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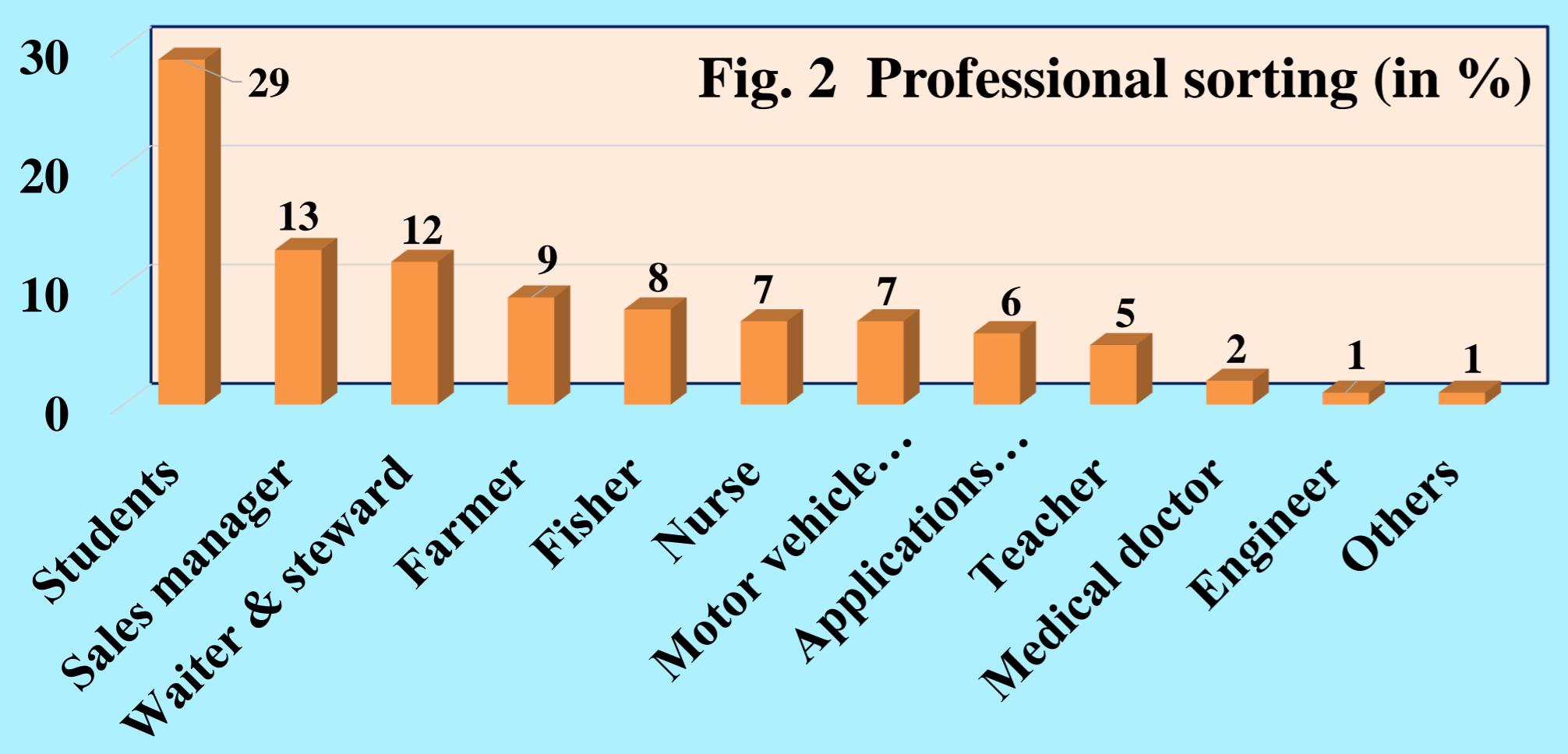
INTRODUCTION

