



## Impact of the Practical Demonstration for Manufacturing Some Human Foods from Date Palm Products in Egypt

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### ABSTRACT

Research aimed at determining the change ratio of respondents' total knowledge degrees obtained through implementing five practical demonstrations by practices in the immediate span regarding manufacturing dates cake and coffee from date kernel as cottage enterprises by using the experimental methodology, also identifying constraints and suggestions to establish the studied cottage enterprises. Two questionnaires were developed, and a personal interview was used to collect the data from the proposed sample amounted to 60 Siwan women respondents, who are accepted to participate in demonstrations. Data were collected in February and March 2022. A set of statistical tools were applied for data analysis and presentation of findings. The main important results were: 100% of respondents were found in the change ratio of total knowledge degrees obtained middle and high categories in the immediate span through implementing practical demonstration by practices regarding studied products, which indicated to the effectiveness (positive impact) of practical demonstration in transferring and correcting knowledge and practices as a successful extension method, also 43.3% of respondents desired to establish the two studied cottage enterprises, the reason for the preference the availability of dates in Siwa Oasis, beside to 85.00% of respondents were desired to work in groups, finally, difficult to market it and low availability of funding were found in first and second ranking as constraints of establishing the two studied cottage enterprises, whereas making samples for tasting and distributing it and composing a group on What's APP for selling were occupied first ranking as a suggested solutions to overcome these constraints.

**Keywords:** Practical demonstration by practices, Women, Manufacturing food products, Date Palm, cottage enterprises.

### 1. Introduction

Egypt currently occupies first rank in the date palm production with a total of 1.7 million tons/ year, equivalent to 18% of the global production and 24% of the Arab countries production (Nefin Gameh, 2021), with average productivity of 114 kg per tree (ElGehaney, 2021: 1). In spite that Egypt exports about 3.7% of the total production, representing 4.6% of the international trade volume for dates (USAID, 2021: 6), whereas Eladwy (2021: 5) explained that Egypt occupied the 13 rank among the countries of exporting dates. Egyptian dates exported to 42 markets from different countries, led by Indonesia, Morocco, and Malaysia, beside new markets have been opened in Africa, Asia, and Europe (Elmalt, 2018: 1), but most of the production is directed to the local market only (Economic Affairs Sector, 2016). According to AbdelAllah (2018: 2-3), the dates sector in Egypt suffers from many weaknesses and threats, that revealed in the Food and Agriculture Organization (FAO) study by using the SWOT analysis tool, found that, which are: no optimally exploit of all by-products of trees in an efficient way, there is no accurate statistics to estimate the wastage percentage of dates to total production, as well as the multiplicity and diversity of by-products and palm waste, where it includes the fruits

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excluded from the sorting and gradation processes, that can be used in producing many products, as Dhehibi; Ben Salah; and Frija (2018: 12-13) indicated that the date solid waste could be valorized from different perspectives and for several uses (confectionaries, handicrafts, etc.), in a way that enables maximizing the value added of this crop, creating new job opportunities and cottage, and micro enterprises; which may have an impact on the national economy, in particular the rural sector and rural women especially.

The device Agricultural extension convinces the rural people to change their behavior towards the best by providing them with more knowledge (Sajid and Naji, 2021: 1009), by using extension communication methods, the most important methods are the extension communication group methods; in these methods, the change agent communicates with a group of people that amounted to 15-20 rural persons to be effective in adopting the innovations. Also, these methods rely on the adults' education principles, which are: adults are adding their experiences in any educational situation, that meant it should be better the training subject relate to their experiences; they need a meaningful motivation to learn new practices, finally the demonstrator must encourage the adult's contributions through the learning process (Elfeshawy; and Marwa Elghorab, 2013).

Agricultural practical demonstration is the first extension communication group methods, were first recognized over 100 years ago by Seaman A. Knapp, and Knapp's theory was that farmers would not change their practices as a result of their observing, but they needed to those practical demonstrations that farmers are conducted the new practices by themselves under ordinal farm conditions (Hancock, 1992:2). In Egypt, practical demonstration involves showing new technique or inputs or practices, and its potential socioeconomic benefits to the targeted (Ahmed, and *et al.*, 2021: 11). It's defined as the way to educate the targeted the innovation works or the way to implement it; also what are the impact of implementing it like increasing the yield. The sensible demonstration could be a particularly powerful method to use with illiterates, which is able to give them the chance to observe the differences between recommended new practices and traditional ones (Oakley; and Gardforth, 1985).

