



ORIGINAL ARTICLE

## Identification the Effect of Dusts to the Beekeeping industry in Ilam city

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### ABSTRACT

*Ilam is one of the provinces in the field of beekeeping. One of the most important environmental crises in arid and semi-arid zones, desertification and wind erosion is damaging phenomenon. Thumbnail movement of dusts from dust storms and their consequences are. Therefore, this study aimed to identify the effects of dusts little city Elam took the beekeeping industry. The study of the nature of quantitative and survey research is considered. The goal is to be applied. Environmental factors with eigenvalues 3.021 as the first factor alone is about 20.841% of the total variance. Social damage, as the second and third factors were identified as psychological factors. Reduced motivation, as the fourth and last factor of 1.669 for the lowest value of the total variance (11.325%) for the explanation.*

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### INTRODUCTION

One of the most important environmental crises in arid and semi-arid zones, desertification and wind erosion is damaging. Thumbnail movement of dusts from dust storms and their consequences are. In recent years, dust storms in the desert in the Middle East, especially Saudi Arabia and Iraq, a country with a lot of harmful effects have. Its scope is drawn to large cities The extent of the damage this phenomenon is not limited to threats, agricultural land and industrial areas, but also to disrupt the lives of ordinary citizens has become a serious threat to the environment, public reaction has been followed. Only once, in the summer of 2009 collecting dust for a few days visiting an area equivalent to half of the country's 12 provinces, mostly in aircraft flight was canceled on 15 and 16 July [1].

Based on evidence that this phenomenon is global in leaves, experts with different tools such as satellite imagery, maps, weather, and different statistical methods to review, to identify the sources and effects of measures to reduce the possible damage done due to the dust. Scientists are three major global challenges of the 21st century, climate change, water scarcity and desertification have announced. Extent of damage and consequences of drought and desertification in such a way that large areas of agricultural land, forestry, especially in arid and semiarid countries will be affected. Estimates suggest that wind erosion in arid and semi-arid areas, about 24% of agricultural land and 41 percent of rangelands affects the rate of moderate to severe [2].

One consequence of this phenomenon challenges the fine powders of the desert and its damaging effects on critical areas. Tiny dust phenomenon that until a few years ago and the border provinces of the country, especially during April, is now eight months since found its way on to all provinces in the country with skirt Expand gone (ibid source).

Ilam is one of the most active provinces in beekeeping, beekeeping sporadically in the city where they operate. Hive colony of 520 thousand annually in the province between 300 to 400 tons of honey is produced. The city operating in the industry, the city of Ilam 340 people in this city who are working in this industry. An important issue in relation to the impact of direct and indirect effects of fine dusts to the beekeeping industry for this. The direct effects, can be reduced, thus reducing the number of colonies and bee activity, pollen loss, loss of visibility and recognition Bumblebee, and the indirect effects that could be a shortage of nectar, pollen shortage of problems related to pollination and disrupt mating of queens

named. Therefore, due to the problems mentioned in Ilam city beekeeping industry, this study intends to identify the effects of dusts fine?

In recent decades, seeking urban development, technological progress in the industrial world, drastic changes in climate, steady and prolonged droughts, pollution, a growing trend has come and is one of the most constant companion of human societies. Air pollution, by means of mixing air with gases, droplets and particles which alter air quality. Among the various factors incriminated in the dirt, geographic and climatic factors as the cause unpredictable natural and man-made factors (caused by improper human activities occur), as artificial and controllable factors examined fall [3].

Hamdam *et al* [4] conducted a study entitled "Effects of fine dusts to the various ecosystems" did. The study shows dust; positive effect on forest ecosystems, food supply is far from the origin. The closing of the stomata of the leaves of oak trees rise from the dust and destruction caused by drying the oak forests of Ilam. Dust, the origin of the loss of topsoil, but at the deposition surface with a wide range of rich food.

Ismaili Fathizadeh [5], a study entitled "Statistical analysis of biological origin and micro-climate pollen Ilam" did. In this study, stated that, Ilam province in western Iran, the point is not to exclude the existence of phenomena and effects of dusts fine dust of various aspects, if not more than other western cities, not less. In this paper, we study the dust in Ilam, this phenomenon statistically, environmental and climatic analyzed and statistical comparisons to determine the color composition of vegetation 445 was the result of important factors for the occurrence of this phenomenon and its extreme dryness of the Mesopotamian wetlands of southern Iraq and Saddam was late.