The sufficient supply and stable quality maintenance of water are of pivotal importance to ensure the population and environmental health, enable the sustainable tourism development, increase employment index and economic incomes. An attentive assessment of residents and tourist communities' perceptions of water quality (WQP) offers a real reflection regarding water management, policymakers' decisions, end-users and stakeholder interests. The perception of water quality incorporates personal people attitudes based on the way they obtain, arrange, interpret and explain all recorded data to build a logical quality comprehension of the waters they use. It is considered a process fundamentally based on individual sensory and health experiences, social provenience, education level, professional formation, overloaded media and AI influencing. The inconsistencies between the real quality of natural waters used as drinking, irrigation, stock raising, hygiene, fishing, bathing, sports or touristic sources and population perception can lead to the unnecessary and not verified spread of distrust, unfavourable environmental decisions according to the water procurement and safety, increased financial expenses, image damage in the tourism industry markets. To the authors knowledge there is no published investigation according to the public perception and attitude regarding the water quality of Shkodra Lake and relative implication on area's tourism development. The present study aimed to stipulate/analyse the knowledges, considerations and reliance on potential health consequences of Lake water bodies to the residents and tourists.

MATERIAL and METHODS

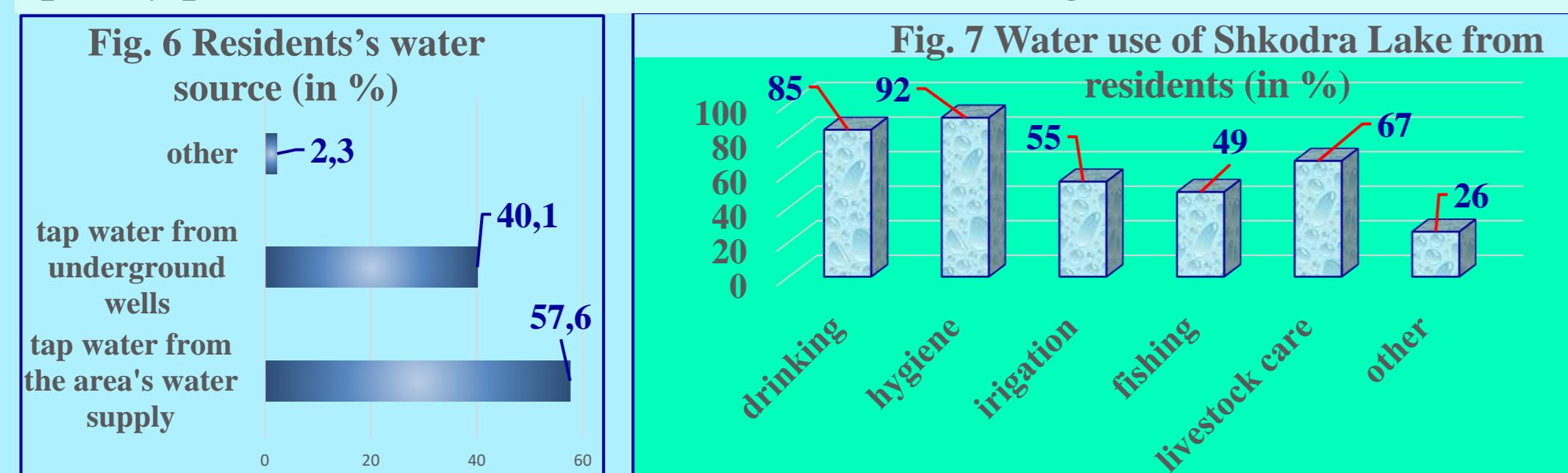
Study area: Shkodra Lake (Albanian part). Two different questionaries were designed and conducted during 2024 with 649 participants; from which 356 were residents and staff of touristic activities located at Eastern and Western Lake shores; the rest of 293 interviewees were selected from the tourist communities. An entrance block of optional demographic questions was done, including generalities, age, gender, nationality and profession. Ten multiple choice questions and two open-ended questions to permit participants explain their personal opinions and Shkodra Lake water quality rating followed each questionary. The further questions to inhabitants and touristic activities staff related to the their permanent/temporary Est/West Lake shore and duration residency, the knowledge of water source used at such residencies, the potential use of Lake water, and if Yes for what reason; similarly to tourists was asked how often they have visited Shkodra Lake during the last five years, and how long the accommodation lasted; if they have used and for what purpose the Lake waters; the potential health problems related to the deteriorated Lake water quality, if Yes what type and how often. Next all participants were requested to state their personal opinion according to the level of trust and categorization of Shkodra Lake water quality in vicinity to their residence, workplace, accessed for touristic purposes and food from the Lake procured in their everyday life or served in frequented touristic service points. Concluding, it was asked to submit at least three alternative suggestions of infrastructure and services strongly related to the Lake the residents/employed staffs urgently need or tourists would like to find improved next time they visit Shkodra Lake. Data calculation, statistical correlation between responses and discussion were done.

