



# SIMULACIJA ADAMOVOG KOEFICIJENTA SA REALNIM PODACIMA U INDUSTRIJSKOJ ZONI NOVOG SADA

## SIMULATION OF ADAM COEFFICIENT WITH REAL DATA ON INDUSTRIAL ZONE OF NOVI SAD

### APSTRAKT

Model analize arhitektonskih odluka (eng. Architectural Decision Analysis Model – ADAM) je osmišljen kao koncept platforme za zaštitu životne sredine. ADAM je baziran na holističkom pristupu na tri osnovna kompartimenta životne sredine koji su eko funkcionalno kontaminaciono zavisni (zagađenje zemljišta, vazduha i vode). Primena ADAM-a na svaki kompartiment zasebno u radu fokusiranih na vodu i vazduh omogućava korektan naučni pristup. Na taj način su moguće procene i analize direktnog i realnog uticaja arhitektonskih odluka. Glavni zadatak ADAM-a je procena negativnih efekata arhitektonskih procesa konstrukcije i rušenja. ADAM je simuliran na postojeće industrijsko područje koje je prošlo kroz ozbiljne procese reizgradnje u desetogodišnjem periodu od 2008. do 2018. Izabrano područje je spoj dve gradske industrijske zone (Industrijska zona sever i Industrijska zona jug), između kojih protiče kanal Dunav-Tisa-Dunav. Vrhunac rekonstrukcije zone je bio je 2012., i od tada je primetan trend smanjenja arhitektonskih aktivnosti. Pretpostavke dobijene simulacijom ADAM-ovog koeficijenta su proverene analizom podataka monitoringa površinske vode kanala DTD. Izračunata vrednost  $K_{AT}$  predviđa i ukazuje da će arhitektonski procesi imati ozbiljan hazardni efekat na životnu sredinu. Analizom podataka fizičko-hemijskih karakteristika površinske vode dokazana je validnost ADAM-ove simulacione pretpostavke.

### Ključne reči:

### ABSTRACT

Architectural Decision Analysis Model - ADAM was created as a concept of an environmental protection platform. ADAM is based on the holistic approach on the three elementary compartments of environment which are physicochemical and eco-functionally dependant regarding pollutants and contamination (soil, water and air contamination). Application of ADAM on each compartment separately water and air provides scientifically correct approach, which enables the analyses of direct and real influences of architectural decisions onto environment. The main aim of ADAM is assessing negative effects of construction and demolition processes. ADAM was applied on the old industrial area that has severely changed in period from 2008 to 2018 Selected area is juncture of two city zones (Industrial zone North and Industrial zone South) with canal Danube-Tisa-Danube between them. Redevelopment has reached its peak in 2012 and since then shows trend of decrease in renewal. Assumption obtained by ADAM simulation was checked by analysing monitoring data of DTD surface water. Simulated value of  $K_{AT}$  gives the assumption that construction and demolition processes will have significant hazard effect on environment. Data analyse of physicochemical characteristics for surface water has proven validity of ADAMs assumption.

### Keywords:

## 1. UVOD

Građevinski otpad tokom proizvodnje, skladištenja, transporta i odlaganja, posebno na gradilištima potencijalno može da izazove štetni uticaj na životnu sredinu. Izgradnja i operacije građenja imaju ogroman direktan i indirektan efekat na životno okruženje (Levin, 1997). Glavni uticaj na životnu sredinu je vidljiv kroz generisanje otpada, snažne buke i vibracija, prašine i hazardnih emisija koje mogu naneti ozbiljna oštećenja čoveku i ekosistemima (Chen et al., 2004). Ovaj problem je isprovocirao mnoge inženjere

## 1. INTRODUCTION

Construction and demolition waste on building sites have the potential to cause adverse negative environmental impacts during generation, storage, transport and disposal building materials. Building construction and operations have a massive direct and indirect effect on the environment (Levin, 1997). Main impact on the environment is represented through release of waste, noise, dust and hazardous emissions, which can cause serious damages to humans and ecosystems (Chen et al., 2004). This issue has provoked many construction

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