Practical demonstration is often led by extension agents or researchers or others. Some experts are distinguished between two types of practical demonstration, which as follows; the first one is practical demonstration by showing results, that compare a recommended practice with existing practice; and the second type is practical demonstration by practice (Soniia David; and Francesca Cofini, 2017:9), which is included the target group's participation, this meant learning by doing practice, under supervision of the demonstrator, and the pervious one is proved its successful when it has been applied at all Egypt Governorates over the various years since the sevenths of the last century till now (Saleem 2021).

In this regard Elfeshawy; and Marwa Elghorab (2013) mentioned that, practical demonstration by practice has great effective in the last stages of the adoption process (the trial and adoption stages); it is including the senses of vision and hearing, there are discussion and actual participation in it; finally, it helps in building confidence in the change agent. The learning process of the target groups is increased by exposure a video film with good content to support the practical demonstration, such as Mefalopulos; and Kamlongera (2004) mentioned that, video film has often been regarded as a powerful aid, also they are identified the main propose of using it: documentation; monitoring; encouraging participation; generating discussion; and facilitating the learning process, as well as Marwa Elghorab (2010: 75) indicated that video film is often an effective aid in the case of a certain targeted accused of a particular topic and with certain characteristics, in this regard Hamza (2014: 42-43) explained the video film is very beneficial for learning the practices and skills; is helping to understand and remember to stimulate interest.

There were many studies and researches that are emphasized on the importance of using practical demonstration, the following is what could be found: (Kittrell, 1974: 94); (MacGowan; and *et al.*, 2018: 7); (Wang; Miller; and Zhang, 2021: 4), and (Sseguya; and *et al.*, 2021) indicated that, the utility of practical demonstration is a successful extension method to convince the targeted to adopt the innovations and increasing their incomes, beside that extension workers recommend of implementing it as an efficient extension method, finally, the study by Sutherland, and Marchand (2021: 582, 584) explained that, the first planning steps of demonstration are critically important elements, emphasizing that the organizer needed to determine the clear purpose of the demonstration; decisions about the problem being addressed; choice of location of it; participants and ways to reach them with advertising; and the techniques of conveying the demonstration message, must be consistent, also that demonstration has considerable secondary benefits, particularly building social capital and networks between targeted.

The studies have found that investing in women is smart economics and that discrimination against women has high cost implications for any economy, and reducing the gender gap plays a main role in poverty reduction (CAPMS, 2017) especially in developing countries such Egypt. In Egypt, the women represent around

half of the population, and that the same in rural areas with percent 48.40% of the rural areas population, that means the rural women make up about a quarter of the Egyptian society according to (CAPMS, 2017), they play a major role in agricultural sector; the studies revealed the importance of women contribution to various agricultural activities, especially in the rural industries (Policy, Coordination Unit for Women in Agriculture PCUWA, 2019).

Siwan women are distinguished by their isolation as a result of the customs, traditions, and cultural inheritances of Bedouin people in Siwa. According to (CAPMS, 2017) the women are representing half of Siwan community by percent 48.08%. They are considered a wasted labor force that can be exploited and taught them how to exploit the by-products and wastes of the palm tree, and converting them into new products (made a value-added) that benefit her family in nutrition possess and may also enable her to establish cottage enterprises, as Bhattacharjee (2020: 8-9) indicated that, cottage enterprises are fall within the subcategory of micro enterprises, it defined a small-scale, decentralized manufacturing business often operated from home; based on agriculture, it is source of income, which are characterized by: mostly made up of family members; supplement income raised from selling crops; investment is low; provide mostly for local markets; engage very few people (in most cases, one to two persons). This will be inside her home in a way that does not conflict with the Bedouin customs and traditions; that may work to empower them economically and socially in the long term.

From the above, the main basis for conducting this research was to exploit the Siwan women wasted labor force. For that, this research is investigated how to transfer the technical recommended knowledge and practices related to the exploitation of date palms fruits and wastes in the manufacture of food products (cake stuffed with dates, and coffee from date kernels) to Siwan women, through an effective extension method, that is the practical demonstration by practice supported by a video film that was produced for this propose, then determining the impact of implementing it on their technical recommended knowledge in the immediate span. So this research is consistent with the Egypt's current trend in terms of a decent life project, which aimed at developing the Egyptian countryside and adopted by the presidential institution, as well as it is consistent with (the updated strategy of sustainable agricultural development in Egypt 2030 for the Ministry of Agriculture and Land Reclamation (MALR) (2020: 222), this research falls under the fifth national program for the modernization and development of marketing, and the promotion of agricultural Investment and support for competitiveness.