From 700 people preliminarily asked to fill out the questionaries, 649 of them accepted, the others (7.2%) were not interested in.

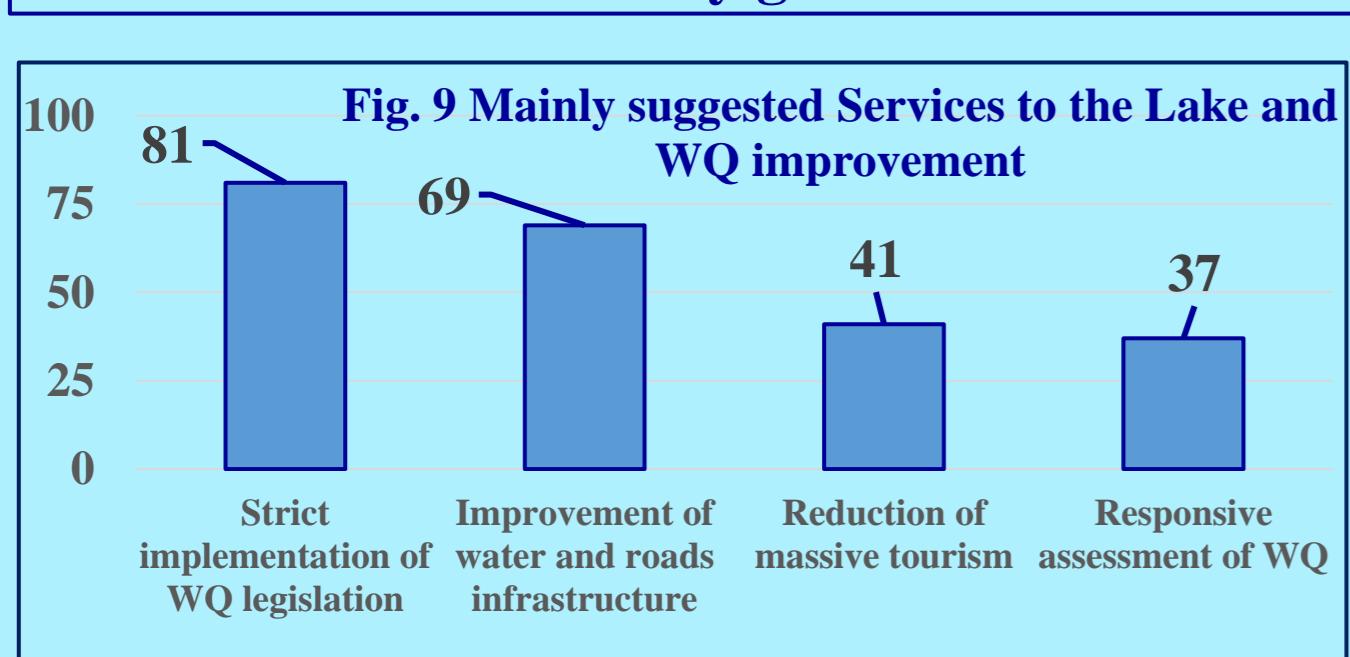
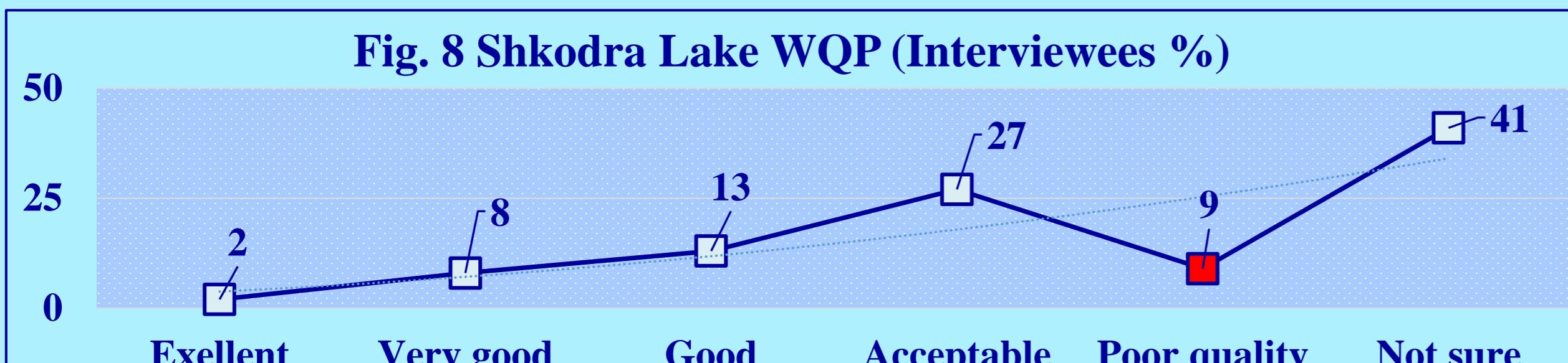


