to avoid five-minute conversations with businesses being counted as support. Within the framework of UK objective 2 programmes, "assistance" is set a minimum of 5 days of support, or its financial equivalent (#3500 ECU).

²¹ Export sales are defined as the value of all sales and contracts by businesses to consumers, companies and organisations outside the region concerned. A further indicator may be the value of sales beyond the country concerned.

Fields of intervention	Output	Result	Impact
166 Services in support of the social economy (providing care for dependants, health and safety, cultural activities)	<ul style="list-style-type: none"> ● Number of organizations and schemes receiving financial support ● Number of community organizations that have had their project accepted 	<ul style="list-style-type: none"> ● % assisted organizations located in poor urban sub-areas or whose members live principally in poor urban sub-areas ● Average interest rate offered in % of standard commercial rates 	<ul style="list-style-type: none"> ● Number of adults (men/women) active in assisted community organizations after one year ● % of adults (men/women) active in assisted community organizations ● Number of local inhabitants (men/women) using supported debt counselling and local credit schemes per year after one year ● % users having succeeded in eliminating debts after one/three years
17 Tourism			
171 Physical investment (information centres, tourist accommodation, catering, facilities)	<ul style="list-style-type: none"> ● Number of beds created or improved ● Number of hotels developed/ upgraded ● Number of attractions created / improved ● New tourism businesses established (Men/Women owners) 	<ul style="list-style-type: none"> ● % of beds created or improved ● Number of nights sold per year in assisted accommodation (after one year) ● Satisfaction rate of clients (men/women in %) 	<ul style="list-style-type: none"> ● Value added generated per year (%) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
172 Non-physical investments (development and provision of tourist services, sporting, cultural and leisure activities, heritage)	<ul style="list-style-type: none"> ● Number of economic units receiving financial support ● Number of festivals and events receiving financial support 	<ul style="list-style-type: none"> ● Average cost of a stay (euro per person) ● Average number of visitors per day 	<ul style="list-style-type: none"> ● Number of visits per year to assisted facilities ● Value added generated (%) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
173 Shared services for the tourism industry (including promotional activities, networking, conferences and trade fairs)	<ul style="list-style-type: none"> ● Floor space made available (m²) ● Number of new marketing initiatives / schemes promoted ● Number of conferences/exhibitions organised 	<ul style="list-style-type: none"> ● % conferences / exhibitions linked with local economic activities ● Satisfaction rate of beneficiaries (men/women in %) 	<ul style="list-style-type: none"> ● Number of commercial contacts for local firms due to the activity of the centre after one year ● Number of firms having used the centre for promotion after one year
174 Vocational training	<ul style="list-style-type: none"> ● Number of recognised qualifications available ● Volume of training received (hours x trainees) 	<ul style="list-style-type: none"> ● % trainees successfully completing the course (Men/Women) 	
18 Research, technological development and innovation (RTDI)			
181 Research projects based in universities and research institutes	<ul style="list-style-type: none"> ● Number of research projects supported ● Number of supported research students (Men/Women) 	<ul style="list-style-type: none"> ● % projects successfully completed (publications, etc.) ● Number of supported researchers obtaining a PhD (Men/Women) ● Increase of RTD personnel employed (number and % of total jobs, Men/Women) 	<ul style="list-style-type: none"> ● Number of patents taken out from innovations being developed ● Number of new firms started by academics

Fields of intervention	Output	Result	Impact
182 Innovation and technology transfers, establishment of networks and partnerships between businesses and/or research institutes	<ul style="list-style-type: none"> ● Number of firms receiving financial support for RTDI projects and technology purchase ● Number of advice/training sessions ● Number of SMEs assisted ● Number of collaborative projects between firms and research institutions supported 	<ul style="list-style-type: none"> ● Number of local enterprises involved in supported joint research projects (of which SMEs) ● Increase of investment in RDTI by enterprises involved in joint projects. ● % SMEs satisfied with the service 	<ul style="list-style-type: none"> ● Number of collaborative arrangements between research institutions and assisted firms after one year ● Number of regional enterprises involved declaring positive spin-offs after 18 months (of which SMEs) ● Number of assisted firms purchasing patents, licenses or involved in collaborative projects (after one year) ● Number of new products/processes marketed by firms receiving financial support ● Value added generated after two years ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
183 RTDI Infrastructure	<ul style="list-style-type: none"> ● Surface area made available (Ha) ● Floor space constructed / refurbished (m²) ● Number of joint services created 	<ul style="list-style-type: none"> ● Number of R&D jobs created (FTEs Men/Women) ● Number of SMEs having access to joint services 	<ul style="list-style-type: none"> ● Number of small firms established in park (after one year) ● Number of small high-tech firms established in park (after one year) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)