## **1.1. The Research objectives**

**1.1.1.** Determining the change ratio of Siwan women respondents' total knowledge degrees obtained through implementing practical demonstration by practices in the immediate span regarding manufacturing food products from the date palm (dates cake or coffee from date kernel).

**1.1.2.** Determining the significance of the correlation relationship between the studied independent variables, and the change ratio of respondents' total knowledge degrees obtained through implementing practical demonstration by practices in the immediate span regarding manufacturing food products from date palm as a dependent variable.

**1.1.3.** Identifying desire of respondents regarding the possibility of establishing the two studied cottage enterprises from date palm.

**1.1.4.** Identifying marketing constraints of establishing the two studied cottage enterprises in Siwa Oasis and the respondents' suggested solutions.

## **2. Materials and Methods**

**2.1. The operational definition of the change ratio of Siwan women respondents' knowledge degrees in the immediate span regarding manufacturing food products from dates:** It is referred to as the dependent variable in this research which expressed to the difference between the total degrees obtained by the respondents before and after conducted the practical demonstration by practices, which implemented by researchers divided by the total score (31 items) of the knowledge degrees in the immediate span regarding cake stuffed with dates and coffee made from dates kernels, finally multiply by 100.

**2.2. Geographic scope:** Siwa Oasis in Matrouh Governorate is considered among the most important date palm cultivation areas in Egypt, which includes about 700,000 palm trees, producing about 84,000

tons of dates with an average of 120 kg per one palm. FAO granted the date production system in Siwa Oasis, the certificate of globally important agricultural heritage systems, making this oasis an agricultural heritage area of global importance for its preservation of ecosystems and heritage in palm cultivation, The Siwan date variety is considered one of the most important export varieties (ElMalt, 2018: 2). It was determined by selecting Umm Al Shrouf, Aghurmi, Al Maraqi villages, and Siwa elbald in Siwa Oasis in Matrouh Governorate.

**2.3. Research sample:** Data collected from proposed sample is amounted to 60 Swian women respondents, who accepted participating in the five implemented practical demonstrations and they own dates palm trees.

**2.4. Methodology:** Experimental by proposed sample (before and after) the way was applied.

**2.5. Collecting Data:** Two questionnaires tool (before and after) were developed and pre-tested, a personal interview was used in collecting the data. Data collected in February and March 2022.

## **2.6. Research data quantitative processing**

### **2.6.1 First section of the respondent's demographic characteristics:**

**2.6.1.1.** Age: measured through respondents questioning in interviews.

**2.6.1.2.** Educational years: measured through respondents questioning in interviews.

**2.6.1.3.** Numbers of the respondents' family members: measured through respondents questioning in interviews, then variable divided to three categories according to the actual range, they are: small (3-less than 10) numbers of the family members, middle (10-less than 17) numbers of the family members, and big (More than 17 numbers of the family members).

**2.6.1.4. The degree of cosmopolitness:** measured by asking the respondents about their exposure to newspapers, television, books, the Internet, and their travel outside Siwa Oasis, giving zero for answer no, a degree for answering rarely, two degrees for answering sometimes, and three degrees for answering always, this variable was estimated by summation of the total degrees of each respondent separately. Then variable divided to three categories according to the theoretical range, they are: low (0-less than 4) degrees, middle (4-less than 8) degrees, and high (more than 8 degrees) as seen in table 1.

**2.6.1.6. Modernity degree:** measured with a scale of seven statements; agree, neutral, and disagree. Scale readings were presented to a group of arbitrators for (face validity). To determine the scale reliability Gutman coefficient (split – half) was used (Barakat, 2000: 30), where it reached 0.512, finally the intrinsic validity of the scale was measured through the coefficient of reliability (Elsayed, 1979: 552), where it reached 0.716. The maximum scale reached (21 degrees) and minimum (7 degrees), and the actual range (14 degrees), the three categories are: negative attitude (7 to less than 12) degrees, neutral attitude (12 to less than 17) degrees, and positive attitude (more than 17degrees) as seen in table 1.

