



KVANTIFIKACIJA EKONOMSKE EFIKASNOSTI MERA UBLAŽAVANJA U SAD-U

QUANTIFICATION OF ECONOMIC EFFICIENCY OF MITIGATION MEASURES IN THE UNITED STATES

SUMMARY

In the United States, application of Benefit Cost Analysis (BCA) is required by most of the Federal programs. In domain of disasters and mitigation projects, these activities are performed by FEMA (Federal Emergency Management Agency)⁽¹⁾. By definition, BCA quantifiers a relationship between the project cost and the mitigation benefits, accrued over the duration of the life of the project. While project cost may change slightly due to increased maintenance or some emergency modifications, its economic viability is primarily dictated by the avoided losses, ie benefits. Of those, the indirect (non-structural) losses (functional down-time and similar) are very important for risk mitigation of critical facilities and services. By correct identification of most of the benefits and proper application of BCA methodology, even the most complex technical solutions can be analyzed for economic viability.

Ključne reči: flood risk mitigation, benefit cost analysis, direct and indirect losses

SAŽETAK

U Sjedinjenim Američkim Državama, primena Analize troškova i koristi (BCA) je zahtevana od većine saveznih programa. U domenu projekata ublažavanja katastrofa, ove aktivnosti obavlja FEMA (Federalna agencija za upravljanje vanrednim situacijama)⁽²⁾. Po definiciji, BCA kvantifikuje odnos između troškova projekta i koristi za ublažavanje uticaja, akumulirane tokom trajanja života projekta. Dok troškovi projekta mogu da se menjaju usled povećanih troškova održavanja ili nekih hitnih izmena, njegova ekonomska isplativost je prvenstveno uslovljena izbegavanjem gubitaka, odnosno troškova. Od njih, indirektni (ne-strukturni) gubici su veoma važni za ublažavanje rizika kritičnih objekata i usluga. Korektnom identifikacijom većine ušteda i pravilne primene metodologije BCA, čak i najsloženija tehnička rešenja mogu biti analizirana na ekonomsku opravdanost.

Keywords: ublažavanje posledica poplava, analiza troškova i koristi, direktni i indirektni gubici

UVOD

Primena FEMA metodologije Analize troškova i koristi (BCA) je neophodan deo razvoja potencijalnih FEMA sponzorisanih projekata uštede. Aktivnosti koje se odnose na ublažavanje rekonstrukcije i budućeg ublažavanja katastrofa na projektnim lokacijama treba da budu usmerene na poštovanje FEMA propisa i drugih državnih i saveznih zakona.

FEMA podrška je regulisana kroz zakon Robert T. Stafford-a o ublažavanju katastrofa i hitnoj podršci (Javno Pravo 93-288)⁽³⁾. Konkretno, FEMA aktivnosti na NYUMC regulisane su kroz članove Stafford Zakona 404 i 406. Odeljak 404 Stafford Zakona odnosi se na program davanja garancija za ublažavanje katastrofa (Hazard Mitigation Grant Program (HMGP)) i poznat je kao "ublažavanje 404"; Odeljak 406 se odnosi na popravku objekata (poznat kao "javne pomoći") od kojih se mali deo odnosi na dodatne aktivnosti za ublažavanje posledica (poznat i kao "406 ublažava-

INTRODUCTION

Applying FEMA Benefit Cost Analysis (BCA) methodology is a necessary part of developing potential FEMA-sponsored mitigation projects. Activities related to reconstruction and future disasters' mitigation at project sites need to be in adherence with FEMA regulations and other State and Federal laws.

FEMA assistance is regulated through Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288). In particular, FEMA activities at NYUMC are regulated through Stafford Act Sections 404 and 406. Section 404 of Stafford Act addresses Hazard Mitigation Grant Program (HMGP) and is known as "404 mitigation"; section 406 addresses facility repair and replacement (known as "Public Assistance") of which a small part addresses additional mitigation activities (also known as "406 mitigation"). Successful BCA is a critical part of obtaining FEMA approval for both 404 and 406 proposed mitigation