Wu *et al* [6] and Wang *et al* [7] in a study entitled ". The impact of the Saharan air layer on hurricane intensity plant" a strong relationship between hurricane intensity peak occurred in Africa occurred in the area of North Atlantic observed. The dusts of the desert, sometimes to Florida in America have led to the darkening air in this region. Dust North America California Channel Island and East Pacific passed. Ukraine receives dust from Slovakia. Dust from Australia Lake area in the East Antastica, accumulate.

Anthony [8] in a study titled "The Dust: The effects of dust on the leaves of the forest-dense" to examine the direct effects of dust on vegetation. His results showed that the food on the leaf surface from dust, on the one hand can lead to increased leaf growth. But on the other hand, can reduce the amount of light that reaches the leaf photosynthetic apparatus, which leads to a reduction in leaf photosynthesis is at least 20 percent. This herb may increase your body food that is both vertebrate and invertebrate herbivores boost, which reduces the photosynthetic capacity of the plant.

The overall goal of this research, the identification of fine dusts to the beekeeping industry is the city of Ilam overall goal is to achieve the following specific objectives have been considered.

## **MATERIALS AND METHODS**

In this study, the quantitative nature of the study and the survey is considered. For the purpose of research, achieving the same principles that are applied in practical situations to help improve procedures.

Applied research aims to develop practical knowledge in a particular field. The population in this study included all beekeepers is that the number 340 is the city of Ilam. In the present study, the sample population included 340 people. Thus, the census method used. The 340 questionnaires, 172 completed questionnaires by the beekeepers.

In this study the data sets by means of questionnaire consisting of four sections extrusion. The first part included demographic characteristics beekeepers, and the second part contains the properties of a professional beekeepers is the third part of the questionnaire on the economic effects of dusts fine beekeeping industry in the form of 5-point Likert been proposed and the fourth is about the social effects of dusts on small-area beekeepers who like third part in a 5-point Likert raised.

In this study, the Cronbach's alpha was used to check the reliability of the scales. In order to assess reliability, a total of 30 questions from a questionnaire that its validity has been confirmed and the final corrections have been made on them; in the study population by conducting preliminary tests were completed. After completing the questionnaire, responses were collected and analyzed. Finally, the Cronbach's alpha coefficients for the questionnaire were analyzed using SPSS statistical software (table 3-5), where the coefficient is statistically significant and implies acceptance of its reliability.

According to the study, descriptive statistics and factor analysis will be used. The descriptive statistics to categorize groups of subjects of different traits and characteristics of population distribution table, percentage, cumulative percentage, measures of central tendency (mean, median, Front) and dispersion (standard deviation) of cause. Next, using factor analysis of items on the economic effects of dusts fine beekeeping industry and micro effects of dusts on the social situation of beekeepers in the category are extracted. Above will be performed using SPSS software.

This study uses factor analysis to summarize the economic effects of dusts fine beekeeping industry in the city of Ilam. For this purpose, 26-economic impact, according to earlier studies on the Likert scale (very low, low, medium, high, very high) was placed at the disposal of bee owners; their insights into the effects of the express their impact. Factor analysis helps these factors could be classified into several general factors to identify the most important factors as the extent to which each said.

**RESULTS AND DISCUSSION**

In order factor analysis in this study are generally in the following steps: Determining the suitability of data for factor analysis using KMO and Bartlett test statistics: If the value of KMO is less than 0.5, the data for factor analysis was not appropriate. If it is between 0.50 to 0.70 correlations in the data is suitable for factor analysis. However, caution should be taken if it is larger than 0.70 variables will be pretty good. KMO and Bartlett's test for the factor analysis in Table 1, as can be seen that the data are suitable for factor analysis.

Table 1: Value of KMO and Bartlett test the effects of fine dusts to the economy from the perspective of beekeepers beekeeping industry

Sig.	Bartlet Test	KMO	Factor Analysis
0.000	1.3983	0.700	Effects of Small dusts on the economics of beekeeping

Determine the number of factors:

One of the main issues in factor analysis to determine the number of factors could be derived. However, the exact basis for deciding on the extracted factors was provided. But there are rules that specify the number of extracted factors used in deciding which criteria are:

- 1. Criteria eigenvalues. 2 previous criteria. 3% of the variance criteria. 4 benchmark test cuts.

