


# Investigating the employment status of environmental health graduates from Ilam University of Medical Sciences between the years 2008-2018

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Article Info	ABSTRACT
<p><b>Article type:</b> Original article</p> <p><b>Article History:</b> Received: Aug. 16, 2024 Revised: Sep. 23, 2024 Accepted: Oct. 27, 2024 Published Online: Dec. 27, 2024</p> <p> <b>Correspondence to:</b> Ali Amarlouei Department of Environmental Health Engineering, School of Public Health, Ilam University of Medical Sciences, Ilam, Iran</p> <p><b>Email:</b> amarloei@yahoo.com</p>	<p><b>Introduction:</b> In many countries around the world, one of the main factors in providing quality services is trained human resources. Because the higher education system is responsible for assessing the community's needs in terms of specialized human resources. The increase in graduates in the field of Environmental Health has caused employment issues for them, so many graduates are taking jobs unrelated to their field of study. Therefore, the present study was conducted with the aim of investigating the employment status of Environmental Health graduates from Ilam University of Medical Sciences between the years 2008-2018.</p> <p><b>Materials &amp; Methods:</b> This study was cross-sectional. Initially, by making phone calls to graduates from the years 2008-2018 and using a self-made questionnaire consisting of two sections: personal information (6 questions) and employment status (11 questions), the necessary information was collected and analyzed using the SPSS20 software.</p> <p><b>Results:</b> The results showed that 53.01% of the graduates were employed, with 9.45% of them working as part of the service commitment plan. There was a 76.1 % correlation between employment and educational qualifications among employed graduates. 85.4% of graduates were employed in the public sector.</p> <p><b>Conclusion:</b> Graduates of the Environmental Health program are in a relatively good situation in terms of employment rate, the number of years waiting to enter the job market, the match between their job and degree, and the type of job (public or private). However, unfortunately, job satisfaction among these individuals is low.</p> <p><b>Keywords:</b> employment status, graduates, environmental health major, Ilam University of Medical Sciences</p>

## ➤ How to cite this paper

Qudosinia AH, Amarlouei A. investigating the employment status of Environmental Health graduates from Ilam University of Medical Sciences between the years 2008-2018. *Journal of Health Sciences Perspective*. 2024; 1(1):35-41.

## Introduction

The issue of employment and individuals' access to their desired jobs is considered one of the fundamental needs of a society. Unemployment, as a destructive social, economic, and cultural phenomenon, has been a major concern for the country's planners. Unemployment is caused by reasons such as the increase in labor supply, lack of investors, migration of villagers to cities, the rise in women's participation in economic activities, the increase in university graduates, the youthfulness of the population, and so on. It results (1). The population increase due to births in the years 1986-1976 and their emergence as a labor supply caused the amount of human resources to significantly outpace job opportunities, leading to a rapid expansion of the unemployment problem and resulting in the waste of human resources. The increase in population and the subsequent rise in human resource capacities have made the necessity for increased employment in the country more evident than ever. In recent years, with the increase in graduates from various fields, their employment has faced challenges. As a result, many university graduates engage in jobs unrelated to their field of study, leading to a waste of resources and human investments. Additionally, in recent years, with the increase in graduates from various fields, their employment has faced challenges. As a result, many university graduates engage in jobs unrelated to their field of study, leading to a waste of resources and human investments (2). Investment in human resource education will only be fruitful when graduates, as the products of this system, occupy the specialized positions for which they have been trained and avoid employment in other ancillary and non-specialized sectors that lead to the wastage of all the invested resources (3). In most countries, one of the main factors in providing desirable qualitative and quantitative services is trained human resources. The healthcare sector is not separate from this topic either. The expansion of healthcare needs has faced health systems in all countries with an increased demand for workforce. The importance of proper human resource planning is such

that most countries allocate significant budgets annually for human resource studies in the medical sciences group. Having a sufficient number of efficient and high-quality human resources in the field of medical sciences is one of the main objectives of planning in medical human resources and is important for the country's needs (4). Environmental health specialists can work in municipalities, hospitals, the Ministry of Health, water and wastewater companies, consulting engineering firms, the Environmental Protection Agency, health training centers for industries, health service companies and vector control agencies, self-monitoring and self-declaration companies, and more. Considering that the higher education system is responsible for assessing the community's needs in training specialized workforce, the present study was conducted with the aim of investigating the employment status of Environmental Health graduates from Ilam University of Medical Sciences between the years 2008-2018 (5). It is hoped that the results of this study can assist officials in determining the admission capacity for incoming university students.