Use and Water Quality Perception of Shkodra Lake

68% of residents know the source of water they commonly use (Fig. 6) and 467 prevalent opinions correlated on the distrust of drinking water furnished by wells and groundwater pipes close to Lake shores 92 % of residents and staff of touristic activities (Fig. 7) affirmed the use of Lake waters for personal/familiar hygiene, fishing, livestock farming and agricultural irrigation, being aware for the direct and indirect impact on health and food quality provided from the Lake and the surrounding area



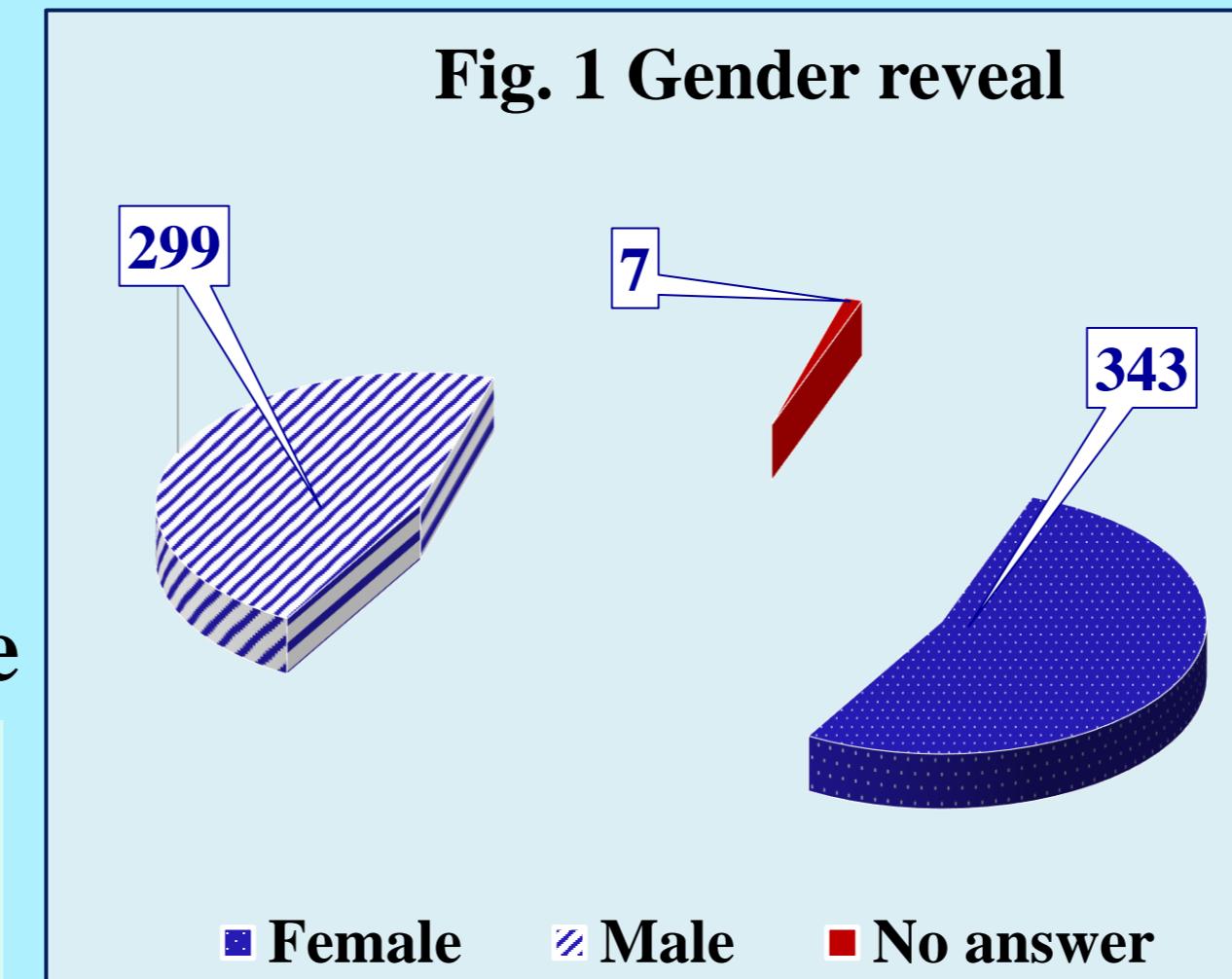
24% of the interviewed population revealed *health problems after long use of Lake waters*, such as *caries* and *nephrolithiasis* (kidney stones) even in young people, while only 23 persons affirmed to have suffered **more than once** from **sudden dysentery after drinking water** and **eating carp** from the Lake, during summer and early autumn. The entire sample of visitors responded positively on having services offered by touristic points as coffeehouses and restaurants in vicinity of Shkodra Lake perimeter; 87 % declared to have refused the use of tap water as drinking water, choosing PET water package instead. They underlined to appreciate touristic boating and to be in doubt of the tap water used during their vacations for personal toilet and shower hygiene????!!! Noone declared critical health problems from Lake water and Lake food usage, anyway 21% of them highlighted the insecurity on consuming Lake food products (mostly fishes) because of the water physical, chemical and biological features which might negatively impact their health quality. Additionally, 36% of respondents proclaimed the **abstention to swim into**.



