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SOME FACTORS RELATED TO ADOPTION OF EDUCATION BY RURAL WOMEN, AS PERCEIVED BY THEIR HUSBANDS, IN FOUR EGYPTIAN GOVERNORATES

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Abstract

The main objective of this study was to determine factors related to adoption of education by the Egyptian rural woman. The study data were collected during the period March-April, 2000 as a part of a project, conducted by Agricultural Extension and Rural Development Research Institute (AERDRI), for evaluating the agricultural extension radio program, "Ardel-Mahrousa". In this study, rural woman's education was recognized as an innovation. The main objective of the study was to determine different variables that explained variance in rural woman's educational level.

The study sample encompassed 400 farmers living in four Governorates (Kalioubia, Behira, Menia, and Fayoum). The study encompassed 400 fruit and vegetable farmers (100 respondents/ Governorate). Four preconditions were set to be met by the study participants:(1) farmers' wives adopted education with those illiterate ones started attending illiteracy eradication classes; (2) the study participants work primarily in agriculture, or agriculture and additional work(s); (3) they listen regularly to the agricultural extension radio program, "Ardel-Mahrousa", with a minimum listening times of one episode/month; and (4) they participate voluntarily in the study. A pre-tested written questionnaire and face-to-face, or interpersonal, interview were used in collecting the study data. Frequency, mean, standard deviation, zero-order correlation, and step-wise multiple regression were used in analyzing the obtained study data.

Relationships between rural woman's educational level (the dependent variable) and each of the independent variables (husband's age, husband's educational level, family size, husband's additional work(s), agricultural land ownership, husband's listening habits, husband's knowledge discussion with others, knowledge related to vegetable production, and knowledge related to fruit production) were determined. The four significant variables (husband's educational level, knowledge related to vegetable production, husband's age, and agricultural land ownership) explained together about 35% of the variance in the dependent variable, rural wife's educational level measured in years. Limitations of the study and applicability of the findings were explained.

INTRODUCTION AND THEORETICAL FRAMEWORK

There has been a long history of neglect and indifference to female education in Egypt. This brought about high illiteracy rates especially among women living in rural areas. Illiteracy rates of rural women reached about 63% versus about 36% of rural men, in accordance with the Egyptian population census of 1996(Central Agency for Public Mobilization and Statistics, 2000:20). Tables 1-3 showed the illiteracy condition in Egypt including rural and urban population. In general, female illiteracy is considered as a major cause of their marginalization and low status in life. Despite some improvements in the Egyptian female education initiated and continued by the 1952 revolution and the two followed national regimes of presidents Sadat and Mubarak, the gender lag in education remained wide. Female, especially in rural areas, is reflected in different female disadvantages including early and long work hours, poor nutrition, bad health, and early marriage and childbearing (Haider, 1996). In addition, female drop out of schools, in Egypt, is referred to different reasons including traditional, attitudinal, financial, and infra-structural ones. All those factors perpetuated dependency and marginalization of females especially in the Egyptian rural areas.

Some factors determine the quality and quantity of the changes the woman experiences in the development arena. Among those reasons: (1) traditional and cultural norms, (2) productive roles of women, (3) political values and structures, and (4) position of the country in the international system. In general, women have little institutionalized power, comparison to men, at the local, national, and international levels. Women status, in general, becomes higher when they can develop social ties and create awareness among fellow citizens, take men's roles, and when the public and domestic domains are weakly differentiated (Charlton, 1984).

Shah (2001:24) pointed out that female labor force in the Egyptian agriculture represents about 23% of the total labor force in this vital sector. Young girls of 15-19 years of age represent about 21% of the total female labor force in agriculture, and about 60% of them are working with no wage as a part of the traditional family labor system. Women who have agricultural land ownership represent less than 3% of the total number of agricultural-land owners. Women, according to Shah (2001:24) represent less than 12% of the total number of Egyptian farmers who have access to short term credits, and less than 16% of those Egyptian farmers who are eligible to receive agricultural investment loans. Agricultural extension services are also biased against rural women with about 6% of the available extension services directed to rural women. Shah (2001:24) also claimed that despite the fact that rural women take the heavy

Table 1. Distribution of the Egyptian rural population in accordance with educational status and gender as reported by the 1996 Egyptian census.

