



## **Role of Bedouin women in preserving the natural vegetation in North Sinai**

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### **Abstract**

This research aimed mainly to identify the most important socio economic characteristics of Bedouin women in Sinai, Egypt, identify the nature and degree of the actual role of Bedouin women in preserving the natural vegetation, and determine the relationship between this role as a dependent variable, and some independent studied variables. Identify of problems faced in preserving the natural vegetation,

#### **The most important results were the following:**

- Regard to its role in preserving wild grassland plants, the following is indicated that the most activities that have played intermediate roles are; drying fruits, preserving and storing seeds, planting the plant in the appropriate time.
- Very significant and positive relationship at the level of significant 01, with the degree of awareness of the economic importance of natural plants, experience in their cultivation, the presence of a commercial outlet in their marketing, the presence of Source of fuel other than natural wood.
- The most frequent problems, that the weakness of marketing outlets for natural medicinal plants, then the medicinal use of the plant is limited locally, and the development of coasts in tourist villages and the animal grazing on the plant at the time of flowering and fruiting.

**Keywords:** Role, Bedouin Women, Biological Diversity, Natural Medicinal & Aromatic Plants, Grassland Plants.

### **Introduction and research problem**

The human element is the basis for establishing development in general and continuous development in particular, Al-Zoghbi (1999) p83 mentions the definition of continuous rural development as the process that increases the efficiency and effectiveness of governmental and non-governmental rural institutions and organizations to raise the standard of living of the population and improve the quality of their lives through preparing human resources and increasing the degree of their participation in development processes, with an increase in the degree of environmental awareness of this population with regard to rationalizing the use of natural resources by disseminating the correct environmental knowledge, and rationalizing them to positive environmental trends in a manner that ensures sound environmental practices and behaviors that preserve for future generations the right to use natural resources without wasting any of them.

Egypt is considered one of the country which is rich in its natural resources and rich in its natural plant diversity, as the Egyptian flora includes more than 2200 plant species that spread in different regions and where environmental conditions vary.

The North Sinai Governorate is considered one of the most important governorates rich in natural plant diversity, as the number of plant species spread there are about one thousand species, including nearly sixty species. North Sinai is considered to be its original habitat , the secret of this great plant diversity lies in the great variation in climatic conditions, soil, water and human resources between different areas ranging from coastal plains regions, sand dunes, valleys, mountains and highlands (Yousria Allam ,(2012) p5, Success in achieving sustainable development, as Ahmed (2002) p173 indicated requires that all people must join hands in order to conserve natural resources, regardless of the economic and political cost , this will be through an ethical aspects that includes preserving the environment in the best position for future generations, and focusing on the requirements that combine what is necessary to eliminate poverty and protect the environment simultaneously, taking priority in human development, making it able to use its available resources to raise its standard of living within the framework of not violating the environmental system, but achieving this faces As for the reality of women and the environment, Bedouin women live in a society that has its own specificities in

the social, economic and environmental structure, and faces many challenges and obstacles, especially in protecting the environment.

Hoda Al-Janjia (2002, p.315), and the Arab Organization for Agricultural Development (1997, p.72), pointed to the existence of social obstacles, including the high illiteracy rate among the Bedouin women, cultural and economic obstacles, and the absence of training opportunities, which makes them unable to know and implement new practices related to environmental protection and the preservation of natural resources, the spread of the concept of sustainable development has been accompanied by a continuous affirmation of the importance of the Bedouin woman's role in managing ecosystems and monitoring environmental degradation.

Where environmental resources are closely related to the roles that Bedouin women play with the natural environment, they often fetch water and use it in the affairs of her family's daily life, and collect branches of dry plants that she uses as fuel and use in cooking and baking, and other activities such as grazing and collecting medicinal and aromatic plants That you use for medication.

This confirms the need to direct more attention to the development of the role of Bedouin women, especially in the areas of preserving the environment and protecting it from deterioration.

Some studies have referred to the concept of role in terms of function as everything that is expected in a particular job or position (Omar: 1992, p. 296). This was confirmed by Khidr (1989, pp. 26–27). Until the role is the expected behavior of a person as a result of occupying a certain position within a specific group. Ahmed (1974, p. 194) stated that the role is the set of actions and duties that society expects from its organizations and individuals who occupy a social position in certain situations.