As noted above, one of the important factor analyses to determine the number of factors could be derived. At this stage, the number of extracted factors with eigenvalues, percentage of variance and cumulative percentage of variance in Table 2 are calculated to be visible.

Table 2: Extracted factors with eigenvalues, percentage of variance and cumulative percentage of variance

Percent of cumulative variance.	Percent of the variance of eigenvalues	Eigenvalues	Factors
22.288	22.228	5.795	1
37.757	15.469	4.021	2
50.576	12.819	3.332	3
56.629	11.053	2.873	4
67.179	5.550	1.443	5

As the results of the factor analysis in Table 2 indicates, the economic effects of dusts fine beekeeping industry in the region, the five factors were identified that these five factors together 67.179% of the total variance they. Production of the first factor, the specific value of 5.795, only about 22.288% of the total variance, which suggests the importance of these factors.

Factor rotation:

The order of rotation in factor analysis, whirl around the center of the coordinate axes is rotated when doing the agent's interpretation is simply not possible. Therefore, in order to simplify the interpretation of the factor structure and allowed them to spin factor used (Mansorfar, 2001). There are many ways to spin the varimax method was used in this research

Operating Name:

Final factor analysis, the factor called factor matrix is extracted. The statistical aspects of the process rather than be dependent on the researcher's perceptions and interpretation of research purposes. Table (3) each of the named operating with the relevant variables and their factor loadings are shown. Factor analysis of fine dusts to the social status of the study area beekeepers comment:

Express their impact. Right amount of data KMO and Bartlett test statistic is given in Table (4), that is favorable items. To determine the effects of dusts on the social situation of beekeepers little city Elam, 13 social work fine dusts to you (according to earlier studies on the Likert scale) made available to beekeepers. His insights about the effects and their impact, express

Right amount of data KMO and Bartlett test statistic is given in Table (4), that is favorable items.

As the results of the factor analysis (Table 5) show small effects of dusts on the social situation of beekeepers in the region, the four factors were identified that these four factors together have 59.632% of the total variance.

Mental effects caused by the occurrence of fine dusts to as the first and most important factor, with eigenvalues 3.021, about 20.841% of the total variance. Table (6) Each factor is named with the relevant variables and their factor loadings are shown. The number of extracted factors with eigenvalues, percentage of variance and cumulative percentage of variance for the effects of fine dusts to the social situation in tables (5) Calculated as visible.

Factor analysis of the economic effects of dusts fine views of the beekeeping industry in Guyana answer: Factor analysis showed that from the perspective of beekeepers, beekeeping industry works fine dusts to the economy in the region, the five factors, were identified

These five factors, a total of 79.167% of the total variance, respectively. Production factors, the first factor, the specific value of 5.795, only about 22.288% of the total variance, which suggests the importance of these factors. The second factor is the cost factor. The third factor relates to the economy and the agricultural sector is the fourth exit. Dependence was recognized as the fifth factor, which is a factor of 1.443 for the lowest value of the total variance (5.055 percentage) has explained.

Table 3: Indicators of tiny effects on the economy of the beekeeping industry, items and corresponding factor loading

Load Factor	Variables	Factor
0.817	Reduced yield per hive	Manufacturing
0.424	Hive depopulation	
0.783	Degradation products	
0.715	Reduce of value of reduction	
0.763	Decrease in the efficiency of inputs	
0.325	Increased use of inputs.	Cost
0.499	Damaging inputs and equipment	
0.594	Increase in consumer prices of inputs	
0.492	Increases in farm costs	
0.611	Reduce investment beekeeper beekeeping industry	Economic power
0.374	Decrease in revenue from sales of products	
0.431	Purchase reduce the apiaries	
0.610	Reduced prices of production	
0.627	Reduction or loss of personal savings	
0.628	Reduced consumer purchasing power inputs	
0.707	Apiaries to reduce in the profitability of fine dusts	
0.822	Turning to second jobs, because of the small effect of dusts on yield and revenues from sales of products	Leaving of section of agriculture
0.777	Increasing levels of personal debt (debt to suppliers of inputs, etc.)	
0.504	Rising unemployment and falling employment	
0.618	Increasing poverty among beekeepers	
0.587	Reduction of apiaries by beekeeper	
0.823	Pre-sale and self-buy products because of the urgent need for money	
0.781	Increasing need to support state beekeeper	Dependence
0.641	The loss of product market	
0.644	Inadequacy of support packages	
0.776	Reduced surplus for market	