Educational Status	Rural Women		Rural Men	
	Frequency	Percentage	Frequency	Percentage
Illiterate	7721025	63.23	4616042	36.40
Read and Write	1517140	12.42	2929775	23.10
Primary	915416	7.50	1291568	10.18
High Education and Two Years Up	1932839	15.83	3397005	26.79
University Degree	121145	0.99	442895	3.49
Not Stated	3949	0.03	4845	0.04
Total	12211514	100.00	12682130	100.00

Source: Central Agency for Public Mobilization and Statistics, The Statistical Yearbook 1993-1999 (2000:20).

Table 2. Distribution of the Egyptian urban population in accordance with educational status and gender as reported by the 1996 Egyptian census.

Educational Status	Urban Women		Urban Men	
	Frequency	Percentage	Frequency	Percentage
Illiterate	7284721	33.80	2024237	19.81
Read and Write	1692677	7.42	2259661	22.11
Primary	914131	9.41	1034109	10.12
High Education and Two Years Up	3093913	31.83	3645344	35.67
University Degree	731853	7.53	1252102	12.25
Not Stated	2118	0.02	2910	0.03
Total	9719413	100.00	10218363	100.00

Source: Central Agency for Public Mobilization and Statistics, The Statistical Yearbook 1993-1999 (2000:20).

Table 3. Distribution of the Egyptian population in accordance with educational status and gender as reported by the 1996 Egyptian census.

Educational Status	Women		Men	
	Frequency	Percentage	Frequency	Percentage
Illiterate	11005746	50.18	6640279	29.00
Read and Write	3209817	14.64	5189436	22.66
Primary	1829547	8.34	2325677	10.16
High Education and Two Years Up	202998	22.92	7042349	30.75
University Degree	852998	3.89	1694997	7.40
Not Stated	6067	0.03	7755	0.03
Total	21930927	100.00	22900493	100.00

Source: Central Agency for Public Mobilization and Statistics, The Statistical Yearbook 1993-1999 (2000:20).

burdens in animal production and animal husbandry, they receive no extension training in this area. Training is almost not available for rural women. Furthermore, female illiteracy rate is about 63% among rural women, and exceeds to reach 79% among female agricultural laborers.

Innovation is defined as an idea, a practice, or an object that is perceived as new by an individual or other unit of adoption (Rogers, 1995). Adoption of an innovation is a decision to make full use of an innovation as the best course of action available. It is the stage where a person decides that a new idea, or practice is good enough for full scale and continuous use (Lionberger, 1960). It is the acceptance of an idea, practice, or product by a single unit of potential audience (Klonglan *et al.*, 1967). It entails a gradual shift in orientation from an old to a new practice (Rogers, 1960). Rogers (1995) differentiated between the cognitive acceptance (symbolic adoption) of an innovation, and the actual use of an innovation, whether this behavior represents the initial trial (implementation) or continued use (confirmation). Klonglan and Cowaed (1970) claimed that sociological considerations are relatively more important in explaining symbolic adoption, while economic considerations are relatively more important in explaining use adoption. Rogers (1995) classified adopter categories as innovators, early adopters, early majority, late majority, and laggards.

In recognizing education as an innovation, it was possible to consider those rural women who started their education late as late adopters and laggards. By setting the preconditions related to a completion of a minimum year in an illiteracy eradication class, it may be possible to recognize them as adopters of education. In determining variables that have impact on rural woman's education, it may be possible to raise her educational level and contribute in solving illiteracy problems in the Egyptian rural areas. It is worth mentioning that education for rural woman does not imply only how to read and write but also training in different skills, in addition. Education implies gaining knowledge, skills, and more about the society around us.

Benefits accrued to all other members of society increase in accordance with increasing woman's education. This includes children nutrition, hygiene and health, low infant mortality rates, and benefits of society. In this sense, raising educational levels of rural women help improve lives of many individuals living in our society. It is also important to mention that rural woman's education help her conserve the environment and combat rural environmental pollutants.

