



# Valuation Analysis in Erosion Control Activities

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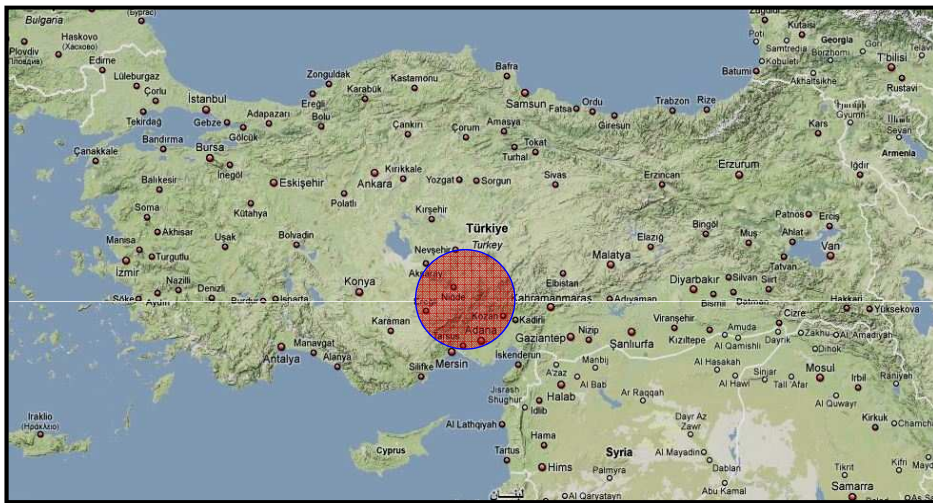
## Introduction

- ✓ There are a lot of direct and indirect benefits created by erosion prevention function of forests.
- ✓ Unfortunately, these benefits are not taken into account erosion control projects in Turkey.
- ✓ This study tries **to determine values of benefits created by an erosion control project.**

# Introduction (II)

- ✓ The title of the erosion control project considered is “**Çakıt Watershed Erosion Control Project**”.
- ✓ It was started in 1982.
- ✓ It was supported by the World Bank.
- ✓ The project was implemented in Adana and Niğde provinces in the Mediterranean Area of Turkey.
- ✓ The project area is 140 thousand hectares.
- ✓ In the scope of the project, there are 39 villages and two districts.

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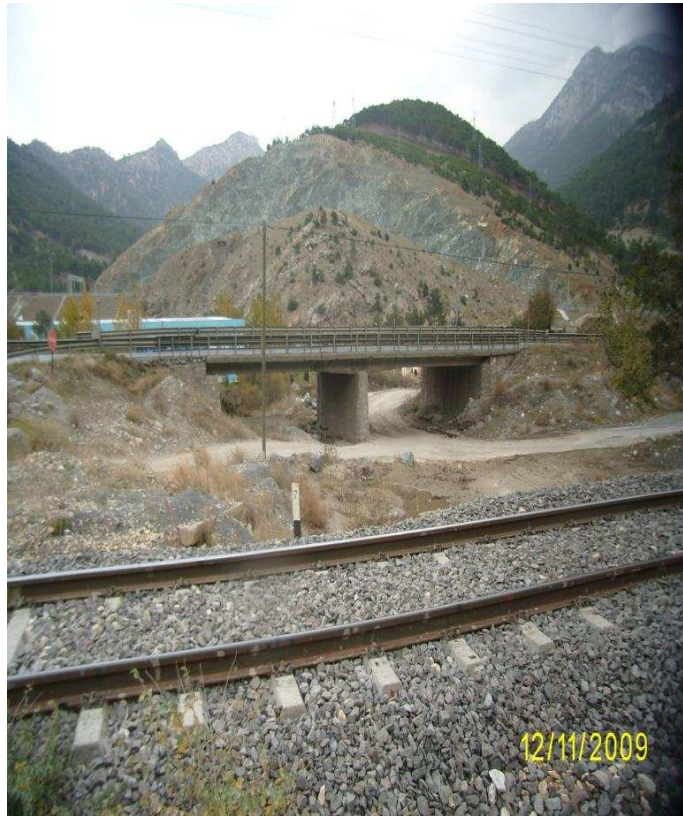


Location of the project area on Turkey Map

## Justification of the project;

✓In 1980 Spring, a catastrophic flood, originating from the watershed area of Çakıt Stream caused great damages on the E-5 highway and the Ankara-Adana Railway.

