

The Financial Management of Development Sector's Contracts in Water and Wastewater Projects

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ABSTRACT

Weak financial management of projects, existing disharmonies in different sectors of the administrative organizations and wrong conceptions of laws as well as using government's limited resources to provide financial resources of water and wastewater projects in the country have made administrative operations incomplete in many cases in the first predicted period and making execution period longer results in increasing financial burden of projects and decreasing economic productivity of projects. This cost increase has been manifested in different forms and finally is considered as contractors' claims and should be paid to them. At last, in some cases, administrative organizations are faced with incomplete and non-utilizable projects in spite of paying costs more than their administrative estimation. One of the factors of financial burden increase is regulating in permitted delays period as well as paying fee to counseling engineering companies (supervision organization) and other factors such as mission fee of employer for excellent supervision over such projects and many other factors. Therefore, in this research, while presenting total results of examining 203 contracts of developmental projects as well as accurate analysis of two samples of the mentioned contracts as case studies, the identification of the most important and effective factors of projects' financial burden increase is conducted. In this process, first, the factors and causes of costs' increase are identified and then the effect of these factors on the each other is investigated. Based on the conducted analysis of the two presented case samples, this increase rate averagely has assigned 72% of the initial estimation cost to itself.

KEYWORDS: Financial Management, Administrative Costs, Project, Financial Resources, Permitted Delays

1. INTRODUCTION

Administrative projects in the country are usually confronted with financial burden increase as compared with the initial estimation. These projects, owing to various reasons, are exposed to costs in the administrative phase and are not completed at the planned time and according to the initial estimated cost. This issue may question the economic justification of the project and make some problems in providing this cost increase for some administrative organizations. The results of the conducted examinations of 203 contracts of developmental projects and more accurate investigation of two case samples of the above contracts are selected as the case study in this paper. In this research, first, factors and causes of costs' increase are identified and then the effect of these factors on the each other is investigated. Based on the conducted analysis of factors of costs' increase in the two projects, this increase rate averagely has assigned 72% to itself that this costs increase imposes considerable pressure on the government or administrative organizations owing to the great number of such projects in the country. To obviate or minimize the increase of projects' full costs in relation to their initial estimation, different technical and managerial solutions and recommendations are offered to make time and full costs of administrative projects coincided or closed to the predicted initial plans by their application.

One of the common problems in administrating developmental projects is the appearance of delay in their administration and utilization. In this research, factors, which increase financial burden of water and wastewater projects, are as follows:

1. Employer's inappropriate management in encountering with contractors' out-of-shortcoming delays and nonuse of the evaluation results of previous conducted works
2. Fundamental changes in the approved communicated administrative maps
3. Carelessness in the initial estimation of the work and creating an appropriate atmosphere for manifesting contractual claims
4. Delay in delivering workshop by employer
5. Delay in delivering employer-responsible materials
6. Nonpayment of financial liabilities by employer
7. Lack of timely license obtaining from the authorities (municipalities, traffic department, roads and transportation and so on)
8. Imbalance between budget and work volume
9. Lack of timely allocation of credits
10. Tastefully encounters
11. Cost increase of instructions and communicated technical specifications to the contractors by some counselors (without employer's agreement)

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2-The Significance and Necessity of the Research Title

In respect to the fact that financial resources of administrating developmental projects are limited and economic justification of projects depends on reducing financial burden of projects. Therefore, administrative organizations should identify and document the factors of projects' financial burden increase to prevent from increasing costs in the future projects using its results.

3-Research Objectives

Identification of increase causes and factors of costs, which bring about financial burden of water and wastewater projects

Presentation of appropriate improving managerial solutions

Practical use of the obtained results from other projects to minimize costs' increase in the administration phase

4-Report of "Investigation and Obviation of Cost Increase or Expensiveness of Developmental Projects"

This report is issued by Management and Planning Organization in which the investigation of costs' increase including causes relevant to the design, supervision and administration of projects is dealt with. Generally, in this report, 34 different factors are mentioned that important ones are as follow:

Changes during work administration by employer

Lack of timely decision-making by employer

Inappropriate selection of contractors

Haste in holding bidding

Weak supervision over administration

Timely nonpayment of financial liabilities by employer

Timely non-deliverance of land to contractor

5-Major Reasons of Identified Developmental Projects' Delay from Parliament

Approved credit deficit 22.5%

Credit allocation deficit 13.2%

Weakness of some administrative organizations 11.8%

Land providence by employer

Inability of some contractors

6-Supervisory report of evaluation office of developmental projects of Iran's Management and Planning Organization

In part of this report, the delay causes in the administrating developmental projects are investigated for 1996, 1997, 1998 and 1999 that summarily the percentage mean effect of each cause is as follows.

