

Greek Case Study Fact Sheet

AquaMoney Policy Brief No. 4-10

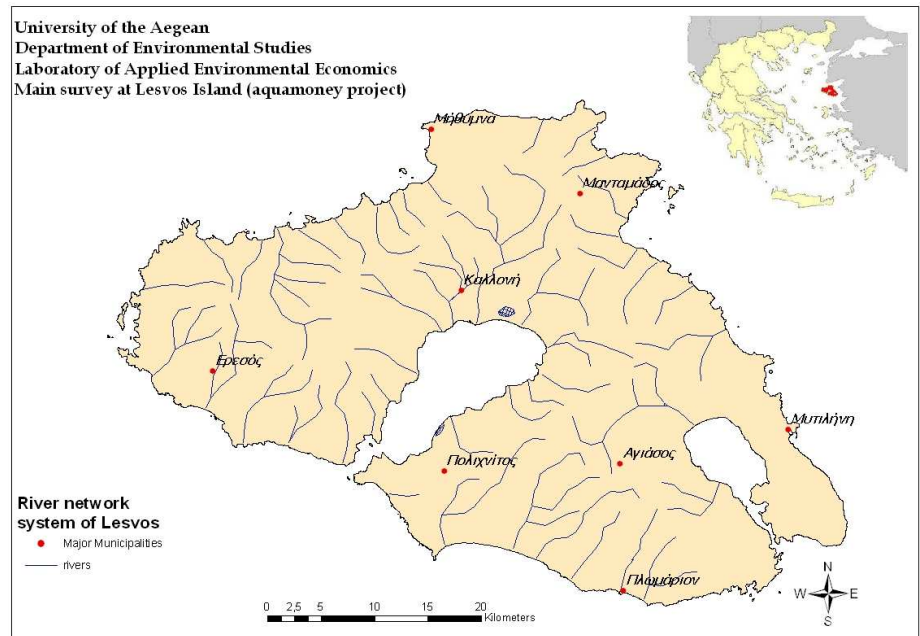
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The heart of AquaMoney ([see Policy Brief No. 1](#)) are 11 case studies from different European countries. Based on these case studies, AquaMoney developed guidelines for benefit transfer. This policy brief will present the main results of the Greek Case study. The idea is to give policy makers an overview of the range of values that can appear and how the perception of environmental problems in the different countries differs.

The Greek Case Study

Study area characteristics

Lesvos Island is located at the northern-eastern part of the Aegean Archipelago with an area of 1,636 km² and population over 90,000 inhabitants. The main economic activities are agriculture, tourism, cattle raising, fisheries and small scale spirit distillery. A combined Choice Experiment (CE) and Contingent Valuation (CV) survey has been used in order to assess environmental and resource cost. For the implementation, a nine-page questionnaire has been set up and 312 face-to-face interviews have been collected. The mean age of respondents was 43 years old, the mean household size was 3.2 members and the mean duration of respondent's education was 11.7 years. The average net income of households amounted to 1614.52€ (±856.74).



Map of Lesvos Island –surface water systems

Aquamoney is a research project funded under the 6th EU Framework Programme.



Environmental situation

The majority of respondents rank the importance of environment very high. The water availability in Lesvos seems to be a problem of medium importance. Six out of ten households have been suffering water use restrictions, with a frequency of 5 summers over the last 10 years.

Perceptions	Mean	Sd
expect water restrictions in the years to come (0 no, definitely not - 4 yes, definitely)	2.61	1.17
The environment has the right to be protected irrespective of the costs (0 no, definitely not - 4 yes, definitely)	3.34	0.67
Water scarcity is a natural phenomenon beyond human control (0 no, definitely not - 4 yes, definitely)	1.87	1.27
Familiarity with climate change and forthcoming impacts (not familiar at all/never heard of this before – 4 very familiar)	2.83	0.97

According to respondents, when water is scarce and has to be distributed across sectors after household needs have been fulfilled, priority should be given to agriculture (53.2%), and environment (45.2%).

Willingness-to-Pay (WTP)

Eleven respondents have been excluded from the analysis as protest bidders; zero bids are 11.7%.

CV results

The estimated bid function is:

$$\text{Log}_{10}\text{WTP} = 1.261 + 0.00012 \times \text{income} + 0.107 \times \text{importance of environment} + 0.052 \times \text{increase of water scarcity} - 0.239 \times \text{environment affected by water availability}$$

Model R2 is 0.257 and adjusted R2 0.243. Based on the bid function, predicted WTP is €61.12, every year for the next 10 years to decrease the likelihood of household facing outdoor water use restrictions from 4 years to 1 year.

CE results

Moderate environmental quality: Households' WTP is €44.44 (€22.54 to €66.32) to avoid poor environmental quality caused by water scarcity.

Good environmental quality: Households' WTP is €151.18 (€128.88 to €173.36) for keeping a

good environmental quality and avoiding poor state caused by scarcity.

Very good environmental quality: Households' WTP is €253.09 (€229.09 to €276.91) for an increase from poor quality to very good.

Domestic supply:

Estimation from CE: Households' WTP is €287.10 (€227.93 to €346.09) every year for the next 10 years to decrease the likelihood of households facing outdoor water use restrictions.

Total Economic Value (TEV)

Status Quo: Business as Usual scenario, bad status of environmental quality due to low water flow level; restrictions in domestic supply for 4 summers in the next 10 years.

Scenario A: Moderate status of environmental quality due to water flow level; restrictions in domestic supply reduced from 4 years to 1 year in the next 10 years; TEV is €3,593,828.69 per year for the next 10 years respectively, i.e. a net present value of €32,153,321.03 (discount rate 2.5%) or €28,841,414.00 (discount rate 5%).

Scenario B: Good status of environmental quality due to high water flow level; restrictions in domestic supply reduced from 4 years to 1 year in the next 10 years; TEV is €7,071,264.67 per year, i.e. a net present value of €63,265,297.99 (discount rate 2.5%) or €56,748,746.10 (discount rate 5%).

Summary

The economic analysis of water resource uses in Greece shows that the cost recovery is less than 38% in the Aegean Islands Water District, without estimations of environmental cost. We hope that the estimated benefits would be a useful input to policy makers as the provision of monetary prices in situ would help:

- in the development of water tariffs accordingly to the notion of full cost recovery,
- in the concept of cost benefit analysis linked with future developments on water infrastructure and with evaluation of water management options.

Further information can be found in the Case Study Reports and in further Policy Briefs on:

www.aquamoney.org