## Materials and methods

This cross-sectional study was conducted in 2020 with the aim of investigating the employment status of Environmental Health graduates from Ilam University of Medical Sciences between the years 2008-2018. To collect information, a questionnaire consisting of two sections: personal information (6 questions) and employment status (11 questions) was used. The necessary permission was obtained from the Educational Deputy of Ilam University of Medical Sciences, and by obtaining the contact numbers of the graduates from the university archives and making phone calls to 409 university graduates in the mentioned courses at three levels: associate degree, non-continuous bachelor's degree, and continuous bachelor's degree in Environmental Health, information from 166 graduates was collected. Then, these data were analyzed using the SPSS 20 software.

## Results

In Table 1, the demographic characteristics of employed graduates in the Environmental Health field between the years 2008-2018 have been examined. As shown, 31.8% of

the employed individuals are in the age group of 27-31 years, and 53.4% of the employed individuals are women.

**Table 1.** Status of the demographic characteristics of graduates in the Environmental Health field employed between 2008-2018

Variable	Variable label	Study participants (%) Number	Employed (%) Number
Age (years)	22-26	27(16.26)	13(14.8)
	27-31	67(40.36)	28(31.8)
	32-36	44(26.5)	21(23.9)
	37-41	11(6.63)	11(12.5)
	42-46	6(3.63)	4(4.5)
	47-51	10(6.02)	10(11.4)
	52-56	1(0.6)	1(1.1)
Certificate	Associate degree	6(3.5)	1(1.1)
	Bachelor's degree	148(89.3)	81(92)
	Master's degree	11(6.6)	5(5.7)
	Ph.D	1(0.6)	1(1.1)
Gender	Female	114(68.68)	47(53.4)
	Male	52(31.32)	41(46.6)

In Table 2, the employment status of graduates in Environmental Health Engineering from Ilam University of Medical Sciences at various levels is shown. As observed, 53.01% of the graduates were employed, with

9.45% of them working as committed service plan personnel, and 35.24% of the Integrated bachelor's degree graduates were employed.

**Table 2.** Employment Status of Graduates in Environmental Health between 2008-2018.

Educational level	Number available	Number of employees (%)	Unemployment rate (%)
Associate degree	33	12(13.63)	21(26.92)
Discontinuous Associate's degree	59	45(51.13)	14(17.95)
Integrated Bachelor's Degree	74	31(35.24)	43(55.13)
Total	188	88(53.01)	78(46.99)

In Table 3, the job satisfaction status of employed graduates is shown. As observed, 11.36% of the studied graduates were very satisfied with their jobs.

**Table 3.** Job Satisfaction Status of Environmental Health Graduates between 2008-2018.

Level of satisfaction	Number (%)
Very low	15(17.04)
low	9(10.22)
moderate	23(26.13)
high	31(35.22)
Very high	10(11.26)

In Table 4, the status of the number of years that graduates of the Environmental Health field have waited to enter the job market is shown. As shown, 39.8% of graduates waited less than 1 year to enter the job market.

**Table 4.** Status of the number of years waiting for graduates of the Environmental Health field between 2008-2018.

Number of years of waiting	Number (%)
0	35(39.8)
1	18(20.5)
2	10(11.4)
3	8(9.1)
4	9(10.2)
5	2(2.3)
6	1(1.1)
8	3(3.4)
Has not responded	2(2.3)

In Table 5, the relationship between the occupation and the field of study of environmental health graduates is shown. As observed, 76.1% of environmental health graduates have jobs related to their field of study.

**Table 5.** The status of the relationship between occupation and educational degree of graduates in the Environmental Health field between 2008-2018.

Title	There is a relationship number (%)	There is no relationship number (%)	P*
The relationship between job and degree	67(76.1)	21(23.9)	<0.0001

\* The significance level is (P<0.05).

In Table 6, the employment status of graduates working in the field of Environmental Health is shown. As can be seen, 85.4% of graduates have government jobs.

**Table 6.** Employment Status of Graduates in Environmental Health between 2008-2018.

Title	Governmental Number (%)	Non-governmental Number (%)
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Type of Job	76(85.4)	12(14.6)
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In Table 7, the average monthly income of graduates employed in the field of environmental health is shown.

As can be seen, 63.6% of individuals have an average income between (2-5).

**Table 7.** Income status of graduates in Environmental Health between 2008-2018.

Income level (millions)	Number (%)
<2	17(19.4)
2-5	56(63.6)
5-8	14(15.9)
>8	1(1.1)

In Table 8, the status of the provinces where graduates working in the field of environmental health are employed is shown. As can be seen, 85.2% of graduates employed in

the environmental health field are working in their province of residence.

