



ORIGINAL RESEARCH PAPER

Social Science

EVALUATION OF RURAL SOCIAL CAPITAL IN THE PROTECTION AND RESTORATION OF LAKE URMIA

KEY WORDS: Sense of Belonging, Conservational Measures, Descriptive Statistics, Environmental Awareness

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ABSTRACT

Lake Urmia is the largest lake in the Middle East and the sixth-largest saltwater lake on Earth, with a surface area of approximately 5,200 km². This lake is experiencing severe drought from 2000 onward due to persistent general drought in Iran, but also the damming of the local rivers that flow into it, and the pumping of groundwater from the surrounding area. This study investigates the social capital of the Urmia basin's rural community in the protection and restoration of this water body. The method of the study was descriptive statistics in which a total number of 415 questionnaires were distributed among the rural residents. The main focus of this survey was evaluating the people's perception of the relationship between economic growth and environmental protection and assessing their sense of belonging to the lakes. For this purpose, measures of central tendency including the mean, median, and mode, and measures of variability including standard deviation, variance, minimum and maximum variables, kurtosis, and skewness were analyzed. The results of this study show that the people's perception of the significance of conservational measures at lake Urmia is at the medium level, which means more environmental promotional programs need to be undertaken. In addition, The resident's sense of belonging to lake Urmia is at the medium level, which proves the people are not fully aware of the various ecosystem services provided by the lake.

INTRODUCTION

As Maurice Strong, Secretary General of the United Nations mentioned at Environment and Development Conference "Local-level actions such as resource management are the very foundations of successful sustainable development policy. Experience increasingly shows that the imperative transition to sustainable development cannot be made without the full support of the community and the participation of ordinary people at the local level" (World Bank, 2011). Management of the common natural resource entails the cooperation of all beneficiaries from rural to urban levels for ensuring the sustainability of the resources for the present and future generations.

Rural communities are strongly dependent on their land but often do not have the capabilities and organizations enabling them to conserve natural resources and turn them into physical assets. Human and social capital plays a vital role in managing natural resources because it affects rural people's capacity to be organized for sustainable development. Social capital helps people to band together to raise their will and make a common bright future (Karimipour, Tam, Le, & Burnie, 2021).

There have been many studies on the association between social capital and environmental quality. For example, Paudel and Schafer (2009) found that social capital plays an important role in protecting the quality of water in Louisiana, USA. Working with data from 124 countries, Dutt (2009) found that the states with a better quality of governance, better social situations, stronger non-governmental organizations, and greater investment in education encounter lower environmental problems. Ibrahim and Law (2014), showed that a higher investment in social capital can mitigate the GHG emission and air pollution which comes from economic growth. Keene and Deller (2015), reported that investment in social capital in professional and advocacy organizations has a direct relationship with better air quality in the US.

As it is clear human and social capital plays an inevitable role in protecting environmental resources. So, it is very significant to evaluate the people's perception of the significance of natural resources to be able to set a common goal for protecting/ restoring them. It is also important to know people's expectations of economic growth which undoubtedly comes from natural resource extraction. In this view, a sustainable balance should be kept between resource extraction and economic growth for the benefit of the present a future generation.

METHODS

For evaluating the rural social capital in protecting the Lake Urmia, a statistical approach has been taken. In this approach a total number of 414 questionnaire were distributed among the rural communities of Urmia basin. The gathered data then were analyzed by descriptive statistics. Descriptive statistics in this context helped us to summarize the dataset that represents the sample data (Karimipour, Mojtahedi, & Dehkordi, 2015). The data were analyzed using central tendency and variability parameters to describe the population in its best way. Measures of central tendency include the mean, median, and mode, while measures of variability include standard deviation, variance, minimum and maximum variables, kurtosis, and skewness (Hayes, 2022).

The rural questionnaires were analyzed by population, social responsibility, social participation, and the people's perception of the lake's values. The gender distribution of the respondents was 16.5% female and 83.5% male. Also, the most frequent respondents-34.4%- were among the population of 30 to 40 years, and 40.6% were under bachelor. Age, gender, and educational profile have to be considered in developing the promotional and implementing activities since one of the main problems of such programs as said by the rural communities is their complexity. Table 1 represents the job profile of the respondents. According to this table, more than 60% of respondents are in the farming and animal husbandry sector, while the least proportion is in servicing sector with 1.2%.