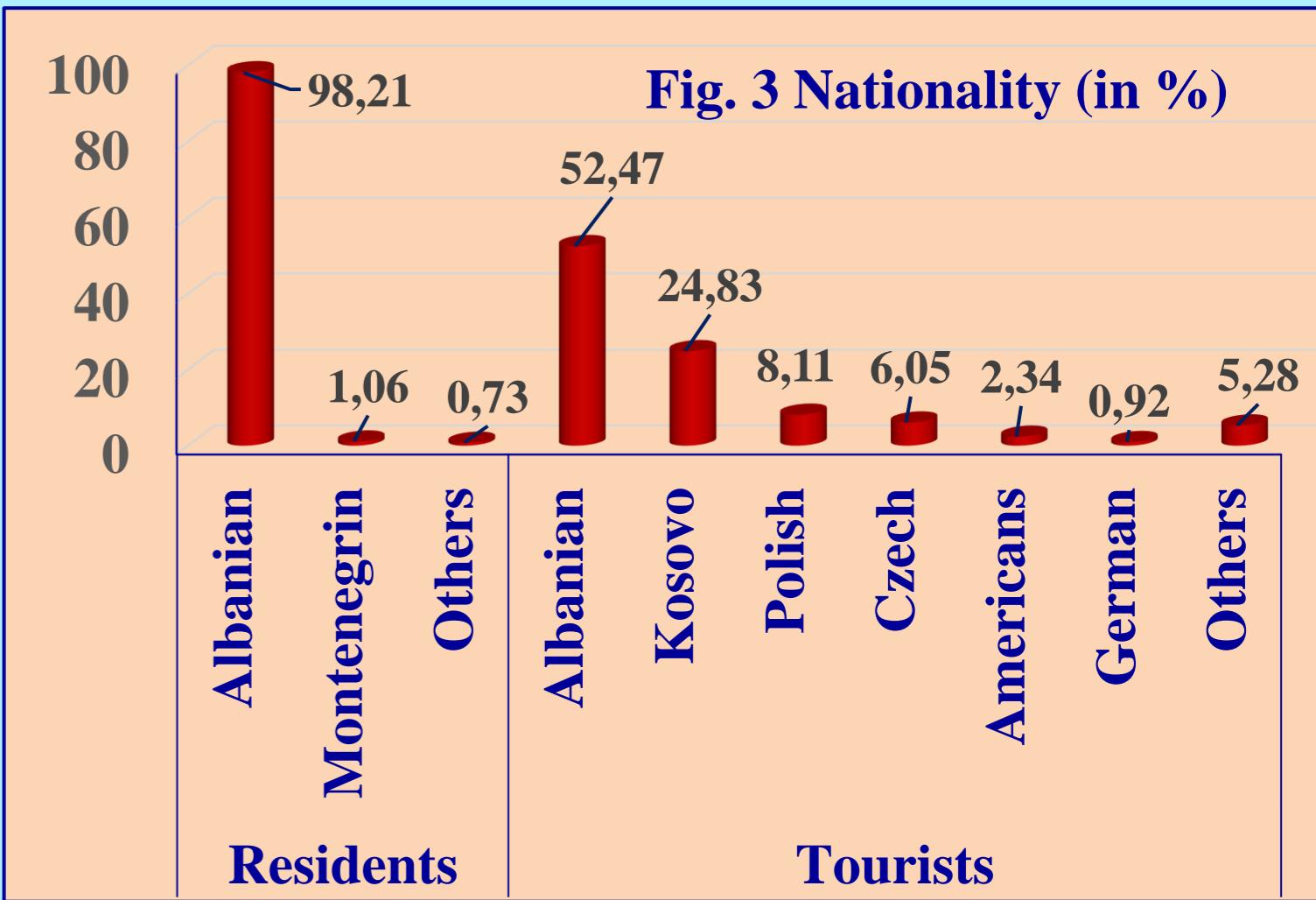
In majority the respondents answered to be **not sure** about Lake WQ quality, which is high as compared to other studies made abroad Albania (Fig. 8). Some of the most relevant suggestions according to Shkodra Lake WQ services they **need to be urgently undertaken** of would like to **find repaired** next time they'll visit the City are presented in Fig. 9.