Table 4-31, the KMO and Bartlett's test of fine dusts to comment on the social status of Beekeepers

Sig.	Bartlett Test	KMO	Factor Analysis
0.000	549.708	0.710	Small effects of dusts on the social situation of beekeepers

Table 5: The extracted factors with eigenvalues, percentage of variance and cumulative percentage of variance

% Of cumulative variance.	Percent of the variance of eigenvalues	Eigen values	Factor
20.841	20.841	3.021	1
32.166	14.616	2.011	2
45.0611	12.85	1.901	3
59.632	11.325	1.699	4

Factor analysis on the social effects of dusts fine Beekeepers from the perspective of the study area:

Factor analysis showed that the beekeepers perspective, the social effects of tiny pollen on four factors were identified that these four factors together 59.632% of the total variance, respectively. Environmental factors with eigenvalues 3.021 as the first factor alone is about 20.841% of the total variance. Social ills as the second and third factors were identified as psychological factors. Reduce incentives as the fourth and last of the 1.699 the lowest eigenvalue of the total variance (11.325%) for the explanation.

Moving towards the goal, is slowed by limitations as a matter of fact. Limitations of the study, pointed to factors that can be controlled by the researcher at the beginning or during the research process and do not have direct control over them. Through scientific instruments and operational success it can have little control.

Table 4-The tiny effects of dusts on the social situation of beekeepers, items and corresponding factor loading

Load Factor	Variables	Operating
0.484	Family welfare cuts	Environmental
0.654	Not wanting to continue beekeeping business	
0.628	Sense of skepticism about the beekeeping activity among young children	
0.711	Impact on the health of the apiaries	
0.484	Creating and promoting industry and plant disease	
0.729	Increased migration	Social damage
0.539	Cynicism and dissatisfaction with the government's policy support	
0.743	Disruption of traffic and business	
0.757	Reduced the sympathy and cooperation among beekeepers in group activities	Mental
0.641	Incidence of psychological distress (hopelessness and anxiety) in beekeeping	
0.503	Rising tensions between beekeepers to select location of apiaries	
0.584	Reduce the incentive to engage in advocacy training courses	Reduce incentives
0.815	Reduce the incentive to continue or expand the beekeeping	

The major limitations of this study include:

- Lack of sufficient information about thumbnails of dusts and the beekeeping industry;
- Distribution of the population and the difficulty in completing the questionnaire;

Lack of cooperation by some of the respondents in completing the questionnaire and the study included the following recommendations can be made:

The results showed that the factors of production, costs and economic power as the first three, the economy have contributed to the beekeeping industry. Therefore, it is recommended that the government provide the necessary facilities and infrastructure for beekeepers; it is to encourage greater investment in the industry. Thereby reducing costs and increasing economic power of the beekeeper.

Based on the results obtained from the analysis, leaving the agricultural sector and the dependence of other factors are known.

Recommended that the government give credit to production cooperatives, and distributors to provide inputs, prepare the necessary infrastructure to create markets for the sale or export of products beekeeping industry, to reduce dependence on the industry and thus leaving the agricultural sector to bring down a significant amount.

Step 3: Factor analysis indicated that environmental factors affected the social, psychological, known as the three factors, the social situation of beekeepers involved.

Therefore, it is recommended to ground for the establishment and development of beekeeping activities conducted in the study area and this will prevent the migration.

Due to lack of organized training courses with fine pollen recommended that the course is offered to meet the micronutrient content of dusts, its effects and the introduction of TOP beekeeping industry, the expression of order to increase the methods productivity, motivation for active beekeepers beekeeping industry raised.

Establish and operate a facility for women, given that women have very little activity in the beekeeping industry and their number is small. In this context, it may be cultural and leisure facilities and incentives to encourage women to enter the field more.

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