

Research Article

The Environmental Consciousness of the Egyptian Woman

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Abstract

We see the traditions still control the women's role in the society generally, and essentially prevent her participation in fighting the environmental pollution, so it must be constructing the scientific strategies which aim to raise the women's awareness the environmental pollution and push the woman to participate in protecting the surrounding environment within and out the house. Hence the current study aims to test the hypotheses that: The women's awareness higher amongst women who employed who have highest educational level, and have a better attitude towards the environmental pollution types than the others with no job, and low education level. The study used the sample survey method with volume of 300 women distributed equally between urban and rural areas (of two different governorates in Egypt). With consideration to the population intensive in urban than rural areas in, the survey has been conducted in two areas which are: urban area in Cairo governorate, and the second is a village in Qaliobia governorate. The most important sample's description of the interviewers is in the age interval 40-50, it's rate about 31.7%, and the employment rate is about 75.7%, while the literacy rate attains 29.0% among total females of the sample. The study concluded that low level of the awareness related to Global warming and Greenhouse gases, Plastic bags cause Food contamination and, Pesticide pollutes the internal Environment exist in the most of the sample, where more than 29.8% between employed women and 28.1% between unemployed women of the sample does know nothing about "the pesticide pollute the internal environment".

Keywords

Educational Levels, Vocational Status, Population Problem, Pollution Types, Awareness

1. Introduction

The Women's role in the society has been emphasized within many regional and international conferences such as the International Conference of Population Development (ICPD) which was held in Cairo in 1994 as an effort to raise women's status in Egypt, and to empower and enhance their capacity at all levels in all aspects of life [9]. Also, the equity of women's participation in making decision not only democratic demand but also as a basic condition to protect women's rights has been assured in the fourth international conference

for the women, Beijing in 1995. While, the international conferences for the Women, in many rounds Mexico 1975, Copenhagen 1980, Nairobi 1985, ICPD Cairo 1994, mentioned some of recommendations to improve women's empowerment all over the world especially the developing countries [10].

In the last decades the Egyptian woman has got some rights that support and improve woman's empowerment to play an important role in the sustainable development, through many channels such as:

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- 1) Constructing the national council for women in 2000 [13].
- 2) Giving the Egyptian nationality for sons of the Egyptian women who are married from foreigners in 2004.
- 3) Constructing professional courts for the family in 2004.
- 4) Giving to the women 25% from the total members of the Assembly council in 2004 is (that permitted by the law for the president of Egypt).

Therefore, the current study aims to explore the woman's awareness towards the problem of the environmental pollution in Egypt through studying the woman's status, mainly two woman's status: the educational, and vocational status, in Egypt which affects her empowerment opportunities to play their role in the society and hereafter her participation in confronting the environmental pollution problem in Egypt [5].

2. Problematic of Research and Study Objectives

Recently, most national and international organizations have recognized extremely important role of women in population and development. Raising woman's empowerment has a critical impact on different profiles of life [6].

Consequently, this study attempts to analyse the relationship between some variables mainly educational level, and vocational status of the females which affect the woman's behaviour towards the problem of environmental pollution. Through testing the hypotheses that: First, there is a relationship between the women with levels of education and their attitude towards the environmental awareness [8].

Second, there is a relationship between the vocational status of the females and their attitude towards the environmental pollution problem.

3. Study Objectives

The main objective of the Study is to " focus on the Egyptian woman's environmental awareness in with educational levels and vocational status towards the pollution problem in Egypt".

4. Concepts and Definitions

Vocational: "related to a career " which is defined as: A vocation is a job or career, so something vocational is related to a specific kind of work.

Behaviour: It is defined as all actions and activities of the person [2].

Women's role: It is the way she is expected to behave in certain situations (Batliwala et al, 1994) [7].

Environment: It is the circumstances and the external effects that can affect the life of beings [14].

Pollution: is defined as each qualitative or quantitative change of survival and non-survival environment containing

and the environmental systems will become in imbalance status [10].

5. Literature Review

The United Nations Population Fund booklet delineates a new role for men by asserting that men's support is an essential element of efforts to empower women and improve their status, and that societal progress depends upon men's promotion of women's empowerment in all spheres. The booklet discusses ways to enhance women's role and responsibilities in family life. It stresses the crucial importance of the education of women, the necessity of recognizing and promoting women's key economic politics roles and stake in improving women's participation in the politics and the judicial systems [9].