RESULT

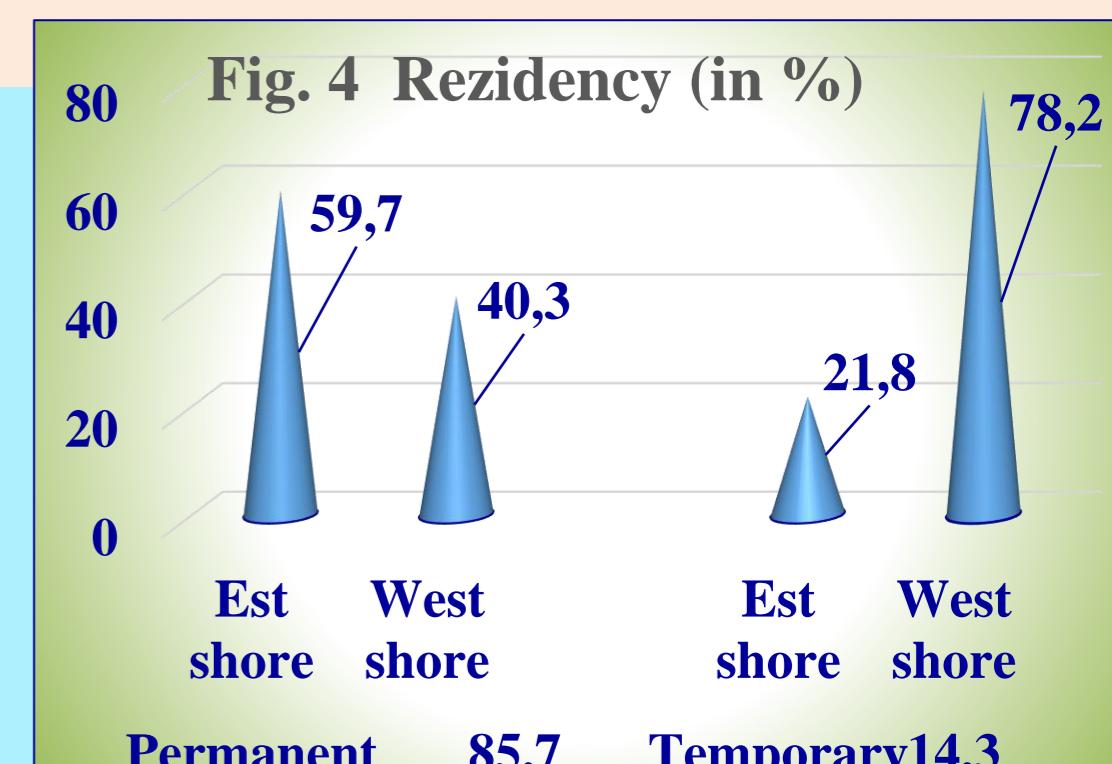
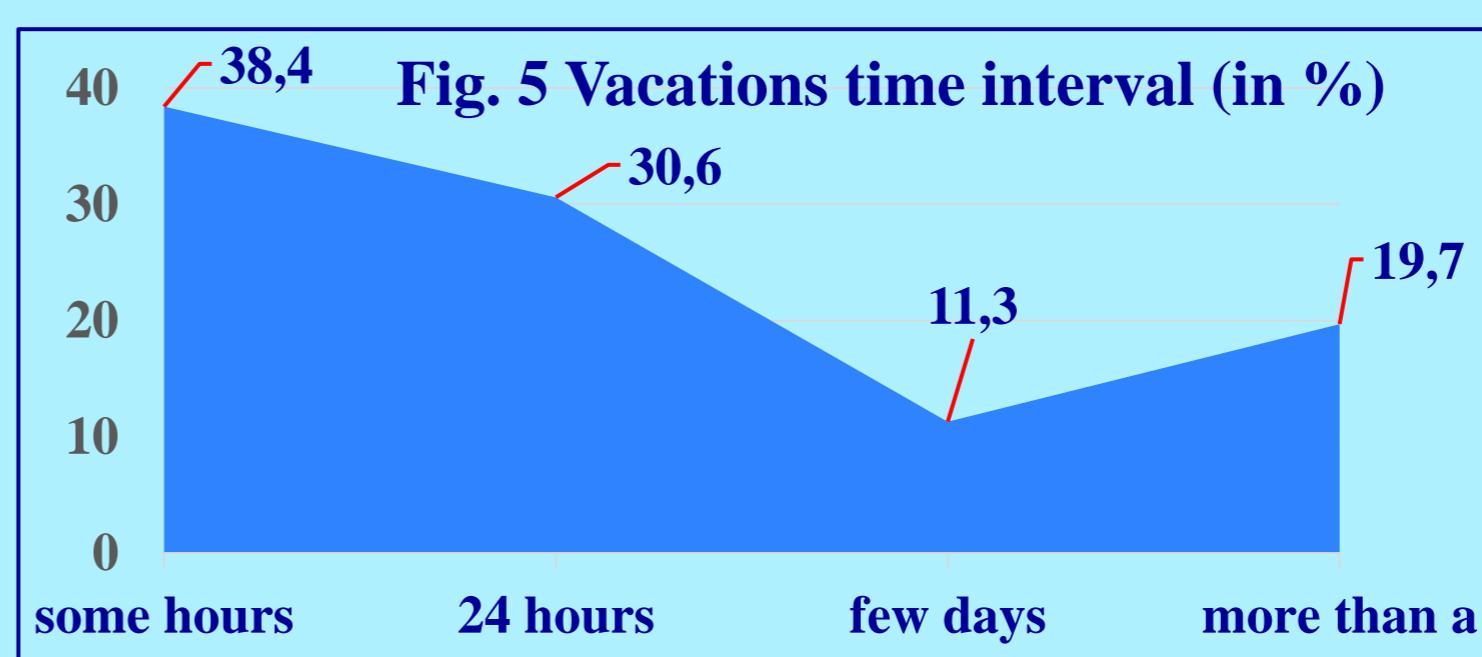
91% of tourists signed their generalities (Name, Surname), contrarywise 67% of residents and only 33% of touristic activities personnel (including owners and managers) **did the same**. The interviewees age ranged from 19-81 years old, while the whole sample **mean age** was quantified as **37.3 years old**. To the optional enquiry of gender, a 1.02% contingent of people refused to answer (Fig. 1), the other 53.4% and 46.6% declared respective female and male gender of participants. As shown in Fig. 2 the **most** part of respondents were students, a considerable part of residents and staffs enunciated to be employed as **service workers** (mainly women), in **fishery** (exclusively men) and **farming sector** of the area surrounding the Lake shores.



