

Управління ризиком в мегапроектах на прикладі Стамбульського каналу

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Ризик можна визначити як вірогідність виникнення несприятливої події протягом вказаного періоду часу. Ризики можна розподілити за категоріями як соціальні, правові, економічні, екологічні, політичні і нормативні та технологічні. Оцінка ризику широко застосовується і є дуже придатною особливо для управління великомасштабними проектами з великими фінансовими затратами, або інакше для управління мегапроектами.

До найважливіші мегапроектів можна віднести гідроелектричні і атомні електростанції та великі громадські транспортні проекти.

Проведення аналізу витрат для реалізації мегапроекту Стамбульського каналу було досить складним через безпідставні оскарження, що подавалися певною групою людей, яка складалася з бізнесменів, журналістів, фахівців, інженерів і економістів. Різні претензії можуть виникнути через незнання маршруту проходження каналу і відсутність відповідного досвіду в цих людей для проведення відповідної оцінки ситуації. Розглядаючи управління ризиком на прикладі підприємства, процес оцінки рівня витрат можна назвати ключовим, оскільки він має великий вплив на рішення, що приймаються підприємствами.

Стамбульський канал, який був названий Прем'єр-міністром Туреччини Реджепом Тайїпом Ердоганом «божевільним проектом», пропонується побудувати Республікою Туреччини на європейській стороні країни для того, щоб з'єднати Чорне море з Мармуровим морем. Турецький Прем'єр-міністр Реджеп Тайїп Ердоган та посадовці Стамбульського столичного муніципалітету заявили, що спорудження Стамбульського каналу коштуватиме 10 мільярдів доларів США і що кошти на розробку проекту вже закладено у бюджет Турецьким міністерством фінансів [1].

Проте, згідно з аналізом витрат проекту, який проводився в межах цього дослідження, офіційно заявлена вартість здається заниженою. Слід взяти до уваги економічні, а також ризики – політичні, нормативні, соціальні і екологічні, які можуть мати вплив на реалізацію мегапроекту спорудження Стамбульського каналу.

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Risk management in megaprojects: Canal Istanbul as a case study

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Canal Istanbul, is the artificial sea-level waterway that will be an alternative route for sea transport along the Bosphorus strait. Though experts have some conservations about this mega project due to the international pacts such as Montreux Convention, it proposed to be a new source of income for Turkey. The success of Canal Istanbul heavily rely on comprehensive project management and project procurement system throughout the life cycle of the project. Every project has a certain level of risk and Canal Istanbul megaproject should be managed carefully in order to overcome possible risks against the accomplishment of its objectives. According to the project cost estimation, one of the possible risks is an economic risk, which is the increasing cost while compared to the officially announced cost by Turkish government.

Keywords: Canal Istanbul, Economic risk, mega projects, Project cost estimation, Risk management.

I. Risk management

Risk can be described as the chance that an adverse event will take place during a stated period of time. Risks can be categorized as social, legal, economic, environmental, political and regulatory, and technological [1]. Risk management is the identification of risks followed by economical application of resources to minimize, monitor, and control the impact of adverse events or selecting cost effective approaches to maximize the realization of opportunities [2; 3]. Though risk management covers several areas, it is widely applicable and beneficial particularly for managing high-cost large-scale projects or so called Megaprojects. According to Flyvbjerg et al. [4] and Altshuler and Luberoff [5]; Megaprojects are defined as initiatives that are very attracting and expensive (costing more than US\$1 billion) projects. Megaprojects receive a lot of public attention because of substantial impacts on communities, environment, and budgets.

II. Mega canal projects

The most common megaprojects are in the categories of hydroelectric facilities, nuclear power plants and large public transportation projects [6]. Canal projects are not only the transportation projects they also lead to planning new industrial, commercial, leisure and several other built environment as key factors for the development. For instance Panama Canal and Suez Canal have vital effects on the economy of Panama and Egypt, respectively.

III. Cost Analysis

Cost analysis of Canal Istanbul Mega-project issue was a big dilemma due to manipulated claims done by a group of people consists of businessman, journalists, specialists, engineers and economist. This manipulation may arise because of the unknown route of the channel

and lack of experience of these specialists. As seen in Fig-1, while considering one of the possible routes of the channel, as proposed by Prof. Dr. Sener Usumezsoy [7], the channel length reaches 60 km and sections of the channel drawn and two separated average sections for the channel are determined in calculations (see Fig-2).