It also discusses ways to enhance women's roles and responsibilities in family life, stressing the crucial importance of women's education, the necessity of recognizing and promoting women's key economic and political roles, and increasing their participation in politics and judicial systems [4].

G. Samya, 1999 pointed in her study that the Arab Countries generally have different traditions and norms which still prevent Arabic women from confronting the environmental pollution problem. So, they must draw scientific strategies that pushing the woman in order to participate in protecting the environment surrounding her and the first important step (from the woman) to facing the problems of pollution is to recognize the shortage of woman's understanding and consciousness for the environmental pollution problem and her attitudes towards the pollution in the Arab societies [11].

The study conducted by A. Ekbal, 1992, stressed on the environmental consciousness of the woman in the urban and rural areas of Egypt to determine the degree of environmental consciousness for the woman and the factors that affect it such as the age, the income, the level of education, the marital status and the work status. Thus, for this purpose she has chosen 300 women are distributed as follows: 100 from Agouza (urban), 100 from El-Manwat –Abu El –Nomros (village), 100 from El Mounira El Gharbia –Embaba (urban). The study concluded that the urbanized woman is the most consciousness of the environmental pollution problems than the woman in the rural areas. The study pointed to the degree of environmental consciousness for the younger and the highest educated females is the highest, and also she found that there exists a positive relation between the increasing of the environmental consciousness for the woman and her going out the house for the work [3]. Lastly, the study suggests that an important role which can be introduced by the social service to support and increase the environmental consciousness for the woman.

Najib Saab, February 20, 2021, in his study "Environmental Awareness in Arab Countries (Survey)": A public opinion survey carried out by the Arab Forum for Environment and Development in 22 Arab countries revealed that a vast majority,

exceeding 60 percent, believes that the environment has deteriorated in their countries over the last 10 years. An even bigger majority of 95 percent thinks that their country is not doing enough to tackle environmental challenges [13]. The most important environmental challenges according to the survey are municipal solid waste, followed by weak environmental awareness, deterioration of water resources, pollution and climate change. Food contamination due to improper use of pesticides and fertilizers was chosen as the top environmental threat in Egypt, reflecting increased concerns about food safety [1]. Regarding fiscal measures, 45 percent accept government taxes to protect the environment, while only 20 percent are willing to pay donations to an environmental protection fund. 98% believed that changing consumption patterns could positively impact the environment, and 95 percent believe that environmental protection helps economic growth [13].

The previous studies agreed that the environmental pollution affects the human beings specially all of the man and the woman, so the environmental pollution problem is a harmful and very dangerous on the health of the woman especially during the pregnancy since the woman plays the important role in family planning process which has effects on the population problem and hence on the environment [5].

6. Methodology and Data Source

The study is generally descriptive in nature. The Chi-Square test has been used in order to test the study hypotheses as follows:

1) H_0 : There is no relationship between the vocational status of the women and their attitude towards the environmental awareness.

H_1 : There is a relationship between the vocational status of the women and their attitude towards the environmental awareness.

2) H_0 : There is no relationship between the woman's educational levels and their attitude towards the environmental awareness.

H_1 : There is a relationship between the woman's educational levels and their attitude towards the environmental awareness.

The types of pollution here, as documented in previous studies, including air pollution, food contamination, water pollution, soil contamination, radioactive contamination, chemical pollution, visual pollution, and noise pollution in Egypt. These types will be to shed light through the results of the field study (a survey that was conducted by the researcher) shows the awareness of the woman towards these types. The first variable which is education levels were divided into three levels as follows: low-level includes the illiterate and also

women with literacy certificate, read and write, while the medium-level includes medium certificate, and less university certificate the last one is the high-level includes women with university degree or higher. While the other variable is employment status that is employed or unemployed.

7. Data Sources

The main source of data used is: A survey which was designed by the researcher and depends on collecting the data from a civil society in Egypt [12].

The study used the sample survey method with size equal to 300 women distributed equally between urban and rural areas. With consideration that the population intensive in urban higher than rural areas in Egypt, the survey has been conducted in two urban provinces (which are Ein shams area, and Cairo governorate), and in a rural area (which are Meet el doreg village, Kafr Shokr center, and Qaliobia governorate). The most important sample's description that the most of the women are married by a percentage about 66.3%, and the most of the females are between 40 to 50 years old the unemployment percentage attains to about 27.3%, and the percentage of literacy attains to 29%, while the volume of the household was 3-5 persons in the most of the sample.