**2.6.1.7. The number of date trees:** estimated through respondents questioning in interviews, then variable divided to three categories according to the actual range, they are: low number (less than 74) trees, middle number (74 to less than 147) trees, and big number (more than 147 trees) as seen in table 1. And estimated the number of fruitful date trees, and asked the respondents about their uses of the date palm fruits and date kernels, then calculated by frequencies and percentages.

**2.6.2. The dependent variable:** the change ratio of Swian women respondents' total knowledge degrees obtained through implementing practical demonstration by practices in the immediate span regarding manufacturing food products from date palm: The degree of Swian women respondents' total knowledge degrees regarding to the recommendations of manufacturing cake stuffed with dates fruits and coffee from dates kernels (as cottage enterprises), with prepared a video film for how to manufacture the cake stuffed with fruits for a period of five minutes, that was produced by the researchers, then presented it to respondents, before implementing the practical demonstration by practices to increase their awareness of the recommendations, and this variable measured by the respondents' responses to 31 collective knowledge, which were distributed as follows: 23 knowledge related to how to prepare the cake stuffed with date fruits (correct amounts, preparation steps for the ingredients, the steps for mixing the ingredients, how to add the fruits to be not burn, and the cooking

steps), and 8 knowledge related to how to prepare the coffee from date kernels (drying and grinding it with flavorings to give it an aroma and taste close to Turkish coffee), after that the respondent who had the correct answer to the knowledge was gave one degree and who didn't answer was gave zero, then the change ratio of Swian women respondents' total knowledge degrees obtained measured by the following equation:

$$\left( \frac{\text{the respondents' knowledge degrees before made the practical demonstration by practices} - \text{the respondent's knowledge degrees after}}{\text{the total knowledge degrees}} \right) \times 100$$

The maximum scale reached (100%) and minimum (0%), and the actual range (100%), according to the actual range the variable divided to the three categories, they are: low change ratio (0.00 to less than 33.33) %, middle change ratio (33.33 to less than 66.67) %, and high change ratio (more than 66.67%) as seen in table 2. In addition to asked the respondents about appropriateness of presenting the supported educational video film before implementing the practical demonstration by practices or not, and the reasons of appropriateness from their point of views this measured by the respondent's frequencies, and percentages.

### **2.6.3. The desire of respondents regarding the possibility of establishing the two studied cottage enterprises from date palm**

It is expressed by asking the respondents about their readiness to establish a cottage enterprise of dates cake or coffee from date kernel, either both of them or not, also asking them about the reasons for their preference for each, finally identifying their acceptance to work in groups or not if they implement the mentioned cottage enterprises as shown and trained in the practical demonstration by practices, this measured by the respondent's number, frequencies, and percentages.

### **2.6.4. The marketing constraints of establishing the two studied cottage enterprises from in Siwa Oasis and the respondents' suggested solutions**

Inventory of obstacles and solutions from the respondents' point of view and were measured by frequencies and percentages.

**2.7. The statistical analysis:** Tables, number, frequencies, percentages, arithmetic means, standard deviation, Pearson's simple correlation coefficient, Guttman split-half estimate, the coefficient of reliability were applied as statistical tools for data analysis and presentation of findings.

**2.8. The research hypothesis:** To achieve the second objective of this research was composed this research hypothesis, which referred to "there is significance of the correlation relationship between the studied independent variables, and the change ratio of Swian women respondent's total knowledge degrees obtained through implementing practical demonstration by practices in the immediate span regarding manufacturing food products from date palm as a dependent variable".

## **3. Results and Discussion**

### **3.1. The social and economic characteristics of the Swian women respondents**

Results in table 1 show that almost two-thirds of the respondents, existed in low age category with percentage 60.00% by mean 31.02 years old and standard deviation 10.65 years old, also 66.67% of respondents existed in middle education level category by mean 7.67 educational years and standard deviation 2.95 educational years, in addition to all respondents reported that, they are get married except six respondents were female-head household (widowed and divorced women) and 4 respondents who have never been married and they are lived with their families, beside that more than three quarters of respondents, existed in small (3-less than 10) numbers of the family members category, of percentage 78.34%, in addition to near half of respondents, of percentage 48.33%, existed into middle degrees of cosmopolitanism category (4-less than 8), by mean 4.48 degrees and standard deviation 2.28 degrees, in this regard, they explained that, the most important places they went the governorates inside Egypt, especially Matrouh and Alexandria governorates, and outside Egypt was Saudi Arabia.