Most countries of the world, including Egypt, have expressed great concern during the past few years towards the sources of plant wealth and their biological diversity, and the threats they face as a result of droughts, urban expansion, population activities, agricultural, industrial, and tourism, as well as environmental pollution problems, all of which threaten many plant species to extinction and eliminate on a large amount of inherent wealth in these plants, especially those that have therapeutic advantages and benefit the human in the manufacture of his medicine, especially with the growing desire to return to nature and the use of plants in the treatment as an alternative to manufactured

chemical drugs , in view of the great role that women play in these areas in the use of natural resources for daily life purposes in a way that exposes them to waste, especially the natural vegetation cover, which affected its spread and led to its extinction , which dispels the national wealth of plant genetic assets distinct to these areas and plants that have constant qualities and a high content of active substances, which is a basic requirement for the drug industry. Therefore, the Ministry of Agriculture, in particular agricultural extension, concerned with strengthening the role of Bedouin women in preserving natural resources in the Sinai , Paying attention to developing mechanisms to enhance Bedouin women to participate in preserving biodiversity and to overcome problems and obstacles that may face them.

Although Bedouin women have a major role in preserving biological diversity, they have not received attention from guidance and training in order to raise the level of their knowledge and implementation of environmental conservation practices and good use of natural resources.

Bedouin women play an effective role in preserving the natural vegetation cover in the desert environment, as they bear great responsibilities for their activities in daily life, however, she did not receive attention to training in order to raise the level of her knowledge and implementation of environmental conservation practices to prevent the extinction of economic natural plants.

The importance of conducting this study to identify the nature of the Bedouin woman's role in preserving the natural vegetation in North Sinai, the problems she faces, and the independent variables affecting her, has been identified. The study's problem has been identified in answering the following questions:

- What are the social, economic and environmental characteristics of Bedouin women in North Sinai?
- What is the nature and degree of the actual role that Bedouin women play in preserving the biological diversity of natural vegetation?
- What is the relationship between the role of Bedouin women in preserving the biological diversity of natural vegetation and each of the studied independent variables?
- What are the problems facing Bedouin women in preserving the biological diversity of natural vegetation?

**Objectives:**

In line with the research problem previously presented, the following objectives have been identified:

- 1– Identifying the most important socio-economic characteristics of Bedouin women in Sinai, Egypt.
- 2– Identifying the nature and degree of the actual role of Bedouin women in preserving the natural vegetation.
- 3– Determine the relationship between this role as a dependent variable, and some independent studied variables.
- 4– Identification of problems faced in preserving the natural vegetation in northern Sinai.

**Research hypothesis:**

There is a relationship between the role of the Bedouin woman in maintaining the natural vegetation and each of the following independent variables: 1– The degree of awareness of the economic importance of natural plants, 2– Experience in the cultivation of natural plants, 3– The degree of drought in the region, 4– The degree of presence of residential or tourist facilities in the region. 5– The degree of presence of a commercial outlet in plant marketing, 6– The degree of participation in farm work, 7– Age, 8– The degree of Knowing the dates of flowering and fruiting of the most important natural plants, 9– The degree of standard of living, 10– The degree of seeds 'size–The degree of ownership of farm animals, 11– The degree of complexity of the process of cultivation of some natural plants, 12– The degree of ownership of agricultural land. 13– The presence of a fuel source other than natural wood.

**Methodology**

**First: Research method**

The research method used in the study is considered an exploratory and analytical study. We point out that this study has been based on the social survey method using the sample. In the study of the role, both personal and environmental considerations were used.

**Second: Research fields .Geographical scope**

The define the research area, a number of scientific exploratory trips were made to work sites, and the observational method was used. These trips resulted in the selection of 10 sites in the Sheikh Zuweid and Al-Hasna centers to represent different plant environments, namely; 1– Al-Wifaq village km 64, 2–

Al-Jafjafa village 3- Wadi Al-Amro Village, 4- Al-Muqdaba Village, 5- Qabir Omair Village, 6- Al-M aghara village, 7- Al-Munajim Village, 8 - Baghdad Village, 9- Abunitul Village, 10- The village of Al-Kharouba.

The human field: 100 Bedouin woman were surveyed from areas with endangered plants.