8. Description of the Sample

The following table .1 shows that the most of the responders are in the age's set 40 - 50 where the percentage reaches to 31.7% and the least are in the set " less than 30 " the percentage was about 16.6% from the total number of the sample, and the other of females in the other age's intervals.

Table 1. The Distribution of the women according to the age.

AGE Categories	Frequency	Percentage (%)
Less than 30	50	16.6
From 30 to less 40	84	28
From 40 to less 50	95	31.7
More than 50	71	23.7
Total	300	100

The following Table 2 shows that the most of the interviewers are married where the percentage attains to 66.3% and the least percentage is the divorced females where it was about 16.6% of the total number of the women in the sample.

Table 2. The Distribution of the women according to the Marital Status.

Marital status	Frequency	Percentage (%)
Single	56	18.7
Married	199	66.3
Divorced	12	4.0
Widowed	33	11.0
Total	300	100

The following Table 3 shows that the most of the interviewers have low level of education (which includes literacy females together with, read and write and illiteracy certificate) the percentage of the females in this level reaches was about 40.7% where the females of the medium level of education (this level includes the females having basic educational certificate and a medium or less than university certificate) are in the second rank by the percentage 33.7% and the least percentage was the females having university or higher degree and the percentage reaches 25.6% from the total number of the sample.

Table 3. The Distribution of the women according to educational status.

Level of Education	frequency	Percentage (%)
Low	122	40.7
Medium	101	33.7
High	77	25.6
Total	300	100

The following Table 4 shows the vocational status of the women in the sample, where the most of the employed interviewers attains to 75.7%, where the percentage of the unemployed women is about 24.3% from the total number of the

sample.

Table 4. The Distribution of the women according to The Employment status.

The Employment status	frequency	Percentage (%)
Employed	227	75.7
Unemployed	73	24.3
Total	300	100

9. The Results of the Survey About the Woman's Environmental Awareness

The Chi-Square test has been applied to the sample of Egyptian women (n= 300), with degree of significant 99% ($\alpha=0.01$). The results are shown in the table. 5, table .6, table .7 and table .8, table.9, and table.10.

9.1. Women's Awareness Towards the Problem of the Environmental Pollution According to Educational Status

The following Table 5 shows that the degrees of women's attention to the environmental pollution problem according to the Educational levels where the question was: *Do you care about the environmental pollution problem?* it was found that the percentage is about 13% between females of low educational level don't care about the environmental pollution, while it is about 19.6% between the females in total of the sample, where the females who care, the percentage attains to 16.3% between highest educational level, which means that the educational level increases, the level of the awareness increases, by using Chi-Square test it was found that, there exists a positive significant relationship between the woman's awareness and the educational level.

Table 5. The Degree of Women's Attention Environmental Pollution Problem according to Educational Status.

Education Level	Low		Medium		High		Total	
	F	%	F	%	F	%	F	%
Attention's degree								
Yes	42	14.0	28	9.3	49	16.3	119	39.7
To some extent	33	11.0	54	18.0	35	11.7	122	40.7
No	40	13.4	19	6.3	0	0.0	59	19.6

Education Level	Low		Medium		High		Total	
Attention's degree	F	%	F	%	F	%	F	%
P- value	0.000							

*Chi-Square = 21.2914

9.2. Women's Awareness Towards Environmental Pollution Problem According to Vocational Status

Table 6 shows that the degrees of women's attention to the environmental pollution problem according to the vocational status where the question was: *Do you care about the environmental pollution problem?* it was found that the percentage of

the females that they answered " *To some extent*" attains to 37.7% of the employed women, the rate of the employed women who answered "yes " attains to 35.3%, while the percentage of all of the women in the sample either answered " *To some extent*" or "yes " is about 40.0%, which means that the employed woman has the more level of the awareness, that is, there exists a positive significant relationship between the woman's awareness and the woman's employment status is significant.

Table 6. The Degree of Women's Attention Environmental Pollution Problem according to Vocational Status.