**Table 8.** Status of the province of employment for graduates in the Environmental Health field between the years 2008-2018.

Province of employment	Number (%)
native	75(85.2)
Non-native	13(14.8)

## Discussion

In the present study on the employment of graduates in the Environmental Health program at Ilam University of Medical Sciences, it was found that 53.01% of the graduates were employed, with 9.45% of them working as committed service plan personnel. This low percentage indicates that the number of university graduates exceeds the needs of the job market, so either the admission capacity of universities should be reduced or measures should be taken to employ the graduates. In Mr. Bateni's study on the employment status of graduates in the Medical Records field from the Faculty of Management and Medical Information Science in Isfahan (1991-1996), it was shown that 79.2% of the graduates are employed (6). In the present study, 92% of the employees hold a bachelor's degree. In Ahmad's study in Yasuj on the employment status of sociology graduates (2014), it was shown that 42.22% of the graduates held a bachelor's

degree (9). In the present study, 53.4% of the employed individuals are women, which is due to the higher number of female graduates compared to male graduates in the Environmental Health program at Ilam University of Medical Sciences. In Ahmad's study on the employment status of sociology graduates in Yasuj (2014), it was shown that 48.88% of the employed were women (9). In the present study, the highest employment rate, at 31.8%, is related to the age group of 27-31 years. In the study by Sanaei et al. (2009) on the employment status of graduates in Health Services Management, it was shown that the highest employment rate was in the age group of 25-29 years, with 44.7%, which is relatively aligned. The reason for this is the employment of recent graduates, as most positions in both the public and private sectors have age restrictions (2). In the present study, 13 out of 51 graduates have studied in the discontinuous associate degree program. In the study by Malekoutian and colleagues on the employment status of graduates in the

Environmental Health field in the country during the years 1996-2003, it was shown that 54.6% of employed graduates had studied at the associate degree level (10). In the present study, 36.11% of employees were very satisfied with their jobs. In Pour Kazemi's study on the employment status of university graduates in the country (1996-1997), it was shown that 40.6% of employed individuals were very satisfied with their jobs, indicating a lower level of satisfaction among graduates of Environmental Health at Ilam University of Medical Sciences, which could be due to the relatively low salary received (3). In the present study, 39.8% of graduates waited less than a year to enter the job market, part of this figure is related to the employment of individuals in government projects, and part is related to the employment of graduates with associate and non-continuous bachelor's degrees who had previously entered the job market. The number of individuals who have found employment in recent years after graduation is low. In Pourkazemi's study on the employment status of graduates from humanities and social sciences programs at public universities (1996-1997), it was found that 74.2% of graduates had waited less than a year to enter the job market (3). In the present study, there is a 76.1% correlation between occupation and educational degree among graduates ( $P < 0.0001$ ). In the study by Hosseini and colleagues on the employment status of postgraduate graduates in agricultural fields from the University of Tehran (2008), it was found that 93.8% of the graduates' jobs were related to their degrees (8). In the present study, 85.4% of the employees were working in the public sector. In the study by Malakoutian and colleagues on the employment status of environmental health graduates in the country during the years 2003-1996, it was found that 87.4% of those employed were working in the public sector, which is higher than the individuals in our study. The reason for this is the closer alignment of labor market demand with the capacity of graduates in previous years (10). In the present study, the income level of 63.6% of the employed individuals was between 2-5 million tomans. In Safdari's study on the employment status of midwifery

graduates from Qazvin University of Medical Sciences (2011), it was found that the average income of the employed was 2.5 million tomans (4). In the present study, 85.2% of the employed individuals work in their province of residence, indicating the graduates' preference to work in their province of residence.

## Conclusion

The employment rate of graduates is 53.01%, which is low due to the higher number of university graduates compared to the labor market's needs. Given the high cost of training specialized personnel, needs assessment studies should be conducted to determine the capacity for student admissions in order to prevent the waste of human resources.

## Acknowledgements

I Hereby, we express our gratitude and appreciation to the esteemed officials of the university's education department for their utmost cooperation in providing the contact numbers of the graduates.

## Ethics approval

Ethics approval Ethical approval for this study was obtained from Deputy of Public Health for Ilam University of Medical Sciences.

## Financial support

No financial support was provided for conducting this study.

## Conflict of interest

The authors declare no conflict of interest.

## Authors' contributions

Data gathering, analyses and interpretation and drafting of the paper were done by AHQ, and AA. All authors read, revised, and approved the final manuscript.

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