Demographic data



All the tourists' communities collaborate to validate the **nationality**, and the non-Albanian speakers were offered to communicate almost freely in English (67 people, Fig. 3). The most part of **residents** affirmed to **permanently live for more than ten years closed to the Est shore of Shkodra Lake**, whereas the **temporaries** who were in chief seasonal workers emphasized to be employed mostly in the **West shore at the sector of tourism activity**. The **Albanian** tourists prefer to access **Shkodra Lake the whole year**, on the contrary **foreigners** visited the area in **early summer** and their **stay lasted in predominance 2-6 hours**. An interesting results was a **sizeable group (58/19.7%, Fig. 5)** who spend vacations **longer than one week** enjoying the Lake mirror in the morning and its wonderful sunsets, while the day move around for excursions due to the short distance from the Alps and Velipoja beach.



CONCLUSIONS

The positive correlation detected between most of questionaries answers of residents and tourists impose the immediate need for: periodic assessments of Shkodra Lake WQ and the destiny of its surface and ground waterbody uses; the avoidance of pollution sources to the Lake and implication of climate conditions on WQ of Shkodra region (Albania); implementation of serious intervention programs from local and central in charge policymakers and international organizations; better public education and intervention to validate, save and protect WQ of natural water sources in the area. The current data should serve as an alert that continuous discharge of untreated sewages from the transboundary perimeter of Shkodra Lake to its water might pose serious threats to the surface and ground water sources and related water and food production and services, tourism industry and ultimately impairing the health of local and far distant ecosystems biota and human population.

ACKNOWLEDGMENTS

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