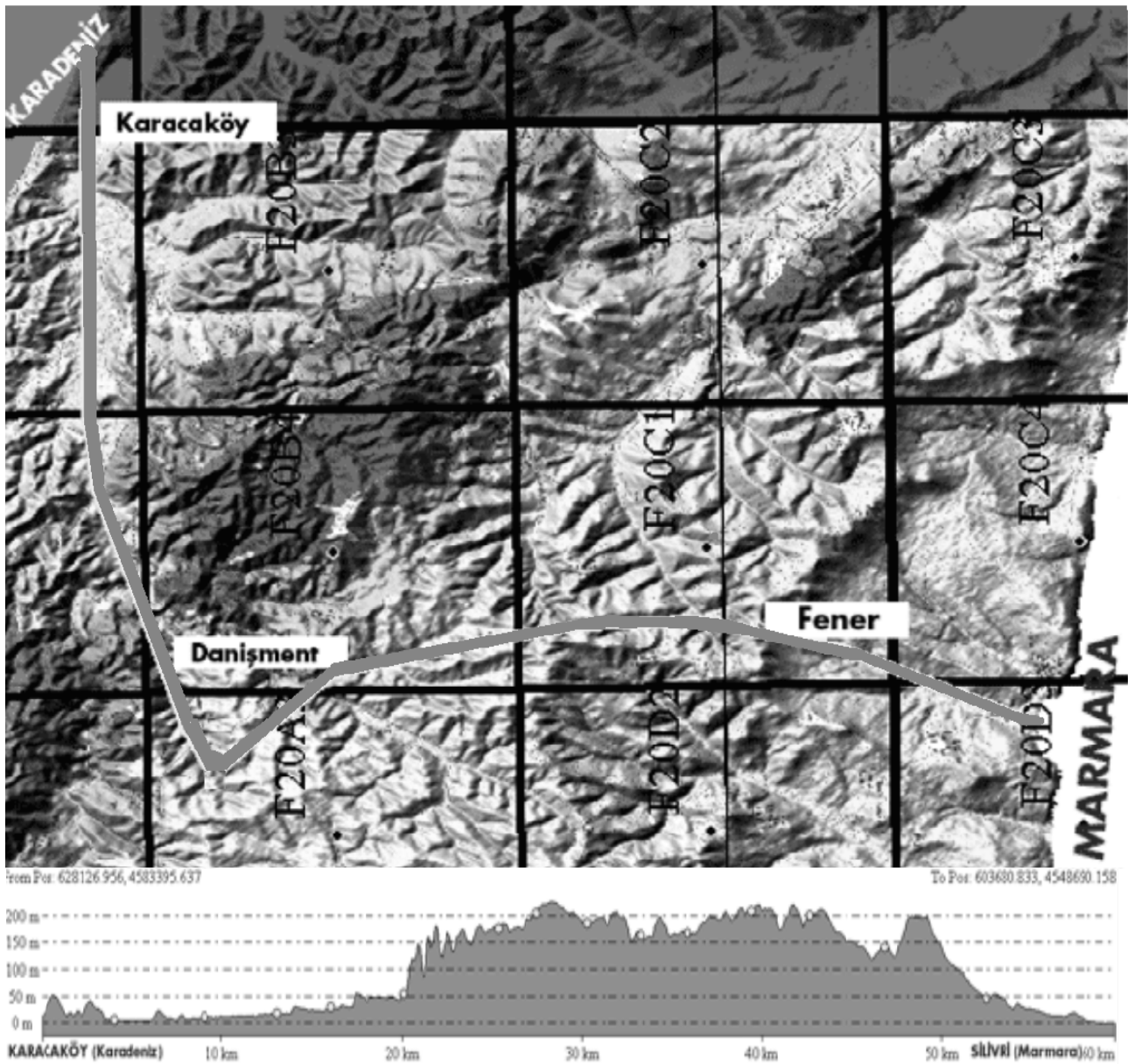


Fig. 1. A possible “Canal Istanbul” route and cross section (up to 200 m. elevation) [7]

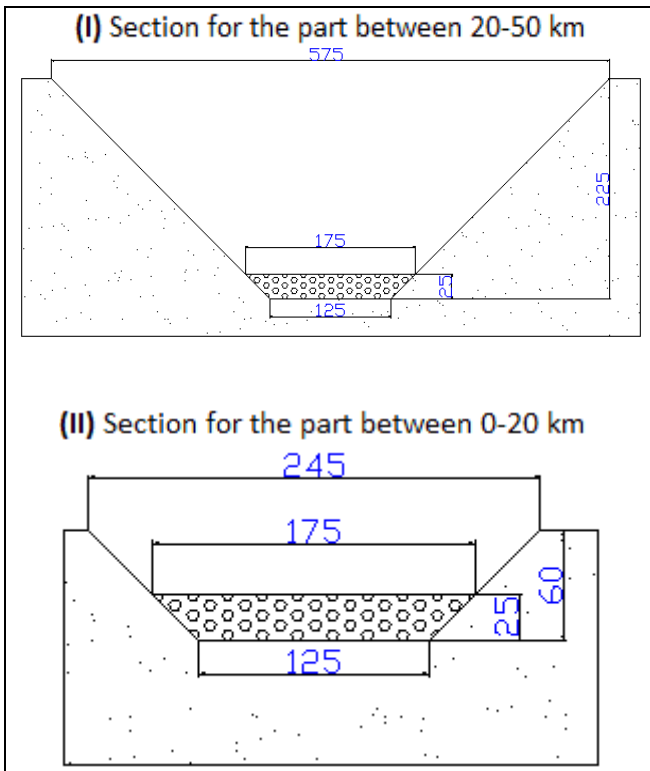


Fig. 2. Proposed channel sections

Considering the enterprise risk management case, the cost estimation process is extremely crucial since it has a great influence on the decisions of enterprisers. For the proposed route and determined sections the handled cost analysis is done and the cost for the project is estimated as 46.5 billion Turkish Liras(TL) that is about 26.1 billion dollars (see Table-1).