Vocational Status	Unemployed		Employed		Total	
Attention's degree	F	%	F	%	F	%
Yes	15	5.0	106	35.3	121	40.3
To some extent	7	2.3	113	37.7	120	40.0
No	51	17.0	8	2.7	59	19.7
P- value	0.000					

*Chi-Square= 34.1528

9.3. Source of the Woman's Information Related to the Environmental Pollution

according to the educational level:

Table 7 shows that source of information according to the woman's educational level where the greatest percentage among all of the woman's information sources attains to 21.7%

and 21.3% where the sources are " the television" and "Magazines and newspapers " respectively, while the smallest percentage among all of the woman's information sources attains to 9.0% and 7.7% for " internet" and " seminars" respectively for woman's educational high level, compared to the woman's low educational level, the greatest percentage is the television by the percentage 20.0% while the smallest is the internet by percentage 2.3%.

Table 7. Source of the Woman's information related to Environmental Pollution in Egypt according to the Educational level.

Education Level	Low		Medium		High	
Information source	F	%	F	%	F	%
Magazines and newspapers	22	7.3	46	15.3	64	21.3
Radio	14	4.7	26	8.7	29	9.7
Television	60	20.0	54	18.0	65	21.7

Information source	Education Level		Medium		High	
	Low					
	F	%	F	%	F	%
Internet	7	2.3	32	10.7	27	9.0
Seminars	9	3.0	18	6.0	23	7.7
curriculum	0	0.0	33	11.0	40	13.3
Friends or Relatives	26	8.7	31	10.3	34	11.3
No source	12	4.0	0	0.0	2	0.7
P- value			0.000			

9.4. The Vocational Status of Women and Its Relationship with Source of Their Information

Table 8 shows that source of information according to the woman's vocational status where the greatest rate among all

of the woman's information sources are " the television " and "Magazines and newspapers " attains to 44.7% and 36.7% respectively of the employed women, while the smallest rate of the employed woman's information sources attains to 18.7% and 16.7% for " internet" and " seminars" respectively, compared to the unemployed woman's information sources, the greatest rate is " the television " by the ratio 15.0%, while the smallest is " seminars" by the ratio 0.0%.

Table 8. The Vocational Status of Women and its relationship with Source of their information.

Information source	Unemployed		Employed	
	F	%	F	%
Magazines and newspapers	16	5.3	110	36.7
Radio	11	3.7	59	19.7
Television	45	15.0	134	44.7
Internet	10	3.3	56	18.7
Seminars	0	0.0	50	16.7
curriculum	10	3.3	63	21.0
Friends or Relatives	24	8.0	59	19.7
No source	12	4.0	2	0.7
P- value		0.000		

9.5. Woman's Awareness by Types of Environmental Pollution According to the Educational Level in Egypt

Table 9 shows that the woman's awareness is higher between the women's high level of education where the greatest

rates are 25.7% and 25.0% about air pollution and water pollution respectively, while the smallest rates are 3.0% and 2.7% about Radioactive pollution and visual pollution respectively, by using Chi-Square test to measure the relationship between the woman's awareness and the level of education it is shown that that there is a positive significant relationship that is the lower level of education, the less awareness of environmental pollution problem.

Table 9. Woman's Awareness of Types of Environmental Pollution according to the Educational level in Egypt.

Awareness of Pollution's type	Education Level Low		Medium		High	
	F	%	F	%	F	%
Air Pollution	19	6.3	59	19.7	77	25.7
Water Pollution	29	9.7	50	16.7	75	25.0
Soil Pollution	24	8.0	40	13.3	71	23.7
Food Contamination	30	10.0	54	18.0	72	24.0
Visual Pollution	8	2.7	34	11.3	61	20.3
Noise pollution	11	3.7	31	10.3	51	17.0
Radioactive pollution	9	3.0	29	9.7	59	19.7
chemical pollution	10	3.3	28	9.3	48	16.0
Doesn't know	32	10.7	-	-	-	-
P- value			0.000			

*Chi-Square= 76.5726

9.6. The Woman's Awareness of Types of Environmental Pollution According to the Vocational Status in Egypt

Table 10 shows that the woman's awareness is higher between the women who are employed than the unemployed,

where the greatest rates are 60.0% and 25.0% about air pollution and water pollution respectively, while the smallest rates are 4.3% and 2.3% about Radioactive pollution and Chemical pollution respectively, by using Chi-Square test to measure the relationship between the woman's awareness and the woman's employment status, it is shown that there exists a positive significant relationship that is the employed woman, the high awareness of environmental pollution problem.

Table 10. Woman's Awareness of Types of Environmental Pollution according to the Vocational Status in Egypt.