**Table 1:** Distribution of the respondents according to their characteristics

Variables	N.	%*	Rank
<b>Age categories</b>			
- Low (16-less than 32) years old	36	60.00	1
- Middle (32-less than 48) years old	19	31.67	2
- Big (More than48) years old	5	8.33	3
<b>Total</b>	<b>60</b>	<b>100.00</b>	
<b>Mean</b>		<b>31.02</b>	
<b>Standard deviation</b>		<b>10.56</b>	
<b>Educational level categories</b>			
	<b>N.</b>	<b>%*</b>	<b>Rank</b>
- Illiterate	2	3.33	3
- Low (more than 0-less than 5) educational years	17	28.33	2
- Middle (5-less than 10) educational years	40	66.67	1
- High (More than 10 educational years)	1	1.67	4
<b>Total</b>	<b>60</b>	<b>100.00</b>	
<b>Mean</b>		<b>7.67</b>	
<b>Standard deviation</b>		<b>2.95</b>	
<b>Family members' numbers categories</b>			
	<b>N.</b>	<b>%*</b>	<b>Rank</b>
-Small (3-less than 10) numbers of the family members	47	78.34	1
-Middle (10-less than 17) numbers of the family members	11	18.33	2
- Big (More than 17 numbers of the family members)	2	3.33	3
<b>Total</b>	<b>60</b>	<b>100.00</b>	
<b>Mean</b>		<b>7.63</b>	
<b>Standard deviation</b>		<b>3.83</b>	
<b>The degree of cosmopolitnss</b>			
	<b>N.</b>	<b>%*</b>	<b>Rank</b>
- Low (0-less than 4) degrees	24	40.00	2
- Middle (4-less than 8) degrees	29	48.33	1
- High (More than 8 degrees)	7	11.67	3
<b>Total</b>	<b>60</b>	<b>100.00</b>	
<b>Mean</b>		<b>4.48</b>	
<b>Standard deviation</b>		<b>2.28</b>	
<b>Modernity degrees categories</b>			
	<b>N.</b>	<b>%*</b>	<b>Rank</b>
-Negative Attitude (11 to less than 15) degrees	8	13.33	3
-Neutral Attitude (15 to less than 19) degrees	29	48.34	1
- Positive Attitude (More than 19 degrees)	23	38.33	2
<b>Total</b>	<b>60</b>	<b>100.00</b>	
<b>Mean</b>		<b>17.46</b>	
<b>Standard deviation</b>		<b>2.14</b>	
<b>The number of date's trees categories</b>			
	<b>N.</b>	<b>%*</b>	<b>Rank</b>
-Low (less than 74) trees	52	86.7	1
-Middle (74 to less than 147)trees	5	8.3	2
- Big (More than 147 trees)	3	5.0	3
<b>Total</b>	<b>60</b>	<b>100.00</b>	
<b>Mean</b>		<b>27.5</b>	
<b>Standard deviation</b>		<b>47.19</b>	

\*The percentage was calculated to the total summation of respondent research group, Source: research sample

As well as, 48.34% of respondents found in the neutral attitude (15 to less than 19) modernity degrees category, whereas more than third of respondents occupied in the positive attitude (more than 19) modernity degrees category, by mean 17.46 degrees and standard deviation 2.14 degrees, also almost the respondents found in the low the number of date's trees category (less than 74 trees), by mean 27.5 trees and standard deviation 47.19 trees, while the mean of fruitful date's trees was 22.6 trees with standard deviation 40.35 trees, finally the swain women respondents mentioned that, there were at least one male and two women help them in the house affairs.

The respondents' usage of the date palm fruits and date kernels: the respondents reported that, they are eating the date palm fruits fresh, especially in the Ramadan month (fasting), or add it in various dishes (bread, eggs with dates, porridge, etc.) and as juice by percentage 100.00%, but none of them reported that they used it in cake before, without burning it, as well as for date kernels, they reported that, they throw it in the garbage with percentage 45.00% from total respondents; also they recycled it as non -traditional fodder for small and large farm animals after soaking it by percent 40%; they manufactured it as a coffee not like Turkish coffee as they were learned in practical demonstration by practices with percentage 15.00%; they sold it for traders by percent 6.67%; and 33.33 of respondent mentioned they are added it on kohl .