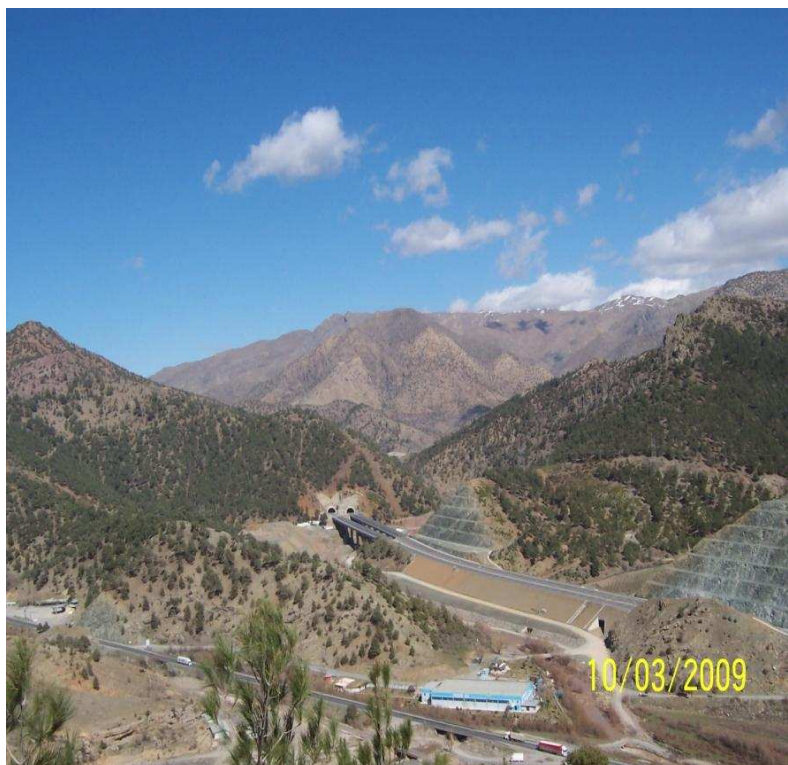
✓The real cause of the flood was the non-existence of any protective vegetation cover as a result of the destruction of forest covers during past periods.



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## The Main Aims of the Project:

- ✓Protect settlements against floods
- ✓Protect agricultural fields against floods
- ✓Prevent dam filling from erosion
- ✓Protect roads and railroads from landslides
- ✓Decrease soil erosion level
- ✓Increase water quality



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# Methodology of Our Study

- ✓ **Choice Experiments Method** will be used to determine benefits in the study.

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## Design of a Choice Experiment

- ✓ Definition of problem
- ✓ Selection of attributes
- ✓ Description of attributes
- ✓ Determination of attributes levels
- ✓ Preparation of questionnaires
- ✓ Implementation of questionnaires
- ✓ Improvement of experimental design
- ✓ Sampling and collecting data
- ✓ Statistical analyses and value estimations

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## **In This Context;**

- ✓ Attributes were selected and identified.
- ✓ Attribute levels were determined.

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## **The Attributes**

- ✓ Flood
- ✓ Agricultural Flood
- ✓ Dam Filling
- ✓ Landslides
- ✓ Soil Erosion
- ✓ Water Quality

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Attribute	Description	Levels
Flood	The average percentage of flood risk in 30 years time	50% (status quo) 30% (current level) 10% 5%
Agricultural flood	The average percentage of agricultural flood risk in 30 years time	40% (status quo) 30% (current level) 20% 5%
Dam filling	The main dam in the river will decrease its capacity by half due to soil erosion after	5 years (status quo) 10 years (current level) 40 years 80 years
Landslides	The railroads and major roads will experience some landslides every	2 months (status quo) 4 months (current level) 12 months 0
Soil erosion	The reduction of negative impacts of soil erosion by ..% in 30 years time	50%(status quo) 30%(current level) 20% 10%
Water quality	The average percentage of water quality in 30 years time	0% (status quo) 5% (current level) 40% 50%
Payment	The required payment per person and per year during 10 years for the erosion control program	36 Turkish Liras 24 Turkish Liras 18 Turkish Liras 0 (status quo)

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## Work Plan for Next Steps

- ✓ Questionnaires will be prepared and implemented.
- ✓ Experimental design will be created.
- ✓ The results of questionnaires will be analysed in a statistical programme (LIMDEP or SPSS)



**A picture from the Çakıt Watershed**



**Terraces in the Çakıt Watershed**



**afforestations in the Çakıt Watershed**

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**“Forest prevents erosion”**

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**Thank you so much for your  
attention!**