**Third: The data collection tool**

The questionnaire was used in a personal interview as a tool to collect the necessary data, and several scientific exploratory trips to the work sites were carried out by tweets to assess the state of the natural vegetation and held meetings with tribal leaders to facilitate the research work, and used the data of the National Authority for Remote Sensing and Space Science, and Statistical data from the Construction Authority, and local administrations.

**Fourth: A- Quantitative treatment of the dependent variable**

The role of Bedouin women has been defined as a set of activities expected to undertake in maintaining the natural vegetation.

The role of the Bedouin woman was measured based on the difference between the expected role of the Bedouin woman, and the actual role she plays. The natural vegetation has been divided into a group of medicinal and aromatic plants and a group of natural pasture plants, The role of Bedouin women in preserving the resource of endangered wild economic plants in North Sinai,

**The most important medicinal and aromatic plants threatened with extinction have been listed as follows:**

- 1-Urgina\_maritime ( Bach ) L
- 2-Hyocyamus muticus L
- 3-Citrullus colocynthis
- 4-Capparis spinosa L
- 5-Artemisia judica
- 6-Ricinus communis
- 7-Senna

**The most important wild grazing endangered plants are:**

- 1- Tamarix aphylla &Tamarix nilotica
- 2 - Lygos reatam
- 3 - Acacia raddiana
- 4 - Cleome droserifolia
- 5-Artistida scoparia

6 – Astragalus spinostus

**The following is a statement of the set of activities expected to conserve the threatened plant cover**

- 1– Collect seeds or cuttings from natural plants.
- 2– Plant the plants in the appropriate time
- 3– Seed treatments before planting – before storage.
- 4– Drying the fruits and preserving and storing the seeds.
- 5– Know the medicinal uses of the plant..
- 6– Prevent animal grazing on the plant at the time of flowering and fruiting.
- 7– Agriculture service and determining the irrigation requirements of the plant.
- 8– Cutting non Unfair to the plants after ripening and recognizing the signs of ripeness.
- 9– Plant commercial marketing of the.
- 10– Transfer and exchange the knowledge heritage of plant culture.

The data were quantified by giving one degree for each wrong response to express the failure to perform the practices included in the technical recommendations, while the correct response was given two degrees to express the performance of this role, the degree of role was calculated considering the theoretical term, in all medicinal and aromatic plants, and pasture plants

It has calculated the average degree of the woman's role for each activity, and the percentage of the maximum degree for each activity

percentage of the maximum degree of the role = the average degree of the role x100 / maximum degree of the role

**The role of the Bedouin woman has been classified according to the percentages of the average degrees of the degrees as follows**

- Good role (over 40%)
- Medium role (more than 20% to 40)
- Weak role (20% or less)

**B– Quantitative treatment of some independent variables for the purposes of statistical analysis as follows;**

- 1– The degree of their awareness of the economic importance of natural plants:
- 2– The degrees were given for each economic use of the plant, whether for therapeutic purposes, aromatic oils, or for grazing or the use of wood and,

2-1- degree for non-benefit, and the total grades reflect the awareness of the economic importance.

2-2- The degree of participation in farm work, this variable was measured quantitatively on the basis of measuring women's participation in four common agricultural activities in North Sinai, which is seed sowing, maintenance of drip irrigation networks, crop collection, and post-harvest treatments through four responses to each of them. The degree of the contribution, which is as follows (always, sometimes, rarely, no). The following weights related to each response were given as follows: - (4-3-2-1) degree respectively and the range was divided into the following categories:

- Low participation (less than 8 degree) scored one degree,
- Moderate participation (less than 12) scored two degree.
- High participation (scored 12 and above) 3 degrees.

3- Degree of standard of living, It has been measured through several indicators such as the state of housing, the degree of ownership of agricultural machinery, - the degree of ownership of non-agricultural machinery, the ownership of built water tanks, - housing status: - This variable was addressed by dividing it into two categories They are (housing in huts - housing in buildings) and were given degrees, respectively (1, 2).