From the above, the respondents occupied the small age category, that are able to work, produce and able to learn new knowledge, despite they found in the basic education category, the respondents explained that due to the swain customs and traditions that prevent them from incompleting their education and the tendency to let them marry when they are young. Also most of the respondents occupied the low and medium cosmopolitness categories as a result swain customs and traditions, while their degree of modernity degrees was in the medium and high categories, with the availability of a number of family members who can help them develop cottages enterprises for them from the date palm trees available in their families' holdings, finally they mentioned that, they didn't use the date palm fruits and date kernels as they learned it in the practical demonstration by practices.

### **3.2. The change ratio of Swain women respondents' total knowledge degrees obtained through implementing practical demonstration by practices in the immediate span regarding manufacturing food products from date palm**

The results explained in table 2 that, nearly two-thirds of the respondents found in the change ratio of knowledge degrees obtained middle category (33.33 to less than 66.67) % in the immediate span through implementing practical demonstration by practices regarding manufacturing cake stuffed with dates fruits by percent 60.00% from total respondents, by mean 67.03% and standard deviation 18.98%, while the results in the same table shown that, three-quarters of respondents found in the change ratio of knowledge degrees obtained high category (more than 66.67%) in the immediate span through implementing practical demonstration by practices regarding manufacturing coffee from dates kernels with percentage 75.00%, by mean 84.58% and standard deviation 21.39%, also the results in the same table revealed that, 55.00% more than of half of the swain women respondents' occupied the change ratio of total knowledge degrees obtained high category (more than 66.67%) in the immediate span through implementing practical demonstration by practices regarding manufacturing food products from the date palm, by mean 71.56% and standard deviation 16.66%.

The previous results are reflecting that, there is a knowledge gap among the swain women respondents' regarding the manufacturing of food products from date palms (cake stuffed with dates fruits, and coffee from dates kernels) correct ingredients, amounts and way, this gap was filled, this proven by the high change ratio of their knowledge degrees obtained, which indicated to the high degree of their after knowledge degrees were obtained in the immediate span through implementing practical demonstration by practices regarding manufacturing food products from the date palm that supported by an educational video film, which might is referred to the effectiveness (positive impact) of practical demonstration by practices in transferring and correcting knowledge and practices by easily way to the respondents as a successful extension method.

For the video, the respondents indicated the following: 81.67% almost of respondents reported that the supported educational video film was appropriate to produce and present before implementing the practical demonstration by practices, and that for the following reasons: to give an idea of the content that will be implemented practically, and how they could implementing it correct way required, as well

as the knowledge and seeing it to prove the knowledge and practices more in a way that helps them to memorize it easier, especially in the case of steps for proper implementation.

**Table 2:** Distribution of the swain women respondents' according to their change ratio of total knowledge degrees obtained through implementing practical demonstration by practices in the immediate span regarding manufacturing food products from date palm

<b>The change ratio of knowledge degrees obtained categories regarding manufacturing cake stuffed with dates fruits</b>	<b>N.</b>	<b>%*</b>	<b>Rank</b>
-Low (0.00 to less than 33.33) %	0	0.00	
-Middle (33.33 to less than 66.67) %	36	60.0	<b>1</b>
- High (More than 66.67%)	24	40.0	<b>2</b>
<b>Total</b>	<b>60</b>	<b>100.00</b>	
<b>Mean</b>		<b>67.03</b>	
<b>Standard deviation</b>		<b>18.98</b>	

  

<b>The change ratio of knowledge degrees obtained categories regarding manufacturing coffee from dates kernels</b>	<b>N.</b>	<b>%*</b>	<b>Rank</b>
-Low (0.00 to less than 33.33) %	0	0.00	
-Middle (33.33 to less than 66.67) %	15	25.0	<b>2</b>
- High (More than 66.67%)	45	75.0	<b>1</b>
<b>Total</b>	<b>60</b>	<b>100.00</b>	
<b>Mean</b>		<b>84.58</b>	
<b>Standard deviation</b>		<b>21.39</b>	

  

<b>The change ratio of total knowledge degrees obtained categories regarding manufacturing food products from date palm</b>	<b>N.</b>	<b>%*</b>	<b>Rank</b>
-Low (0.00 to less than 33.33) %	0	0.00	
-Middle (33.33 to less than 66.67) %	27	45.00	<b>2</b>
- High (More than 66.67%)	33	55.00	<b>1</b>
<b>Total</b>	<b>60</b>	<b>100.00</b>	
<b>Mean</b>		<b>71.56</b>	
<b>Standard deviation</b>		<b>16.66</b>	