Awareness of Pollution's type	Employment status Unemployed		Employed	
	F	%	F	%
Air Pollution	23	7.7	180	60.0
Water Pollution	28	9.3	172	57.3
Soil Pollution	18	6.0	95	31.7
Food Contamination	20	6.7	161	53.7
Visual Pollution	19	6.3	50	16.7
Noise pollution	14	4.7	79	26.3
Radioactive pollution	13	4.3	62	20.7
Chemical pollution	7	2.3	89	29.7
Doesn't know	48	16.0	4	1.3
P- value		0.000		

*Chi-Square =52.1327

9.7. The Woman's Educational Levels and Her Awareness of the Pollution Types

Table 11 illustrates the relationship between the women's educational levels and the awareness of the pollution types as follows: the greatest rate is in the women's educational high level where attains to 34.5% awareness of "The harm of Fans and Air-Conditioner to Respiratory" while it is 30.1% and

17.0% in the women's educational medium and low levels respectively, and then the second rank rate is in the women's educational high level the awareness of "Pesticide pollute the internal Environment" by the ratio 27.3%, by using Chi-Square test to measure the relationship between the woman's awareness and the level of education it is shown that there is a positive significant relationship, that is the higher level of women's education, the higher awareness of environmental pollution types.

Table 11. The Women's Educational Levels and her Awareness of the Pollution Types.

Pollution Type's Awareness	Education Level Low		Medium		High	
	F	%	F	%	F	%
Global-Warming	23	7.8%	59	19.6%	72	24.1%
Pesticide pollutes the internal Environment	33	11.0%	41	13.8%	82	27.3%
The harm of Fans and Air-Conditioner to Respiratory	12	4.1%	51	17.0%	103	34.5%
Eating Fast-Food causes diseases	52	17.2%	38	12.8%	64	21.3%
Plastic Bags cause Food contamination	34	11.3%	49	16.3%	65	21.7%
Scratched Tefal Vassal	31	10.3%	52	17.3%	66	21.9%
P- value	0.000					

*Chi-Square=84.2057

9.8. The Woman's Vocational Status and Her Awareness Towards the Pollution Types

Table 12 illustrates the relationship between the woman's vocational status and the awareness of the types of environmental pollution, where the greatest rate for the employed women attains to 34.5% is the awareness of "Global-Warming", while the second and the third ranks, 31.6% and 31.3%

the awareness of "Plastic Bags cause Food contamination" and "Eating Fast-Food causes diseases" respectively. for the unemployed women the greatest rates are 23.9% and 21.0% for the awareness of "Pesticide pollute the internal Environment" and "Global-Warming" respectively. As it is shown in the table, by using Chi-Square test to measure the relationship between the woman's awareness of pollution types and the woman's vocational status it is shown that there is a positive direct significant relationship, that is the employed woman, the higher awareness of environmental pollution types.

Table 12. The women's Employment status and her awareness of towards the pollution types.

Pollution Type's Awareness	Employment status Employed		Unemployed	
	F	%	F	%
Global-Warming	104	34.5%	63	21.0%
Pesticide pollutes the internal Environment	78	25.9%	72	23.9%
The harm of Fans and Air-Conditioner to Respiratory	90	30.0%	26	8.7%
Eating Fast-Food causes diseases	94	31.3%	30	10.1%
Plastic Bags cause Food contamination	95	31.6%	59	19.6%

Pollution Type's Awareness	Employment status		Unemployed	
	Employed			
	F	%	F	%
Scratched Tefal Vassal	68	22.6%	52	17.4%
P- value			0.000	

*Chi-Square 68.9734

10. Abbreviated Summary

This study explores how education and employment status influence environmental awareness among Egyptian women. A survey of 300 women from Cairo and Qaliobia governorates was analyzed using the Chi-Square test (χ^2) to assess correlations between demographic factors and awareness levels.

Results show that women with higher education and those who are employed possess significantly greater awareness of pollution, climate change, and environmental protection practices. Television and newspapers were the primary sources of information, while seminars and online resources were less common.

Overall, environmental awareness remains limited, especially regarding global environmental issues such as greenhouse gases and pesticide risks. The study recommends promoting education, employment opportunities, and targeted awareness programs to enhance women's participation in environmental sustainability.