4- The degree of ownership of agricultural machinery: - where this variable was addressed by dividing it into two categories (the presence of agricultural machinery - the absence of agricultural machinery) and were given the following weights (2, 1), respectively, C- The degree of were given of non-agricultural machinery,

**This variable has been addressed by dividing it into the following categories:**

(the absence of any machines - the presence of home appliances - the presence of a car) and the following weights were given (1, 2, 3) degrees respectively, d- ownership of built water tanks, and the holder has obtained two degrees, and the one who does not possess one degree.



### **Statistical analysis tools**

Statistical program data (SPSS) was used in the analysis of the arithmetic mean, and the simple correlation coefficient of Pearson (R). The results were presented using frequencies and percentages, in tabular form.

### **Results**

#### **First: The personal, social and economic characteristics of Bedouin women in North Sinai are clarified as the following:**

-The most important results of the characteristics of Bedouin women included: About half of the female respondents are in the age group (36–55 years), the majority of whom are married, have large families, are illiterate, two thirds of women work in agriculture, most of whom have possession of less than 20 acres, about 81% of them do not have agricultural machinery. 75% of them do not have other machines, the majorities of them live in huts and possess few ruminants and 72% of them have a low contribution to teamwork, and the majority has a low degree of leadership

#### **Second:**

The nature and degree of the actual role of Bedouin women in implementing the activities recommended in conserving the natural vegetation.

The nature of the Bedouin woman's role in preserving natural plants threatened by extinction in general has been defined as a middle role. women needs support for this role according to the following: Supporting the water source by making ground tanks – creating an awareness program to distinguish between onions for the presence of toxic types – awareness of its medical uses – marketing of products – Training in preparing seedlings – making a vegetable fence around the nursery to prevent grazing – preparing women leaders for training – gathering Bedouin heritage in cultivation for wild plants – providing green pastures and establishing natural reserves in areas where economic plants exist to protect them , while compensating the Bedouins for them

#### **Second: 1– The degree of the role of Bedouin women in preserving medicinal and aromatic plants;**

**The results set out in Table No.( 1–A ) has shown the following:**

Bedouins play good roles in relation to these plants:

The *Citrullus colocynthis* plant, where it is grown away from the melon plant, which resembles it on time, as well as its cultivated way and the outward appearance.

The *Artemisia judica* plant, where the average percentages for all recommendations reached 54.7%, 54.3%.

- Women play an intermediate role for these plants :

*Ricinus communis* – *Hyocyamus muticus* L, Senna, – *Capparis spinosa* L,  
– Average percentages for all recommendations are respectively 39.2%, 38.3%, 31.1%, 22%.

Women play a weak role in the *Urgina\_maritime* ( *Bach* ) L., plant, the average percentage of all recommendations reached 18.7%.

**The most recommended practices have a good role in them are as follows:**

1 –collecting seeds or cuttings from natural plants. 2– commercial marketing of the plant. 3– non–unfair cutting of the plant after ripening and identifying signs of ripening. 4– planting the plant in the appropriate time. 5– and drying the fruits and preserving and storing the seeds as they averaged Percentages of all medicinal and aromatic plants respectively 47%, 42.6%, 42.3%, 41.7%, and 40.4%.

–**The most recommendations that have played an intermediate role were ;**  
1– Transferring and exchanging knowledge of plant culture. 2– Knowing the medicinal uses of the plant. 3– Serving agriculture and determining the water needs of the plant. 4– Preventing animal grazing on the plant at the time of fruiting and flowering as the average ratios reached Percentage of all medicinal and aromatic plants respectively 38.1%, 36.85%, 35.8%, and 22.8%

**The most recommendations that have played a weak role were;**

1– Seed treatments before planting – before storage, where the average percentages for all medicinal and aromatic plants reached 20%.

**Second: 2– The role of Bedouin women in preserving wild pasture plants**

**The results stated in Table No. (1–B ) include the following:**

– Bedouin women play a good role for the following pasture plants *Artistida scoparia* plant, especially in its natural environment bordering the Mediterranean Sea, where it is found and used, and *Lygos reatam*, the plant on which Bedouin women depend in many uses in various areas in the Sinai, where the average percentages of all recommendations are as follows, respectively, 47%. 40.8%.

– Bedouin women play a moderate role for the following pasture plants *Cleome droserifolia*.