2 HUMAN RESOURCES

Fields of intervention	Output	Result	Impact
21 Labour market policy			
Assistance to persons (Training, counselling and guidance, Employment aid, Integrated measures...)	<ul style="list-style-type: none"> ● Number of beneficiaries 	<ul style="list-style-type: none"> ● Placement rate of beneficiaries into employment (%). 	<ul style="list-style-type: none"> ● Placement rate of the beneficiaries after 1 year. ● Unemployment reduction of target population (%)
Assistance to structures and systems: (Teacher training – Advisory and guidance services,...)	<ul style="list-style-type: none"> ● Number of places offered ● Number of trained trainers ● Number of projects 	<ul style="list-style-type: none"> ● Unemployed making use of supplementary advisory services (%) ● Increase in the coverage ratio of the reference population (%) 	<ul style="list-style-type: none"> ● Placement rate of the beneficiaries after 1 year.
22 Social inclusion			
Assistance to persons (Pathways to integration, integrated measures, specific training measures,...)	<ul style="list-style-type: none"> ● Number of beneficiaries ● Number of local initiative projects ● Number of projects 	<ul style="list-style-type: none"> ● Increase in duration of work experience (average/beneficiary) ● Raising of qualifications (number of beneficiaries having obtained a diploma or certificate) ● Satisfaction rate of beneficiaries (%) 	<ul style="list-style-type: none"> ● Placement rate of the beneficiaries after 1 year. ● Unemployment reduction of target population (%)
Assistance to structures and systems (social accompaniment, information, local initiatives for development of employment,...)		<ul style="list-style-type: none"> ● Number of associations of socio-economic partners within the framework of territorial pacts created ● Increase in the coverage ratio of the reference population (%) 	<ul style="list-style-type: none"> ● Sustainability of associations (% still existing 2 years after end of support)
23 Developing educational and vocational training (persons, firms)			
Assistance to structures and systems (Progression Pathways for early school leavers, low educated adults, training of trainers ...)	<ul style="list-style-type: none"> ● Number of training places created (hours, days) ● Number of projects ● Number of trainers / counsellors... having raised their qualifications 	<ul style="list-style-type: none"> ● Increase in the coverage ratio of the reference population (%) 	<ul style="list-style-type: none"> ● Diminution of early school leavers (%) ● Increase in target population qualifications (%)

Fields of intervention	Output	Result	Impact
24 Workforce flexibility, entrepreneurial activity, innovation, information and communication technologies			
Assistance to persons, companies	<ul style="list-style-type: none"> ● Number of employees in training programmes (type, duration) ● Number of SMEs reached receiving financial support for training (size, type, duration) ● Number of beneficiaries 	<ul style="list-style-type: none"> ● Increase in SMEs training budget (% increase) 	<ul style="list-style-type: none"> ● Number of beneficiaries (persons) having launched a business after 2 years (Men/Women) ● Increase in value added after 18 months ● Rise in worker productivity as a result of raised skill levels (% increase in turnover / employee) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
Assistance to structures and systems (social accompaniment, information, local development initiatives, social economy...)	<ul style="list-style-type: none"> ● Number of counselling services offered to SMEs; ● Number of projects 		
25 Positive labour market actions for women			
Assistance to persons (career progression of women, entrepreneurship among women,...)	<ul style="list-style-type: none"> ● Number of beneficiaries ● Amount of business grants/loans (average/beneficiary) ● Number of hours spent in "specific action" –training 	<ul style="list-style-type: none"> ● Placement rate of beneficiaries into employment (%) 	<ul style="list-style-type: none"> ● Increase in female activity rates in the labour market (%) ● Increase in female employment rates in the labour market after 1 year ● Increase of women/men employed in male/female-dominated sectors and occupations after 2 years (%)
Assistance to structures and systems (awareness events, networking,..)	<ul style="list-style-type: none"> ● Number of awareness raising events ● Number of new networks supported ● Number of projects 	<ul style="list-style-type: none"> ● Proportion of target population having participated in "specific actions" 	<ul style="list-style-type: none"> ● Sustainability of networks (% still existing 2 years after end of support)