11. Conclusion

- 1) variety in the sources of information about the pollution problem, according to both of the woman's educational level and the vocational woman's status, the greatest percentage among the women of the sample exists where the sources are " the television" and "Magazines and newspapers".
- 2) The study concluded that the Environmental Consciousness of the Egyptian Woman generally low towards the most of pollution types.
- 3) The less awareness of pollution problem is more among the educational lower levels than the high levels of education, and in unemployed less than employed woman, which agree with the study hypotheses.
- 4) The women's awareness greater for the women with high level of education where they having the greatest rates are 25.7% and 25.0% about air pollution and water pollution respectively, while the smallest rates are 3.0% and 2.7% about Radioactive pollution and visual pollution respectively.
- 5) The women's awareness greater for the woman's employed where they having the greatest rates 60.0% and

25.0% about air pollution and water pollution respectively.

- 6) The greatest rate for the women's educational high level attains to 34.5% "The harm of Fans and Air-Conditioner to Respiratory" while it is 30.1% and 17.0% of the women's educational medium and low levels respectively, and then Pesticide pollutes the internal Environment by the ratio 27.3%.
- 7) The greatest rate for the women's educational high level attains to 34.5% " The harm of Fans and Air-Conditioner to Respiratory " while it is 30.1% and 17.0% for the women's educational medium and low levels respectively, and then Pesticide pollutes the internal Environment by the ratio 27.3%.
- 8) The greatest rate for the women's educational high level attains to 34.5% " The harm of Fans and Air-Conditioner to Respiratory " while it is 30.1% and 17.0% for the women's educational medium and low levels respectively, and then Pesticide pollutes the internal Environment by the ratio 27.3%.
- 9) There is a positive relationship between both education and employment and women's environmental awareness. The researcher recommended Strategies should aim to:
 - i) Raise environmental awareness among less-educated and unemployed women.
 - ii) Empower women's participation in environmental protection both inside and outside the home.

Abbreviations

ICPD	International Conference on Population and Development
UNFPA	United Nations Population Fund
NCW	National Council for Women
NGOs	Non-Governmental Organizations
SPSS	Statistical Package for the Social Sciences
χ^2	Chi-Square Test
H_0	Null Hypothesis
H_1	Alternative Hypothesis
SDGs	Sustainable Development Goals

Author Contributions

Amenhoteb Amin Mikhail is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

I declare that no conflict of interest in the Conflict-of-Interest section.

References

- [1] Akhtar, F. (1992): "UBINIG, an NGO engaged in empowerment of rural women", Dhaka.
- [2] Sharma, K, (1991-1992), Grassroots Organizations and Women's Empowerment, Some Issues in the Contemporary Debate.
- [3] A. Ekbal, Advanced Studies in Environmental Engineering. New York: McGraw-Hill, 1992.
- [4] Soeripto, Noerhajati & Hayma, Bala (1992): "Women's And Men's Role In Community Management of Water Supply And Sanitation In Kerobokan, Bati, Indonesia", Women And Environment Conference. Alexandria.
- [5] Kannabiran, K (1993) (a feminist activist of ASMITA, women's ewsource center in Hyderabad, India).
- [6] Gita Sen et al, (1994) "Population Policies Reconsidered Health; Empowerment and Rights.
- [7] Batliwala, S. 1994 (Fourth Coming). Women's Empowerment in South Asia: Concepts and Practices. New Delhi. Food and Agriculture Organization.
- [8] Kishor, SA and Neitzer, K. (1996) "The Status of Womn; Indicators of Twenty Five Countries. Demographic and Health Survey Compoarative Studies" (DHS) No, 21, Macro International Inc. Caverton, Maryland, USA.
- [9] UNFPA, 2000, The United Nations Population Fund booklet.
- [10] Kreitler, (4. July 1998) gender differences in recreational USE, environmental, and perceptions of future and at the SAV aNah-river site, environmental and behaviour. y 1997/98.
- [11] G. Samya, 1999, Arab Women's Guide to Conserving Resources and Reducing Environmental Pollution, Center of Environment and Development in the Arab Region and Europe.
- [12] Mikhail, Amenhoteb (2011); "The Behavior O The Woman Towrds The Problem Of Environmental Pollution" A thesis submitted in Partial Fulfillment Of The Requirement for the Doctor of Philosophy Degree In Environmental Science.
- [13] Najib Saab, 2021, "Environmental Awareness in Arab Countries".
- [14] Abd El Hamid. A. Mona (1999) "Egyptian Women and Environmental Problems", PhD thesis, Institute of Environmental Studies and Research, Department of Human Sciences, Ain Shams University.