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## **USING THE FIVE-POINT LIKERT SCALE TO ASSESS THE ECONOMIC AND SOCIAL IMPACTS ON THE LOCAL COMMUNITY OF THE MOST IMPORTANT NATURAL RESERVES**

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### **Abstract**

*This research was carried out in the Al-Shouh forest located in the reserve of Cedar and Cilician fir in Slonfeh - Lattakia governorate in the Syrian coastal mountains region, which is one of the most important threatened forest ecosystems in Syria.*

*The aim of the research is to assess the economic and social effects of the reserve of Cedar and Cilician fir from the local community' point of view of, and then evaluate the determinants of the population's satisfaction with this reserve using discriminant analysis, while satisfaction was measured using the five-point Likert scale. The research was based on preliminary data for a random sample of families living in the vicinity of the reserve in 2021. The size of this sample was 100 families. The focus was on interviewing the household hid to obtain the required information through the study questionnaire.*

*The results showed that the overall evaluation of the reserve from the point of view of the sample members according to the Likert scale tends in favor of the acceptance categories (positive) with an average of 3.5 points, which indicates the positive role of the reserve at the level of the local community.*

**Keywords:** Cedar and Fir Reserve, Economic and social effects, Syria.

**Introduction:**

The establishment of protected areas is a major strategy for preserving plant biodiversity. Currently, 3.4% of the planet's water area and 14% of the Earth's land area are protected. In 2014, the total protected area in the world, including oceans and land, was about 32 million square kilometers [1].

The establishment of the reserve was accompanied by many changes in the local community as a result of the impact on local resources. At a time when the local community was deprived of timber and other resources, the reserve contributed to the creation of new resources and granted the local area an eco-tourism status.

The success of the reserve requires the participation of the local community and their acceptance of it, and determining the relationship of satisfaction and acceptance of the local community towards the reserve depends mainly on the direct effects of this reserve.

The research relied on two types of data: primary data, which was obtained through a preliminary questionnaire, during which a set of questions or paragraphs were formulated to express the economic and social effects of the reserve on the local community in general and on the targeted family within the random sample in particular. Where the five-point Likert scale was used as a unified measure to measure the household's response towards these items, and the second type is the secondary data issued by official institutions such as the municipalities and the Directorate of Agriculture of Lattakia, which were used in determining the sample size.

Determining the relationship of satisfaction and acceptance of the local community towards the protected area depends mainly on the direct effects of this protected area, as long as these effects are positive, it leads to the cooperation of the local community in the management and strengthening of the protected area, and then a balanced and sustainable strategy can be put in place to improve the management of the protected area in order to enhance the positive effects and reduce The negative effects on the local community.

The results of the Perello' *et al.* (2012) study showed the relationship between protected areas and their surrounding areas and their positive and negative impacts both from the perspective of socioeconomics and the protection of plant biodiversity. Resources may lead to conflict with the local community and necessitate a resetting of boundaries [2].

The study area consists of 7 villages, 4 of which are located in Lattakia Governorate (Levin, Bab Jannah, Al-Hajar, Nabe' Al-Bared) and the other 3 are located in Al-Ghab (Ain Jurin, Jurin, Al-Farika) in Hama Governorate.

The total number of families in this region was about 1467 families, which represents the total framework of the statistical community. 100 families were selected using the simple random sample method based on random tables. Where they were distributed at the rate of (14-15) families in each village of the reserve

The level of education of the head of the household was measured based on the educational certificate obtained and, accordingly, the higher education

certificate. The expression of the study sample has been edited, as shown in Table (1).

The level of education of the head of the household in the study sample was distributed table 1.

*Table 1*

Relative frequency (%)	Education level of the head of the household
16.1	primary
11.8	preparatory
22.0	secondary
19.0	institute
31.1	university
100.0	Total

It is clear from the previous table that there is a great diversity in the level of education of the head of the family in the study sample, and we note that the largest concentration is represented in university education, followed by secondary education.

The family income in the study sample ranged between (100-500) thousand SP, with an average of 232 thousand SP and a standard deviation of 69249.2 SP. The sample was divided according to the value of income into four groups of equal frequency according to the quartiles.

The percentage of households that own agricultural land reached 80%, and the average area of the owned holding ranged between

(1-6) dunums, with a mean of 4.2 and a standard deviation of 1.654. The farm area in the study area was distributed among four main crops

We note that tobacco occupied the first rank in terms of the cultivated area with a relative importance of 24.1%, followed by home vegetables, apples, and then cherries, while wheat occupied the last rank in terms of the cultivated area with a relative importance of 10.1%.

As for animal production, it takes place on a limited scale in the study sample, and includes four main activities as shown in Table (2).

The main activities of animal production at the sample level table2.

*Table 2*

The average number of flock heads or the number of cells	household ratio%	Activity
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1	8	Breeding cows
2	23	Breeding sheep
2	6	Goat breeding
5	40	Raising chickens
3	29	Beekeeping

It is clear from the previous table that domestic chicken breeding is the most prevalent with a percentage of 40% of the sample families, followed by beekeeping with a percentage of 29%, then sheep breeding with a percentage of 23%. On the other hand, we note a decrease in the size of the herds at the household level, especially for cows, to be limited to about 1 head only.

The process of collecting medicinal plants is one of the main activities carried out by the local community, relying on forest resources, as the percentage of households that carry out this activity reached 78%. As for the purpose of this activity, it is divided between self-consumption and trading

The forest resources surrounding the local communities are characterized by diversity, which makes them suitable for many economic uses, especially in the field of agriculture and the environment

We note that the utilization of wood is the most frequent among households, followed by pastures for honey bees, then grazing of cows or sheep, then tourism and recreation, while the utilization of forest soil as agricultural soil is limited to 9% of these households.

From the foregoing, it is clear that the total response of the respondents to the twenty-three items according to the Likert scale was distributed by 61.8% in the acceptance categories and 23.5% in the rejection categories, while the remaining 14.9% was distributed in the neutrality category only. This generally reflects the high level of satisfaction of the local population with the reserve, and this is consistent with many previous studies, including the study [3].

#### **Conclusion:**

Forming a committee to inventory the reserve's resources and exploiting them economically in a sustainable manner, working to diversify sources of income by benefiting from the reserve's resources, especially by focusing on small projects, organizing medicinal plant collection activities in cooperation between the local community and the reserve's administration, and prioritizing private or government employment opportunities for the local population.

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## **FIRST STUDY OF THE EFFECT OF THE SYRIAN NATURAL ZEOLITE ON THE INDOOR AIR BACTERIA POLLUTION IN BROILER BARNs**

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**Abstract.** *From the field of agriculture, broiler production, public health and environmental protection in broiler farms point of view, in view of absence studies concerned with the effect of the natural zeolite on the total airborne bacteria concentrations in the indoor air of broiler farms in the Syrian Arab Republic, locally, regionally and globally in summer season. This study was conducted for the first time. By finding new method to control high levels of the air biological contamination in broiler farms.*

*This article describe the effect of three different levels of the Syrian natural zeolite  $Tz_1$  (25%),  $Tz_2$  (50%) and  $Tz_3$  (75%) on the air bacterial load concentrations in broilers farms. And the recommendations needed to further researches in this field, adding different levels of natural zeolite to the broiler litter.*

**Keywords:** *Airborne bacteria, Broiler, Natural zeolite, Staphylococcus.*

**Introduction:** Litter is one of the most important sources of bio pollution, and considered as the main container of birds' manure and wastes. The quality of the litter used, and its management, temperature, the acidity, all of these factors are responsible for increasing the concentration of the airborne bacteria in the air of the