–*Tamarix aphylla* & *Tamarix nilotica* Use these plants in grazing and its dry branches for making huts in addition to medical use ,where the average percentages for all recommendations as follows, respectively, 25.6%, 25.2%

– Bedouin women play a weak role for the following pasture plants *Acacia raddiana* plant, such as trees that graze camels on it, and do not graze the small ruminants and *Astragalus spinostus*, where the average percentages of all recommendations are as follows, respectively 10.6%, 7.9%.

**The most important recommendations made by Bedouin women in a good role are the following;**

**1–Collect seeds or cuttings from natural plants, where the average percentages for all pasture plants are 40%**

**The most important recommendations made by Bedouin women in a moderate role are the following:**

1– Drying fruits, preserving and storing seeds. 2– Planting the plant in the appropriate time. 3– Determine the water requirements of the plant and serving the plantation. 4–Seed treatments before planting – Before storing. 5– Transferring and exchanging the knowledge heritage of plant cultivation. 6– cutting the unfairness of the plant after ripening. 7– identifying the signs of ripening as it reached Average percentages for all pasture plants respectively: 33.8%, 33.3%, 26.7%, 26%, 26%, 25.3, and 24.8%.

**The most important recommendations made by Bedouin women in a weak role are the following;**

1– knowing the medicinal uses of the plant, –2– Preventing animal grazing on the plant at the time of fruiting and flowering, and 3– commercial marketing of the plant, where the average percentages for all pasture plants respectively: 20%, 19.3% , 12.8%

**Table (1-A) The Role of Women to conserve Wild Economic Endangered Plants**

**First: Medicinal & aromatic plants**

Women 'role	Urgina_maritime (Bach)			Hyocyamus muticus L			Citrullus colocynthis			Capparis spinosa L			Artemisia judica			Ricinus communis			Senna		
	level	%	Degree	level	%	Deg.	level	%	Deg.	level	%	Deg.	level	%	Deg.	level	%	Deg.	level	%	Deg
<b>1-Collect seeds or cuttings from natural plants</b>	med	27	0.54	good	60	1.2	good	60	1.2	med	35	0.7	good	65	1.3	good	65	1.3	weak	19	0.38
<b>2- Seed treatments before planting - Before storing</b>	weak	5	0.1	weak	10	0.2	good	60	1.2	weak	10	0.2	good	60	1.2	med	30	0.6	weak	5	0.1
<b>-3 Planting the plant in the appropriate time and serving the plantation</b>	med	22	0.44	med	38	0.76	good	58	1.16	med	30	0.6	good	65	1.3	good	60	1.2	weak	19	0.38
<b>4-Drying fruits, preserving and storing seeds</b>	weak	19	0.38	med	37	0.74	good	60	1.2	med	35	0.7	good	65	1.3	med	30	0.6	med	37	0.74
<b>5- knowing the medicinal uses of the plant</b>	weak	5	0.1	med	39	0.78	good	65	1.3	weak	19	0.38	good	65	1.3	weak	15	0.3	good	50	1

**Follow: Table (1-A) The Role of Women to conserve Wild Economic Endangered Plants  
First: Medicinal & aromatic plants**

Women 'role	Urgina_maritime (Bach)			Hyocyamus muticus L			Citrullus colocynthis			Capparis spinosa L			Artemisia judica			Ricinus communis			Senna		
	level	%	Degree	level	%	Deg.	level	%	Deg	level	%	Deg.	level	%	Deg	level	%	Deg.	level	%	Deg
<b>6- Preventing animal grazing on the plant at the time of fruiting and flowering</b>	weak	17	0.34	weak	15	0.3	weak	19	0.38	med	30	0.6	weak	19	0.38	weak	5	0.1	good	55	1.1
<b>7-Determine water requirements of the plant and serving the plantation</b>	good	42	0.84	good	45	0.9	med	40	0.8	weak	17	0.34	good	55	1.1	med	35	0.7	weak	17	0.34
<b>8- cutting the unfairness of the plant after ripening</b>	weak	15	0.3	med	39	0.78	good	65	1.3	med	35	0.7	good	50	1	good	47	0.94	good	45	0.9
<b>9- commercial marketing of the plant</b>	weak	10	0.2	good	53	1.06	good	60	1.2	weak	17	0.34	good	60	1.2	good	53	1.06	good	45	0.9
<b>10-Transferring knowledge heritage of plant cultivation</b>	med	25	0.5	good	47	0.94	good	60	1.2	weak	19	0.38	med	39	0.78	good	58	1.16	weak	19	0.38

