

PUBLIC OPINION ABOUT THE IMPACT OF RELIGIOUS ACTIVITIES ON THE ENVIRONMENT

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ABSTRACT

Religious activities, such as candles, bells, cemeteries etc, have an impact on health and the environment. This study investigates the opinion of the inhabitants of Athens, the capital of Greece, on the impact of the orthodox religious activities on the environment in terms of indoor air quality, noise pollution from bells and environmental impacts of cemeteries, as the majority of Greeks are Orthodox Christians and Orthodox Christianity is the official religion of Greece. A survey was conducted using a structured questionnaire. 550 questionnaires were considered valid and analyzed. Results indicate that the majority of respondents do not bothered by the bells and they do not believe that the bells should be eliminated but they believe that the external loudspeakers of churches should be eliminated. In addition, the respondents consider that health and the environment are not burdened by the atmosphere inside church due to candles and they are not bothered by them. However, they agree with the solutions of churches, as the lighting of candles either outdoors or internally under a fume hood. In the case of cemeteries, the respondents believe that cemeteries burden the environment but they do not select the cremation as alternative solution. From the results it seems that the respondents have a tolerant attitude towards certain religious activities, although they may be aware of their negative impact on the environment and health.

KEYWORDS

Environment; Indoor air quality; Noise pollution; Religious activities;

1. INTRODUCTION

Many studies show that religious activities, such as candles, bells, cemeteries etc, have an impact on the environment ^[1-3].

Churches are used to perform sacred rituals and that is why several hundred people can be present there ^[4]. Burning incense and candles is an indispensable part of many rituals in churches industry ^[5,6]. The indoor burning of candles is by far the major source of air pollutant indoors, followed by the burning of incense, while a considerable indoor source of

CO₂ is the human metabolism ^[6]. This may pose significant risks in terms of respiratory health effects on humans ^[7], while may result in material deformation and microbial growth, threatening pieces of art, into church ^[8].

Furthermore, the management of the dead is also an important religious activity with the burial of the dead being found in the depths of the centuries. The burial of the dead in cemeteries is today the most common choice of religions, while the cremation is the second choice. Contamination of underground soils and aquifers is possible impacts caused by cemeteries ^[9]. In addition, there are secondary

physical impacts, which occur when there is presence of bad smell in their internal areas, coming from the gases of the decomposition of the corpses ^[9]. Cremation, an alternative which has evolved in recent decades, also causes a series of environmental problems because of their toxic effects and health implications ^[9].

Finally, another religious activity is the ringing of bells, both to show the time and to invite the faithful to religious ceremonies. Church bell ringing events increase the probability of additional awakening reactions that would not take place if the ringing were suspended during nighttime ^[10]. The most important predictor for awakening appears to be the maximum sound pressure level of a ringing event. However, the sound of the bells can be seen as marks of its sound and does not seem to be significantly related to the general annoyance ^[3].

Although there are a number of studies concerning the impacts of religious activities on the environment, the opinion of citizens on these impacts is missing from the international literature. In this study we investigate the opinion of the inhabitants of Athens, the capital of Greece, on the impact of the religious activities on the environment. The majority of Greeks are Orthodox Christians and Orthodox Christianity is, from article 3 of the Greek Constitution, the official religion of Greece. In Greece there is an interrelationship of Church and State. On contrary of other countries, in Greece there is no separation of activities of the “cosmic” state from the church of Greece.

This work is focused on the main impacts of orthodox religious activities in Greece, such as indoor air quality, noise pollution from bells and environmental impacts of cemeteries.

2. METHODOLOGY

The survey was conducted from March to April 2019 in Athens. The data were collected using a structured questionnaire, addressed to the inhabitants of Athens area (aged >18 years old). 550 questionnaires were considered valid and analyzed.

The questionnaire consists of three sections. The first section includes introductory questions regarding respondent's general views on Orthodox religion and on Orthodox religious activities. The second section examines the opinion about the impact of religious activities on the environment, while the third one records the socio-demographic data of the respondents.

The survey questionnaire consists of closed-ended questions and the majority of the responses are measured using a five-point Likert scale, ranging from 1 to 5: 1: 'not at all', 2: 'little', 3: 'moderately', 4: 'much', 5: 'very much'. Participants' responses were analyzed using descriptive statistics: the mean value and standard deviation of the answers and the frequency distribution of each answer is calculated.

3. RESULTS AND DISCUSSION

3.1 Socio-demographic characteristics of the sample

The sample consists of 47.9% males and 52.1% females, the average age of both genders are 43.8 years. Also, more than half (54%) of the respondents are married, while the 62.7% have children. The majority (58%) of the respondents have university education, while the 24% have a primary/secondary school education level. Regarding occupation, almost the half of the sample consists from private employees (42.2%) and 25.8% are self-employed. The 28.7% of respondents are full-time employees, while the majority of them are part-time employees and employees with a service block (24.2% and 29.4% respectively). Finally, the annual total family income corresponds to 10.001-20.000€ to 56.0% of respondents.