3 BASIC INFRASTRUCTURE

Fields of intervention	Output	Result	Impact
31 Transport infrastructure			
311 Rail	<ul style="list-style-type: none"> ● Km of high speed railway constructed or upgraded (% degree of network completion) ● Railway track improved (km) 	<ul style="list-style-type: none"> ● Time saved (journey time x number of users) ● Time saved (journey time x freight/passengers volume) ● Accessibility (reduction of ESS)²² 	<ul style="list-style-type: none"> ● Increase in flow of passengers/freight after one year (%) ● Environmental impact (% increase/decrease) ● Change in traffic noise (%) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs) ● Satisfaction rate of users (%)
313 Motorways	<ul style="list-style-type: none"> ● Km of motorway constructed or upgraded (% degree of network completion) 	<ul style="list-style-type: none"> ● Time saved (journey time x number of users) ● Time saved (journey time x freight/passengers volume) ● Accessibility gains (reduction of ESS)²³ 	<ul style="list-style-type: none"> ● Increase in traffic flow of vehicles/freight after one year (%) ● Environmental impact (% increase) ● Change in traffic noise (%) ● Ha of natural site altered ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs) ● Increase in safety (number of traffic accidents after one year)
314 Airports	<ul style="list-style-type: none"> ● Number of airports constructed or upgraded 	<ul style="list-style-type: none"> ● Increase of number of destinations served by regular service by air ● Average increase in number of passengers per year 	<ul style="list-style-type: none"> ● Environmental impact (% increase or decrease) ● Change in traffic noise (%) ● Increase in traffic flow of passengers/freight after one year (%) ● Gross/net employment created or safeguarded 2 years (number and % of total jobs)
315 Ports	<ul style="list-style-type: none"> ● Number of ports and harbours upgraded 	<ul style="list-style-type: none"> ● Increase in number of containers per year ● Reduction of waiting time of ships before docking (%) ● Reduction of turnaround time of vessels ● Increase of number of shipping lines calling in the port ● Reduction of average import dwell time ● Reduction of turnaround time of road vehicles 	<ul style="list-style-type: none"> ● Increase in traffic flow of passengers/vehicles/freight after one year (%) ● Environmental impact (% increase/decrease) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
317 Urban Transport	<ul style="list-style-type: none"> ● Number of public transport services improved 	<ul style="list-style-type: none"> ● Number of users served (increase in % of population) 	<ul style="list-style-type: none"> ● Reduction in traffic flow of vehicles after one year (%) ● Environmental impact (% decrease) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs) ● Satisfaction rate of users (%)

²² ESS stands for Equivalent straight-line speed, and it measures the ease of access from one point to another, regardless of the distance between these points. It is computed by dividing the straight-line distance between the two points by the rapidest possible trip duration between them.

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Fields of intervention	Output	Result	Impact
318 Multimodal Transport	<ul style="list-style-type: none"> ● Number of multi-modal centres receiving financial support 	<ul style="list-style-type: none"> ● Increase of speed of goods transported through the centre (%) ● Time saved (journey time x freight/passengers volume) 	<ul style="list-style-type: none"> ● Increase in traffic flow of vehicles/freight after one year (%) ● Freight traffic withdrawn from road (tons/year) ● Environmental impact (% decrease) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
32 Telecommunications infrastructure and information society			
322 Information and Communication Technology (including security and safe transmission measures)	<ul style="list-style-type: none"> ● Number and % increase in digital telephone lines ● Number of ISDN subscriptions per 1000 inhabitants ● Length of broad-band network (optical fiber) installed (km) ● Number of Internet hosts per 1000 inhabitants 	<ul style="list-style-type: none"> ● Reduction of number of network failures ● Number of services created (Internet access) ● Number of SMEs and large companies developing and commercialising Information Technology services ● Total hours of connection / month (after 6 months) 	<ul style="list-style-type: none"> ● Gross/net employment created (number and % of total jobs)
323 Services and applications for the citizen (health, administration, education) ²⁴	<ul style="list-style-type: none"> ● Number of retraining courses ● Number of on-line services created ● Number of training hours (hours x trainees) ● Number of trainees (Men/Women) 	<ul style="list-style-type: none"> ● Number of users/trainees ● Satisfaction rate of users/trainees (%) 	<ul style="list-style-type: none"> ● % participants placed into jobs within 6 months (Men/Women)
324 Services and applications for SMEs (electronic commerce and transactions, education and training, networking)	<ul style="list-style-type: none"> ● Number of start-up firms providing Information Technology related services (on-line, e-commerce, etc.) 	<ul style="list-style-type: none"> ● Number of SMEs receiving financial support getting access to services created (Internet access) ● Number of SMEs developing and commercialising Information Technology services ● Number of internet PoP (Point of presence) per local call area 	<ul style="list-style-type: none"> ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)

²⁴ On-line education refers to varying intensity of ICT use in training activity, ranging from a complete on-line course to simple on-line course tutoring complementary to on-site courses.