Table 1

AMOUNT OF WORKS

Work	Amount	Cost (TL)
*Excavation (m3)	2,695,500,000	32,346,000,000
*Concrete (m3)	20,000,000	1,800,000,000
*Reinforcement Steel (ton)	2,000,000	3,300,000,000
Others(Insurance, bridges, mechanics, lighting, etc.,)		9,000,000,000
TOTAL (TL)		46,446,000,000

* Cost for labor is also included

IV. Research findings

Canal Istanbul, which was declared by Prime Minister Recep Tayyip Erdogan as a “crazy project” is the artificial sea-level waterway (see Fig. 3). It is proposed to be built by the Republic of Turkey on the European side of Turkey. Proposed canal is aimed to connect the Black Sea to the Sea of Marmara. It will remove tanker traffic from the Bosphorus (Istanbul Strait) by a 50 kilometer long canal from the Black Sea to the Marmara Sea through the Istanbul districts of Chatalca and Silivri. The Turkish Prime Minister Recep Tayyip Erdogan and Istanbul Metropolitan Municipality officials have stated that Istanbul Canal will cost \$10 billion to build and that the financing for the development has already been allocated by the Turkish Treasury [8]. Some critics have stated that Turkey aims to by-pass the Montreux Convention, which gives Turkey full control over the Straits and guarantees the free passage of civilian vessels in peacetime. Canal Istanbul is intended to be operating in 2023 that will be the 100th anniversary of the foundation of the Turkish Republic.

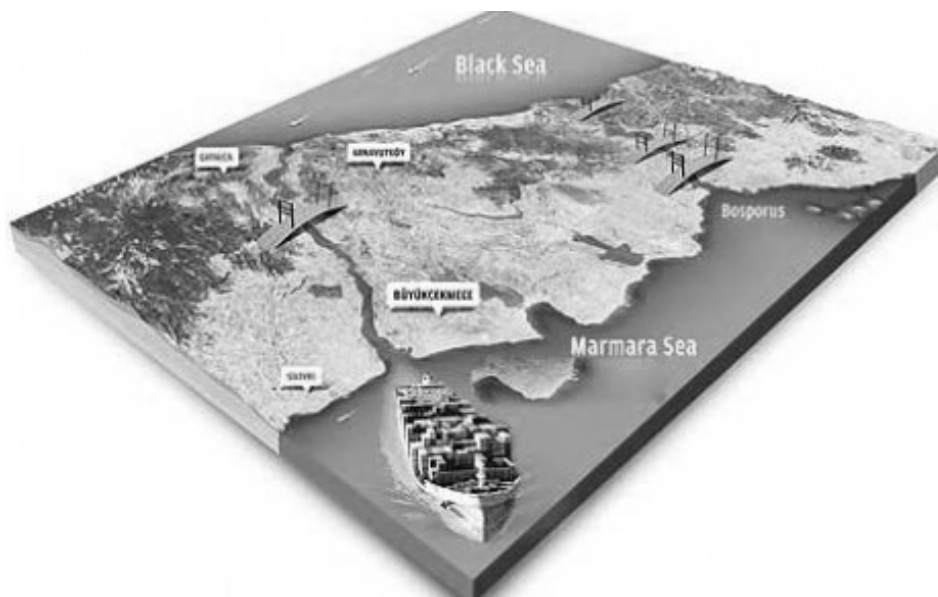


Fig. 3. Proposed “Canal Istanbul” megaproject

Megaprojects are often captivating to political leaders and the public because of their giant size and the technical hurdles they overcome [6]. On the other hand, Turkish Government is willing to construct the Canal by 2023 utilizing local resources such as logistics, engineering, money, etc. The government is awaiting the considerable economic benefit from Canal Istanbul, like Panama and Suez Canals.

Turkey is planning to have benefits listed as follows:

- To receive income through cargo passing through from Black Sea and Marmara Sea.
- Bypass traffic at Bosphorus and minimize the risk of oil spills and accidents.
- Move the settlements from earthquake risky areas to safer locations around the proposed canal.

Risk management depends on Project selection. Hence a key success of megaprojects like Canal Istanbul requires highly comprehensive project management and project procurement system through the whole stage of the project. Project risk management builds on the foundation provided by your project definition and planning [9]. Every project has risk and Canal Istanbul megaproject should be managed carefully in order to overcome possible risks against the accomplishment of this great project. As it is mentioned in Cost Analysis section, one of the possible risks is economic risk which is the increasing cost while compared with the first estimated cost by politicians.

Conclusion

Generally, in megaprojects, the costs are usually significantly underestimated, and annual traffic is typically dramatically overestimated. Hence, as it is well-seen when investors attempt to start such megaprojects, the possible risks should be well-considered. Not only economical risk should be taken into account, but also political and regulatory, social, and environmental risks also have to be considered in megaprojects.

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