Order	Causes	Percentage
1	Credit problems	31.8
2	Administrative organization's weakness	11.5
3	Study weakness	3.07
4	Design weakness	3.8
5	Weakness in providing machinery	5.6
6	Contractor's weakness	8.2
7	Land Providence	5.43
8	Miscellaneous	30.6

Table 1: Supervisor report of Management and Planning Organization

7-Quantitative Examination of Delays

In this research, the quantitative examination of projects' delays of Saudi Arabia, Jordan, Nepal, Ghana, Vietnam and Malaysia is investigated that a summary of important causes of delays is as follows:

Inappropriate selection of contractors

Employer's financial liabilities

Land possession

Contractors' managerial weaknesses

Change of employer's managers

Incongruity of maps with delivered land

In respect to the above-mentioned concerning identifying the factors of projects' financial burden, in this part, mentioning two samples of water and wastewater projects, while describing the causes of financial burden increase of water and wastewater projects, the percentage of these factors is expressed based on the result of experiences and conducted researches.

8. Table of General Information of the Project of Operations of Establishing Wastewater-Gathering Network in City A

Table 1. General information of Project A

Contract's Initial Sum	Approximately eight billion Rials
Contract's Initial Period	10 Months
Delay Period	360 Days
Covenant's End	Communication of article 48
Regulation Basis	2003 Circular
Communicated Abeyance	Two periods

8-1- Reasons of financial burden increase of this contract summarily are as follows:

Lack of timely providence of project's material by employer

Work suspension by municipality

Fundamental changes in communicated approved administrative maps

Lack of credit allocation by Planning and Strategic Supervision Vice-presidency

Carelessness in initial estimation of work and he creation of appropriate atmosphere for manifesting contractual claims

Table 2. Analysis of project A

Percentage	Price (million Rial)	Factors of project's financial burden increase
38.45	3219	Machinery cost
13.37	1119	Human force cost
11.76	984	Workshop supervision fee cost
6.83	572	Communication of two delay periods
3.39	284	Excellent supervision fee cost
1.45	121	Employers' mission and car cost
75.25	6300	Sum total

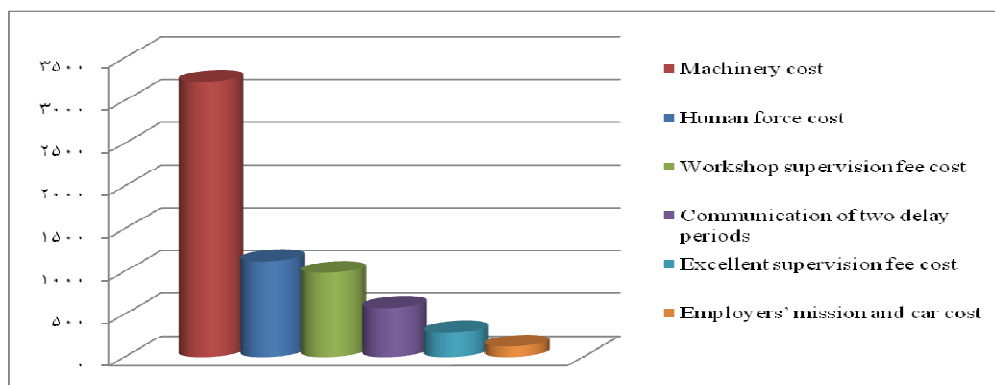


Diagram 1: Comparison of sums related to each of factors of financial burden increase

8- Table of General Information of the Reform of Water Distribution Network and Domestic Bifurcations in City B

Table 3. General information of project B

Contract's Initial Sum	Approximately four billion Rials
Contract's Initial Period	9 Months
Delay Period	890 Days
Covenant's End	Temporary deliverance
Regulation Basis	2003 Circular

8-1-Reasons of financial burden increase of this contract summarily are as follows:

Cost increase of instructions and communicated technical specifications to the contractors by some counselors (without employer's agreement)

Work suspension by municipality

Lack of credit allocation by Planning and Strategic Supervision Vice-presidency

Lack of timely license obtaining from traffic department

Table 4. Analysis of project B

Percentage	Price (million Rial)	Factors of project's financial burden increase
35.1	1551	Human force cost
5	232	Machinery cost
18.4	812	Workshop supervision fee cost
6.8	299	Employers' mission and car cost
3.4	150	Excellent supervision fee cost
68.75	3034	Sum total

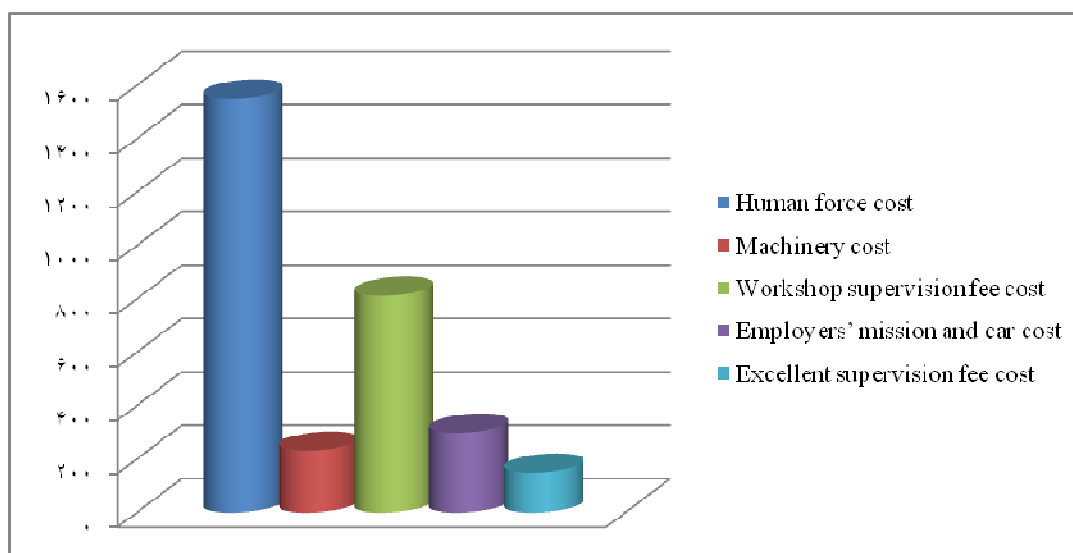


Diagram 2: Comparison of sums related to each of factors of financial burden increase

9- Conclusion

1. Administrative organization (employer) should be assured of providing its financial resources before holding bidding.
2. Excavation license of municipality and traffic department and generally authorities before holding bidding should be obtained and relevant letters of agreement should be exchanged.
3. Administrative organization (employer) should attempt to purchase material, which has undertaken before holding bidding that in these two research samples, purchasing pipe and joints are of priority. .
4. Preventing from the duration increase of contracts and timely planning y administrative organization's managers
5. Administrative organization should leave the guidance of plan to experienced person in the field to make decision concerning continuance or cancellation of administrative operations on time
6. Sufficient mastery of project managers over the general conditions of the covenant to solve contractors' stipulated cases
7. According to the fact that the role of counseling engineering company in the third phase (workshop and excellent supervision) of project guide and more importantly it is employer's technical arm, therefore, administrative organization should pay careful attention in selecting experienced and long-established counseling engineering company relevant with contract issue able to solve project's problems as soon as possible through consultation with employer.
8. Law revision and creation of consistency between phases of designing and constructing as well as revising traditional system of contracts
9. Reducing the use of government's financial resources and increasing the participation of private sector and using BOT, EPCF and BOO contract conditions
10. Preventing from non-expert and tasteful views employer's factors in phases of administrating projects
11. Holding appropriate and pertinent educational courses for administrative organizations' experts as projects' custodian
12. Custody administrative organization's session with mayors with governor general's agreement in order to prevent from stopping contractors' administrative operations at city-wide level.
13. Employing scientific and experienced experts with relevant academic degrees in administrative organizations' administrative units
14. Forming technical committee in administrative organizations to solve contractors' problems and to prevent from prolongation of contracts' duration

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