\*The percentage of the average actual role score in each recommendation is calculated on the maximum expected degree of role level for each recommendation (2)

**Table (1 – B)The Role of Women to conserve Wild Economic Endangered Plants  
Second: wild Pasture endangered plants**

Women 'role	-Tamarix aphylla & -Tamarix nilotica			Lygos reatam			Acacia raddiana			Cleome droserifolia			Artistida scoparia			Astragalus spinostus		
	level	%	Deg.	level	%	Deg.	level	%	Deg.	level	%	Deg.	level	%	Deg.	level	%	Deg.
<b>1-Collect seeds or cuttings from natural plants</b>	med	35	0.7	good	60	1.2	med	22	0.4	med	39	0.78	good	65	1.3	weak	19	0.38
<b>2- Seed treatments before planting - Before storing</b>	med	30	0.6	med	39	0.7	weak	5	0.1	weak	19	0.38	good	58	1.16	weak	5	0.1
<b>3-3 Planting the plant in the appropriate time and serving the plantation</b>	med	30	0.6	good	60	1.2	weak	10	0.2	med	30	0.6	good	60	1.2	weak	10	0.2
<b>4-Drying fruits, preserving and storing seeds</b>	med	30	0.6	good	58	1.1	weak	10	0.2	med	30	0.6	good	65	1.3	weak	10	0.2
<b>5- knowing the medicinal uses of the plant</b>	weak	5	0.1	weak	19	0.38	weak	5	0.1	med	30	0.6	good	58	1.16	weak	5	0.1

**Follow: Table (1 – B)The Role of Women to conserve Wild Economic Endangered Plants  
Second: wild Pasture endangered plants**

Women 'role	-Tamarix aphylla & -Tamarix nilotica			Lygos reatam			Acacia raddiana			Cleome droserifolia			Artistida scoparia			Astragalus spinostus		
	level	%	Deg.	level	%	Deg.	level	%	Deg.	level	%	Deg.	level	%	Deg.	level	%	Deg.
<b>6- Preventing animal grazing on the plant at the time of fruiting and flowering</b>	weak	5	0.1	med	30	0.6	weak	10	0.2	weak	19	0.38	good	47	0.94	weak	5	0.1
<b>7-Determine water requirements of the plant and serving the plantation</b>	med	38	0.76	med	35	0.7	weak	10	0.2	med	30	0.6	good	42	0.84	weak	5	0.1
<b>8- cutting the unfairness of the plant after ripening</b>	med	30	0.6	med	30	0.6	weak	19	0.38	med	30	0.6	med	30	0.6	weak	10	0.2
<b>9- commercial marketing of the plant</b>	weak	19	0.38	weak	19	0.38	weak	5	0.1	weak	10	0.2	weak	19	0.38	weak	5	0.1
<b>10-Transferring knowledge heritage of plant cultivation</b>	med	30	0.6	good	58	1.16	weak	10	0.2	weak	19	0.38	med	30	0.6	weak	5	0.1

**Third: The relationship between the Bedouin women's conservation of the natural vegetation and some independent variables**

The relationship of the Bedouin woman to conserve the natural vegetation as a dependent variable and some studied independent variables as shown in table (2)

1- Very significant and positive relationship at the level of significant 01, with the degree of awareness of the economic importance of natural plants, experience in their cultivation, the presence of a commercial outlet in their marketing, the presence of Source of fuel other than natural wood where the values of the simple correlation coefficient were 0,89, 0,87, 0,91 and 0,95 respectively

2- There is a very significant and negative relationship on the level of significant 01, with each of the following independent variable: the degree of drought in the region, the degree of complexity of the process of culture of some natural plants, as the values of the simple correlation coefficient It reached  $-0.88$ ,  $-0.94$  and  $-0.92$ , respectively.