\*The percentage was calculated to the total summation of respondent research group, Source: experimental methodology and equation of change ratio

**3.3. The correlation relationship between the studied independent variables on the change ratio of Swian women respondent's total knowledge degrees obtained through implementing practical demonstration by practices in the immediate span regarding manufacturing food products from date palm as dependent variable**

In order to achieve the second objective of this research and its research hypothesis, was set up the null hypothesis “there is no significant correlation relationship between the studied independent variables, and the change ratio of Swian women respondents’ total knowledge degrees obtained through implementing practical demonstration by practices in the immediate span regarding manufacturing food products from date palm as a dependent variable”. The simple Pearson correlation coefficient used to test the significance of the correlation relationship, between the studied independent variables, and the previous dependent variable. The results in table N. 3 explained that, there was a significant correlation relationship between the degree of cosmopolitness, and the change ratio of Swian women respondents’ total knowledge degrees obtained through implementing practical demonstration by practices in the immediate span regarding manufacturing food products from date palm as a dependent variable, because the calculated value of Pearson correlation coefficient (0.284) is more than the tabular value is (0.2548) at significant level 0.05, whereas, there were no significant correlation relationship between the remain independent variables, and the studied dependent variable.



**Table 3:** The values of simple correlation coefficients between the studied independent variables and the dependent variable

Ser.	Studied independent variables	Values of the simple Pearson correlation coefficient of the change ratio of Swian women respondents' total knowledge degrees obtained, N=60
1	Age	0.038
2	Educational years	-0.170
3	numbers of the respondents' family members	-0.097
4	the degree of cultural openness	-0.284*
5	modernity degrees	0.671
6	The number of date trees	0.097

The tabular value of Pearson's simple correlation coefficient at 58 F.D. and significant level (0.05) = 0.2548, \* significant at level (0.05)), Source: research sample

### 3.4. The desire of respondents regarding the possibility of establishing the two studied cottage enterprises from date palm

The results in table 4 showed that, both of them (dates cake and coffee from date kernel) occupied the first ranking to establish a cottage enterprise, by percent 43.3% from total respondents, then the coffee from date kernel as a cottage enterprise by percent 28.3%, in the third rank was dates cake with percentage 26.7%, finally, one respondent didn't ready to establish a cottage enterprise from dates by percentage 1.67%.

**Table 4:** Distributing the respondents regarding their readiness to establish a cottage enterprises form date palm

Ser.	Desires	N.	%*	Rank
1	Dates cake	16	26.7	3
2	Coffee from date kernel	17	28.3	2
3	Both of them	26	43.3	1
4	No	1	1.67	4
<b>Total</b>		<b>60</b>	<b>100.00</b>	

\*The percentage was calculated to the total summation of respondent research group=60 respondents, Source: research sample

Concerning the reasons for the preference, the respondents reported that choosing the both of them, were as follows: learning new manufacturing ways, doing both two enterprises together and feeding on them, and the availability of dates in Siwa Oasis, which will be saving on the costs of manufacturing the two enterprises, while the reasons for selecting the coffee from date kernel as a cottage enterprise were: is easy sold in cafes, it is a new product, respondents could be make it for their husbands, coffee from date kernel had especially taste, profitable enterprise and kernel have a high nutritional value, and it is easy enterprise, whereas the reasons for choosing dates cake as a cottage enterprise were: easy of making a cake stuffed with dates because they were liked the way of manufacturing, as well as providing compliments with it, finally, only one respondent didn't desire to establish a cottage enterprise of dates, because she didn't have time to do it and she owns a sewing workshop.

Regarding to identifying respondent's acceptance to work in groups or not if they implement the mentioned cottage enterprise as shown and trained in the practical demonstration by practices, they indicated that almost of respondents accepted to work in groups with percentage 85.00% of total respondents, while 15.00% were refused to work in groups.