Table 1 Distribution of respondents according to the job profile

Job status	Frequency	Percentage
Unemployed	34	8.2
Retired	11	2.7
Governmental	18	4.3
Private sector	60	14.5
Farming and animal husbandry	251	60.5
Housekeeper	20	4.8
Industry employed	7	1.7
Service sector employed	5	1.2
Others	9	2.2
Sum	415	100

Also, it appears from the questionnaire that the income of over 60% of respondents was less than 15 million Rls per month and just 7.5% of them earn more than 30 million Rls per month. Considering this low level of revenue, it is crucial to plan for

income generation programs and develop related projects, otherwise, such conservation-based plans would probably end in fail (Hashemi, Karimipour, & Jazi, 2015). From Other aspects of the questionnaires, it can be referred to as the frequency of connection with media. This parameter is also very important as it acts as a channel for receiving information about the lake's restoration. This parameter also was investigated using two indices: the frequency and type of interaction with media. The results of this section reveal that NGOs are the first channel to inform rural communities about the lake's conservation data with 9.9% followed by social media, government, and TV with 9.5%. 6.5% and 5.6% respectively.

Table 2 Frequency distribution of respondents according to their income level

Monthly Income (Million Rls)	Frequency	Percentage
Below 15	250	60.7
Between 15 to 30	131	31.8
Over 30	31	7.5
Sum	413	100

RESULTS

After investigating the society's composition in terms of age, gender, education, and income, the next part of the survey was allocated to social capital. In this part, some significant parameters associated with the society's attachment to their natural resources were analyzed. It was a crucial point of this study as it determined how people conceive themselves in relation to their environment. Various factors were included in the questionnaires each one representing an aspect of environmental behavior. In particular, the following parameters were analyzed: Environmental behavior, Participation background, Impact assessment, Sense of attachment, and Sense of capability. The results are represented in Table 3.

Table 3 The respondents' perception of the significance of conservational measures at lake's Urmia

Statement	Mean	Standard Deviation	Coefficient of variation
Lake Urmia belongs to everyone, so it shouldn't be governed and decided by the lake's land owners only	3.74	1.05	0.280
Human interfere in natural resources often resulted in adverse impacts	3.70	1.05	0.283
Lake Urmia must be restored disconcerting the associated costs	3.78	1.09	0.288
I think we don't have enough information on what we can do to have positive environmental impacts	3.56	1.03	0.289
I am interested in TV programs that focuses on environmental issues	3.63	1.10	0.300
I always think about the impacts of my activities on the environment	3.50	1.12	0.320
Currently, resolving economic issues are more significant than dealing with the future of environment	3.22	1.11	0.340

According to Table 3, it is clear that restoring Lake Urmia disconcerting its cost, is not accepted fully by the respondents. This shows local people might be unaware of the

comprehensive environmental impacts of the lake's drought. Also, not everybody agrees with the lake's decision-making process outside of the geographical boundary of the basin. This can confirm that the local community is not totally aware of the ecosystem services provided by the lake at regional and national levels. The response rates to question 4, reveals that even if rural communities are willing to make a positive impact on their environment, they are unaware of the strategies and possible solutions, which is another channel through which the rural residents can be mobilized. Regarding the last question on prioritizing economic growth over resolving environmental problems also, it is clear that there are financial problems in the region that should be considered in any conservational program.

Table 4 represents the people's sense of belonging to lake Urmia. As this table shows, not all residents believe that the lake is a part of the common memories, and they do not fully agree that the lake is the social identity of the region. It can prove that environmental awareness was not enough in the region and that people are not completely aware of the huge impacts of the lake on their daily life and income generation. Any further promotional program in environmental conservation can be concentrated on this thematic area.

Table 4 The respondent's sense of belonging to lake Urmia

Statements	Mean	Standard Deviation	Coefficient of variation
The lake is the social identity of the people of the region	3.71	1.02	0.27
I have a sense of belonging to Lake Urmia	3.50	1.13	0.32
A considerable amount of the people's common memories belongs to Lake Urmia	3.45	1.12	0.32
Sum	3.59	1.10	0.30

CONCLUSION

The main purpose of the study was to evaluate the people's perception of the significance of natural resources and also their sense of belonging to their environment. The applied method was descriptive statistics and the evaluation parameters were, mean, standard deviation, coefficient of variation, kurtosis, and skewness. The results of this study show that the people's perception of the significance of conservation measures at lake Urmia is at the medium level, as well as their sense of belonging to the lake..

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