3- It was also found that there is positive relationship at the level of significance 0.05 with each of the following independent variables: The degree of participation in farm work, the degree of knowledge of the dates of flowering and fruiting of the most important natural plants, the ownership of farm animals, the size of agricultural land ownership, as the values of the simple correlation coefficient It reached 0,59, 0,67, 0,61 and 0,58 respectively

4- It was also found that there is a significant and negative relationship at the level of significance 0.05 with each of the following independent variables: the presence of residential or tourist establishments in the region, age, degree of economic and social standard of living where the values of the simple correlation coefficient have reached  $-0.66$ ,  $-0.63$ , and  $-0.62$ , respectively.



**Table N0 (3)The problems facing Bedouin women in conserving plant biological diversity in North Sinai**

<b>N0</b>	<b>problems facing Bedouin women in preserving plant biological diversity</b>	<b>frequency</b>	<b>%</b>
<b>1</b>	The weakness of marketing outlets for natural medicinal plants	90	90
<b>2</b>	limited medical uses of the plant at the local level despite the multiplicity of its uses	70	70
<b>3</b>	The reconstruction of coasts in tourist villages affected Threatening plants with extinction	65	65
<b>4</b>	to graze animals on plants at flowering and fruiting times	63	63
<b>5</b>	the interest of planting fruit trees with a quick rewarding return more than the cultivation of natural plants	60	60
<b>6</b>	lack of gender extension programs	58	58
<b>7</b>	lack of alternatives to fuel, which compels them to use unfair natural wood in the environment	56	56
<b>8</b>	The difficulty of collecting some seeds because of their small size	50	50
<b>9</b>	Climate change, increased drought,	45	45
<b>10</b>	The pharmaceutical industry in Egypt is depending on importing the active substance, which weakens demand and local interest in preserving it	44	44
<b>11</b>	The lack of knowledge of the Bedouins on the economic value of the plant	40	40
<b>12</b>	the lack of adequate availability of women cadres for training	38	38
<b>13</b>	weakness of the transfer of Bedouin knowledge heritage in its cultivation in dry areas	35	35
<b>14</b>	the weakness of the Bedouin ability to store fruits for long periods	32	32
<b>15</b>	limiting the agricultural service to planning the land	30	30
<b>16</b>	lack of interest in reserving rain water reduces its abundance to agriculture	25	25
<b>17</b>	Insufficient interest in plants in some areas	15	15
<b>18</b>	the difficulty of preparing seedlings for natural plant culture	10	10

**Forth: The problems facing Bedouin women in preserving plant biological diversity in North Sinai**

Data showed in table (3) that the weakness of marketing outlets for natural medicinal plants is one of the most frequent problems, as 90% of Bedouins mentioned this, which reduces the interest in preserving them, followed by the limited medical uses of the plant at the local level despite the multiplicity of its uses by 70%, and the reconstruction of coasts in tourist villages affected Threatening plants with extinction, as this problem mentioned 65%. Just as women tend to graze animals on plants at flowering and fruiting times are among the problems that cause extinction of natural plants by 63%.

One of these problems is the interest of the Bedouin in planting fruit trees with a quick rewarding return more than the cultivation of natural plants, representing 60% of them, and then the lack of gender extension programs is one of the problems that increases the lack of awareness of preserving biological diversity, as 58% of Bedouins mentioned it, this is

followed by the lack of alternatives to fuel, which compels them to use unfair natural wood in the environment. 56% of women mentioned this, and the difficulty of collecting some seeds because of their small size Climate change, increased drought, and a lack of water supply weaken plant germination and affect biological diversity, this was mentioned by 45%, and the pharmaceutical industry in Egypt is depending on importing the active substance, which weakens demand and local interest in preserving it, and mentioned that 44%.

The lack of knowledge of the Bedouins on the economic value of the plant due to the lack of markets for it is considered one of the problems facing conservation, as mentioned by 44%, in addition to the lack of adequate availability of women cadres for training and mentioned that 38%, and the weakness of the transfer of Bedouin knowledge heritage in its cultivation in dry areas that It mentioned by 35%.

In addition to the weakness of the Bedouin ability to store fruits for long periods was mentioned by 32%, limiting the agricultural service to planning the land only, and not conducting any other services that weakens the success of natural planting by 30%, lack of interest in reserving rain water reduces its abundance to agriculture by 25%, Insufficient interest in plants in some areas was mentioned by 15%, the difficulty of preparing seedlings for natural plant culture, due to the lack of peatmoss locally, was mentioned by 10% weakens their cultivation and mentioned that 50% of nomads.