### 3.5. The marketing constraints of establishing the two studied cottage enterprises from in Siwa Oasis and the respondents' suggested solutions

Difficult to market it and low availability of funding were found in first and second ranking as marketing constraints of dates cake and coffee from date kernel as cottage enterprises by percent 53.6%,

35.7%, 59.00%, and 38.00% from total frequencies respectively, whereas making samples for tasting and distributing was occupied the first ranking as a suggested solution to overcome the constraints of dates cake and coffee from date kernel by percent 32.14% and 28.57% from total frequencies respectively, while composing a group on What's APP for selling was also in the first ranking as a suggested solution to face the constraints of coffee from date kernel by same percentage, in the second rank was delivering their husbands and the man's family members respondents' training courses to help women in cottage enterprises as a suggested solution to overcome the constraints of dates cake by percentages 25.00%, while finding a point of selling and take a loan from banks were in the second ranking to overcome the constraints of coffee from date kernel by percent 10.71%, as seen in table 5.

**Table 5:** The marketing constraints of establishing the two studies cottage enterprises from dates in Siwa Oasis and the respondents' suggested solutions

Ser.	Constraints of dates cake	Frequencies	%*	Rank
1	Difficult to market it	15	53.6	1
2	Forgetting the ingredients	2	7.14	3
3	Husband refused	1	3.57	4
4	Low availability of funding	10	35.7	2
<b>Total</b>		<b>29</b>	<b>100.00</b>	
Ser.	Constraints of coffee from date kernel	Frequencies	%*	Rank
1	Inability of customers	1	3.4	4
2	Difficult to market it	17	59.00	1
3	Husband refused	1	3.4	4
4	Low availability of funding	8	28.00	2
5	Difficulty dealing with cafes and cafeterias to market	2	6.9	3
<b>Total</b>		<b>29</b>	<b>100.00</b>	
Ser.	Solutions of dates cake	Frequencies	%*	Rank
1	Making samples for tasting and distributing it	9	32.14	1
2	Delivering their husbands and the man's family members respondents' training courses to help women in cottage enterprises	7	25.00	2
3	Finding a point of selling	1	3.571	4
4	Composing a group on What's APP for selling	2	7.143	3
5	Take a loan from banks	2	7.143	3
6	Composing a money association called "Gemma"	2	7.143	3
7	Asking for help from their men	1	3.571	4
8	Income saving	1	3.571	4
9	Writing the ingredients to keep	2	7.143	3
10	Perseverance	1	3.571	4
<b>Total</b>		<b>28</b>	<b>100.00</b>	
Ser.	Solutions of coffee from date kernel	Frequencies	%*	Rank
1	Finding a Product Marketing Officer	2	7.143	3
2	Making samples for tasting and distributing it	8	28.57	1
3	Finding a point of selling	3	10.71	2
4	Composing a group on What's APP for selling	8	28.57	1
5	Taking a loan from banks	3	10.71	2
6	Composing a money association called "Gemma"	2	7.143	3
7	Asking for help from their men	1	3.571	4
8	Income saving	1	3.571	4
<b>Total</b>		<b>28</b>	<b>100.00</b>	

#### **4. Conclusion (practical benefit of this research)**

Regarding the research results five recommendations could be deducted:

- There is a positive impact of practical demonstration by practices as an extension method, to transfer new knowledge and practices, that was confirmed by respondents' knowledge increased, especially, which supported by educational video film to draw respondents' attention of knowledge and confirm on knowledge and practices steps.
- Appropriateness of the practical demonstration by practices as an extension method for women groups or closed societies that are characterized by strict customs and traditions, with the importance of the conductor of practical demonstration should be the same sex of the respondents' community, to increase the dealing comfortably way, especially in the case of training, and the respondents' participation in the educational process, due to raising the acceptance of knowledge and practices.
- One village one product approach could be applied in closed societies, which there are limited crops or products such as dates available in Siwa Oasis, with various operations of the product' added value, to support villagers and achieve the prosperity in their community.
- Women in case of closed societies have high readiness, ambitions, aspirations and adhere to any opportunity available to them, that was proved by a high respondents' acceptance of their readiness in implementing cottage enterprises from knowledge were obtained, their acceptance to work in groups, and their suggested solutions to overcome the constraints such as making samples for tasting and composing groups on WhatsApp for selling.
- Implementing intensive training courses for Swian men and women on gender issues, working as groups to adapt mechanisms and spreading these concepts in the Swian community, by central administration of agricultural extension services and agricultural extension and rural development research institute.
- The concept of cottage enterprises must be included within the Micro, Small and Medium Enterprises Development Agency (MSMEDA) in coordination with Ministry of Agriculture and Land Reclamation, because it fully applies its characteristics to most of the rural home-based industrialization enterprises, which are usually carried out by rural women.

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