Fields of intervention	Output	Result	Impact
33 Energy infrastructures (production, delivery)			
331 Electricity, gas, petrol, solid fuel	<ul style="list-style-type: none"> ● Number of new plants assisted ● KW/MW of new or upgraded capacity broken down by source of energy (% degree of network completion) ● Km of electric power/gas distribution network constructed / upgraded (% degree of network completion) ● Km of new/upgrade lines/pipes 	<ul style="list-style-type: none"> ● Increase of estimated number of users (using average coefficients of energy consumption) (%) ● Number of duration of interruptions of electric power distribution for the average user connected to the network to which the new plant is linked ● Number of users connected or upgraded to the new network ● Reduction in energy costs (Euro/KWh) ● Number of duration of interruptions of electric power distribution for the average user connected to the network to which the new plant is linked 	<ul style="list-style-type: none"> ● Efficiency increases in supported plants and installations (TPE) ● % change of environmental impact in terms of increased or decreased pollution (CO₂, SO₂, NO_x...) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs) ● Value added generated by the plant (euro/year)
332 Renewable sources of energy (solar power, wind power, hydro-electricity, biomass)	<ul style="list-style-type: none"> ● Number of new plants assisted ● KW/MW of new or upgraded capacity broken down by source of energy 	<ul style="list-style-type: none"> ● Increase of estimated number of users (using average coefficients of energy consumption) (%) 	<ul style="list-style-type: none"> ● Increase in share of renewable energy sources compared to total energy supply (%) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
34 Environmental infrastructure (including water)²⁵			
341 Air	<ul style="list-style-type: none"> ● Number of electricity plants provided with air pollution filters 	<ul style="list-style-type: none"> ● Improvement of energy provision efficiency (%) 	<ul style="list-style-type: none"> ● Environmental impact in terms of decreased pollution (CO₂, SO₂, NO_x... in %) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
342 Noise	<ul style="list-style-type: none"> ● Km of motorway provided with noise reducing walls 		<ul style="list-style-type: none"> ● Reduction of traffic noise (%)
343 Urban and industrial waste (including hospital and dangerous waste)	<ul style="list-style-type: none"> ● Capacity improvements of waste disposal or recycling facilities (% increase) 	<ul style="list-style-type: none"> ● Number of households served for collection of municipal solid waste (% population) 	<ul style="list-style-type: none"> ● Amount of solid waste collected for recycling (tons/year) after one year ● % solid waste recycled for reuse ● % unauthorised landfill sites closed/ rehabilitated ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)

²⁵ Note that renovation and development of villages in referred to under code 13.

Fields of intervention	Output	Result	Impact
344 Drinking water (collection, storage, treatment and distribution)	<ul style="list-style-type: none"> ● Number of firms receiving financial support to introduce environmental technologies and to develop eco-products (of which SMEs) 	<ul style="list-style-type: none"> ● Number of households served by new/ improved networks (% population) ● Number of days with insufficient supplies (per 1000 households) 	<ul style="list-style-type: none"> ● Volume of water consumed through new/improved networks after one year ● Improvement of water consumption efficiency (%) ● Reduction of leakage from the supply network (%) ● Increase in share of industrial discharges connected to waste water treatment plant (%) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
345 Sewerage and purification	<ul style="list-style-type: none"> ● Capacity improvements for water treatment and purification plants (m³) ● Number of water saving schemes 	<ul style="list-style-type: none"> ● % wastewater undergoing primary treatment ● % wastewater undergoing secondary treatment ● % households/ businesses served by new/improved water supply systems 	<ul style="list-style-type: none"> ● % wastewater samples from point sources showing a specified level of decline of identified pollutants ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
35 Planning and rehabilitation			
351 Upgrading and rehabilitation of industrial and military sites	<ul style="list-style-type: none"> ● Rehabilitation of derelict land (Ha) ● Purchased, constructed or refurbished floor space in m² 	<ul style="list-style-type: none"> ● Number of enterprises installed in assisted areas after one/three years ● % of users that are satisfied with the project (Men/Women) 	<ul style="list-style-type: none"> ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs)
352 Rehabilitation of urban areas	<ul style="list-style-type: none"> ● Number of community organisations' projects supported ● Number of urban renewal projects supported ● Number of buildings renovated 	<ul style="list-style-type: none"> ● Number of businesses/commerce settling in the renewed areas ● Increase in number of residents located in the vicinity (less than 1 km) of the renovation area 	<ul style="list-style-type: none"> ● Value added generated in local businesses after one/three years (%) ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs) ● % residents located in assisted urban areas declaring to remain in the area in the next 5 years
36 Social Infrastructure and Public Health	<ul style="list-style-type: none"> ● Number of community health centres supported ● Number of hospitals constructed or upgraded ● Number of nurseries supported ● Number of kindergartens supported ● Number of centres for elderly people supported ● Number of centres for disabled people supported 	<ul style="list-style-type: none"> ● Increase in number of users served by supported infrastructure/services (%) 	<ul style="list-style-type: none"> ● Gross/net employment created or safeguarded after 2 years (number and % of total jobs) ● Increase in labour market activity rate of women (%)