**Table No. (3) The correlation between the role of Bedouin women in maintaining the natural vegetation and each of the independent variables**

<b>N0</b>	<b>The independent variables</b>	<b>Simple correlation coefficient values</b>
<b>1</b>	The degree of awareness of the economic importance of natural plants	+0.89**
<b>2</b>	Experience in their cultivation	+0.87**
<b>3</b>	The degree of drought in the region	**0.88-
<b>4</b>	The presence of residential or tourist establishments in the region,	*0.66-
<b>5</b>	The presence of a commercial outlet in their marketing	+0.91**
<b>6</b>	The degree of participation in farm work	*0.59+
<b>7</b>	Age.	*0.63-
<b>8</b>	The degree of knowledge of the dates of flowering and fruiting of the most important natural plants	*0.67+
<b>9</b>	Degree of economic and social standard of living	*0.62-
<b>10</b>	The ownership of farm animals	*0.61+
<b>11</b>	Degree of complexity of the process of culture of some natural plants	**0.94-
<b>12</b>	The presence of Source of fuel other than natural wood	+0.95**
<b>13</b>	The size of agricultural land ownership	*0.58+

\*Correlation coefficient was significant at level 05,

**Recommendations:**

1– Bedouin women need attention to offer training programs to raise their knowledge and implementation of environmental conservation practices to prevent the extinction of some economic natural plants.

The programs should include the following;

1–1 Increase their awareness of the economic importance of these plants.

1–2 Increase the experience of its cultivation practices.

1–3 Increase the knowledge of the dates of flowering and fruiting of the most important natural plants

1–4 Support Bedouin women 'role to preserve *Urgina maritime* as a medicinal plant, and support their activities that were weakly performed as; seed treatment before planting and before storage.

1–5 Support their role in preserving wild grass plants that were weakly performed such as; *Acacia raddiana*, and *Astragalus spin ostus*, and support their activities such as; preventing animal grazing on the plants at the time of flowering.

2– Expansion of natural reserve of medicinal and aromatic plants.

3– Training program should be directed to Bedouin women that participate in farm work, own farm animals, own big size of agricultural land , and young age.

4– Offer other sources of fuel than natural wood.

5– Offer marketing outlets for natural medicinal and aromatic plants to raise their interest in preserving wild plants.

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## دور المرأة البدوية في الحفاظ على الغطاء النباتي الطبيعي بشمال سيناء

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### المستخلص

استهدف البحث بشكل رئيسي التعرف على أهم الخصائص الاجتماعية والاقتصادية للمرأة البدوية في سيناء بمصر، والتعرف على طبيعة ودرجة الدور الفعلي للمرأة البدوية في الحفاظ على الغطاء النباتي الطبيعي، وتحديد العلاقة بين هذا الدور كمتغير تابع وبعض المتغيرات المستقلة المدروسة، والتعرف على المشكلات التي تواجهها في الحفاظ على الغطاء النباتي الطبيعي.

وكانت أهم النتائج ما يلي:

- فيما يتعلق بدورها في الحفاظ على نباتات المراعي البرية، يشار إلى ما يلي: أن أكثر الأنشطة التي لعبت أدواراً وسيطة هي: تجفيف الثمار، وحفظ وتخزين البذور، وزراعة النبات في الوقت المناسب وخدمة المزرعة.
  - وجود علاقة موجبة ومعنوية جداً عند مستوى الدلالة ٠.١، مع درجة الوعي بالأهمية الاقتصادية للنباتات الطبيعية، والخبرة في زراعتها، ووجود منفذ تجاري لتسويقها، ووجود مصدر للوقود غير الخشب الطبيعي.
  - أكثر المشاكل شيوعاً هي ضعف منافذ تسويق النباتات الطبية الطبيعية مما يقلل من الاهتمام بالحفاظ على النباتات البرية، ثم محدودية الاستخدام الطبي للنبات محلياً، وتطور السواحل في القرى السياحية، ورعي الحيوانات على النبات في وقت الإزهار والإثمار.
- الكلمات المفتاحية:** الدور، المرأة البدوية، التنوع البيولوجي، النباتات الطبية والعطرية الطبيعية، نباتات المراعي.