

# Hearing on first findings of ex post evaluation of Objectives 1 and 2 Brussels, 23.6.2009

## Discussion

WP 10 – Major projects as a special case of project management between  
Member States and Commission

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*A brief presentation of the contribution of  
Anthony Dernellis, C(T&T)Eng, MPhil  
as Expert - Discussant*

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### Topic 1

Why do major projects exceed timetables and cost estimates? Project class forecasting  
as a new method

#### **1. The framework**

1.1 Three are the basic parameters ruling the right implementation (i.e. study, tendering, construction, supervision of the study and supervision of the construction) of a project:

- completion of the physical subject
- precise completion of the financial subject
- precise observation of the timetable

Consequently, any ex post resulting differentiation in comparison with what was defined/agreed initially, which is possible to lead to failures, may be caused by not right treatment of one or more of the above mentioned 3 parameters.

#### **2. The status**

2.1 In Greece, the failure regarding the completion of the physical subject is treated, according to the legislation, by the conclusion of Supplementary Contracts, which are allowed to reach even the 50% of the amount of the Initial Contract. Of course the relevant law refers to:

- the need for doing the supplementary works
- restriction in order that these works shall not comprise works for the facilitation of the Contractor

2.2 The usual causes for the above mentioned differentiations are concisely the following:

2.2.1 Inadequacies/Omissions during the supervision and management of the studies and constructions, by the Directing Services

2.2.2 Lacks in the physical subject of individual studies and omissions in the tree of total study procedure

- 2.2.3 Lacks in implementation studies and defined project technical specifications
- 2.2.4 Lacks/Omissions and obscurities in the Contract and the attached contractual documents
- 2.2.5 Insubstantial, non realistic or/and incorrect budgets
- 2.2.6 Excessive delays due to expropriations, which finally result to cost increase
- 2.2.7 Ex post changes in the project master(strategic) plan, which are demanded by:
  - third bodies urge (Local Government Organizations, Social Bodies/Associations etc)
  - requirements due to archaeological excavations

2. Non predictable factors:

- natural disasters
- non definable geological features of local range

**3. The measures**

- 3.1 Possibly a further improvement/enrichment of the legal framework, regarding failure in completing the physical subject (i.e. Supplementary Contracts)
- 3.2 Improvement for supervision and management of studies and constructions by the Directing Services
- 3.3 Improvement for the submitted studies (completeness, efficiency) and loyal application of the right concatenation of the study procedures before the call for tendering
- 3.4 Observance of well-documented application studies not allowing modifications by the Contractor
- 3.5 Institutionalization of the project unit costs substantiation procedure, to secure all of those been involved in financing, implementation and management of the projects
- 3.6 Standardization of the project Tender Documents to the possible range
- 3.7 Improvement of the legal status regarding expropriations, towards an abridgement of the required consummation time
- 3.8 Provision of ways to exceed delays or/and modification problems regarding the initial project planning due to archaeological service works, e.g. coverage of the additional (further to a presumptive limit) Contractor expense

**4. The application of the method “Project class forecasting”**

For the application of this method in forecasting for projects, the above mentioned ascertainments regarding the up to this day experience for the projects, are useful in order that they may be used as input data in applying the method in forecasting.

In the same sense, a project unit cost estimation method for several project categories, which is the other topic of our discussion, is useful too, so that a cost forecast for projects in the future may be based on results of such a system.

## Topic 2

### Unit costs of major projects – data, use and right incentives

#### 1. **Generally about the methodology**

In the framework of the above mentioned approach in forecasting using the method “Project class forecasting” the unit cost data collection is important, given that a reliable method has been used for the estimation.

In Greece, there has already been relevant experience since 2000, i.e. in the beginning of previous programming period of the CSF 2000-2006. This methodology is based on the definition of a series of characteristic parameters per project category and import of these data in a properly structured data base. By importing data from a significant sample of projects and then using an automated statistical process via a special software (in a MS-Access environment), the capability of a summarized project cost pre-estimation may be provided on the base of its characteristic parameters.

An attribute of the methodology is that the more the number of imported data increases the better the reliability is improved (larger statistical sample).

#### 2. **The unit cost estimation system**

A unit cost estimation system with a broad base of registered data and a reliable analysis of them, may comprise a “cost estimation approach tool”, particularly useful at the initial project planning-programming phase (e.g. Road Construction Identification Study, Prelusive Study of Bridges and Tunnels, Preliminary Study of Building Projects and so on)

The main **factors** affecting the cost **at the programming stage** refer to:

- Soil morphology: plain, hilly, mountainous, specially mountainous
- Soil category: soft, semi-rocky, rocky
- Mechanical soil properties
- Project importance: motorway, national road, provincial road etc
- Project plant layout (urban, suburban, interurban)
- New construction or improvement/enhancement of an existing project
- The project tendering system
- Project schedule

**During the project implementation, the factors** affecting the project cost additionally refer to:

- Delays
- Project Management
- The project tendering system
- Modification of studies
- Contractor consortium

- Financing
- Unanticipated subsoil conditions
- Archaeological discoveries
- Expropriations

### **3. Conclusion**

Based on the above mentioned there may be concluded that there are a lot of factors affecting the project cost, while occasionally they may be involved cumulatively (e.g. adverse subsoil conditions plus the requirement for fast completion)

Each project has got its own “identification” and implementation “history”, whereon unit costs which may result from a data base process will certainly produce significant variation. That variation decreases as the input data sample increases.

Thus, a unit cost estimation system with a broad data base, might well comprise a “cost estimation approach tool”, which will be more useful as the data base increases, though with clear awareness of its restrictions.