3.2 General for Orthodox religion

Questions related on citizens' opinion on religion present that, the majority of respondents (55.4%) have a “great” and “very great” degree of faith in God. Almost all of the respondents don't have visual contact with any

church (93.8%) in their area of residence, while the 52.2% of respondents attend “moderately” on church ceremonies (52.2%) and are aware “moderately” the “beliefs” of the Orthodox religion (53.5%).

In addition, almost all of the respondents (94%) do not believe that religion was created to subjugate the human spirit. Although the majority of the respondents appear to regard Orthodox religion as important, they are unaware of the laws and regulations that govern it (94.9%, 48.0% “not at all” and 46.9% “little”) and they consider that the Orthodox Church respects “moderately” (94.2%) the state’s current laws on religious activities. Furthermore, almost all of the respondents (98.5%) agree that church should not be excluded from environmental regulations. Finally, the majority of the respondents (87.8%) consider that Orthodox Church should not be separated from the state and Orthodox Church should not own any immovable (96.7%, “not at all” and “little”) or movable (79.8%, “not at all” and “little”) property, while the majority of respondents (99.6%) believe that church’s management to be “moderately” correct.

3.3 Bells and external loudspeakers

Regarding the bells and the external loudspeakers of the churches, the majority of respondents (71.8%) do not consider that there is a noise pollution problem in Greece and they are not bothered by the bells daily (92.2%) or occasionally eg. Holiday season, in terms of frequency (55.6%) and intensity (55.9%). Furthermore, they consider that the environment and the health are burdened “little” (51.9%) and “moderately” (38.0%) by the sound of the bell and the external loudspeakers.

In addition, although the respondents are “moderately” (37.5%) and “much” (34.8%) aware of the health impacts of noise pollution, they believe “little” that the bells should be eliminated (46.2%), while one in five respondents considers “much” and “very much” (20.4%) that the bells should be eliminated. On contrary, the respondents believe “much” and “very much” that the

external loudspeakers of churches should be eliminated (59.1%, 41.3% and 17.8% respectively).

3.4 Atmosphere inside church

The 88.2% of respondents know “little” and “moderately” (43.8% and 44.4% respectively) about what candle lighting means and consider it “little” (27.1%) and “moderately” (46.2%) necessary to light a candle in the interior of church. The majority of responders are bothered “not at all” and “little” by the atmosphere inside church because of candles (88.5%, 52.9% and 35.6% respectively). Furthermore, the respondents are “moderately” (41.1%) and “little” (34.7%) aware of the effects caused by the inhalation of the candles fumes on health, while they consider that the environment and the health are burdened “not at all” and “little” by the atmosphere inside church because of candles (93.2%, 36.0% and 57.2% respectively). However, they agree with the alternative solutions of churches, as the lighting of candles either outdoors or internally under a fume hood: 41.1% “moderately” and 38.0% “much”.

3.5 Management of the dead

Almost all of the respondents don’t have visual contact with any cemetery (97.3%) in their area of residence. However, they consider that cemeteries burden “much” and “too much” (52.5%, 26.5% and 26% respectively) the environment and health.

The majority of respondents are aware “much” that there are environmental regulations for cemeteries (64.9%) and the effects of cemeteries on environment and health from non-compliance with environmental regulations (57.8%), while 62.8% of them consider that cemeteries do not comply with the environmental requirements of the legislation (22.2% “not at all” and 40.7% “little”).

Finally, although the majority of the respondents believe that cemeteries can burden the environment, they agree “not at all” and “little” with the cremation (55.5%, 32.0% and 23.5% respectively) and it would be

“not at all” and “little” personal choice (55.6%, 38.7% and 16.9% respectively).

4. CONCLUSIONS

From the search it appears that a large number of respondents believe in God and declare that church should not be excluded from environmental regulations. Furthermore, they have a tolerant attitude towards certain religious activities, although they may be aware of their negative impact on the environment and health. In case of bells, the respondents believe that there is not a noise pollution problem in Greece, they are not bothered by the bells daily and they declare that the bells should not be eliminated, while they declare that the external loudspeakers should be eliminated.

In addition, the respondents are not bothered by candles and fumes inside the church and do not consider that health and the environment are burdened because of them. Finally, the respondents believe that cemeteries can burden the environment and health but they do not select the cremation as an alternative choice.

This tolerant attitude may be due to the fact that the respondents have linked many religious activities such as lighting the candle and ringing the bell with the history of the Orthodox religion and do not accept changes in the implementation of these activities.

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