Importance of Agricultural Extension Radio Programs

Rogers and Shoemaker (1971) found that radio and printed materials (mass media) represented first sources of knowledge about innovations for 30% of farmers in developing countries. Effective use of mass media in agriculture is sharply conditioned by the availability of relevant agricultural contents. Radio is the considered as the best minor source of agricultural information and is effective in the first stages of adoption process (Rogers and Shoemaker, 1971). It is used by agricultural change-agents as newspapers are used for disseminating stories, only in a briefer form. Its uses took different forms, including success stories, announcing meetings, field days, and tours; follow-up stories; timely information on crop and livestock operations; occasional surveys; documentaries and interview and talk shows on current subjects. The interviews and talk shows enable some audience participation, and some appeal to local interest (Lionberger and Gwin, 1982).

Radio impact is minor if it was not blended with an extension service (Benor and Harrison, 1977). Omar (1992) warned against using more entertainment doses in agricultural extension drama disseminated by radio. Agricultural radio programmers should be aware of the way of blending agricultural and entertainment properly. It is also important to get enough two-way communication between the programmer and the audience. Two-way discussion is required before many people will go to the whole way in changing attitude or practices. Another part of the problem in using radio to influence change is that it tries to appeal to mass audience. Radio programs should stick with entertainment, news, and subjects having broad interest instead of the problems of individual communities (Lionberger and Gwin, 1982).

Radio agricultural extension broadcasting can take the forms of dialogues, drama, and songs. Omar (1992) pointed out that radio broadcasting provides also different agricultural information and news to non-agricultural audience. It also (according to Omar, 1992) creates an interest in agricultural extension methods and extension service. Omar (1992) emphasized the importance of involving community leaders and farmers' comments in providing enough feedback necessary for the success of agricultural extension programs.

Grunig (1969) claimed that radio efforts fail mostly because programs do not respond enough to special local needs, values, attitudes, and interests. In order to enrich effectiveness of radio broadcasting strategy, there are two definite procedures: (1) broadcast content should deal with local needs. This may achieve production decentral-

ization and strengthening links between each of the agricultural extension triangle encompasses farmers, extension agents, and researchers; and (2) organizing radio listening clubs to support and localize the radio broadcasting and create a proper link with agricultural extension agents. It is also possible to form organized radio farm forums. (1992) recognized listening forums as a necessary element in benefiting from agricultural extension radio programs. It may limit agricultural extension radio program effectiveness. Regardless of whether the forum technique is used or not, trained staff of farm advisors is needed in the field making local contacts and involving local people in discussion to make effective use of mass media (Lionberger and Gwin, 1982).

Rogers and Svening (1969) found positive relationship between mass media exposure and adoption of innovation. Kidd (1968) found a strong correlation between media exposure, incorporated exposure to agricultural radio broadcasts, and both farmer knowledge and adoption. Hornik (1988) indicated that measures of success for educational broadcasting are those of information and behavior impacts that is likely to be highly influenced by knowledge of the audience. Patel and Ekpere (1978) found that listening to agricultural radio broadcasts was related to knowledge of agricultural practices.

Ardel-Mahrousa Extension Radio Program

Ardel-Mahrousa is an Egyptian agricultural extension radio program directed to all the Egyptian farmers. It reflects a coordinated and integrated effort between the Egyptian agricultural extension system representing the Egyptian Ministry of Agriculture, and the Egyptian radio representing the Egyptian Ministry of Information. The program was inaugurated on November 4$^{th.}$ 1995. Its broadcasting time was selected attentively to be at 7:30 p.m. where rural family members sit together to talk and discuss different family and agricultural matters. Each episode of the program has four components (drama, my farmer brother, people of expertise, and folk music related to both the introduction and the end). In this study, the respondents were asked about their vegetable and fruit knowledge accrued from listening to the agricultural extension radio program.

The Study Objectives

In this study, rural Woman's education was identified as an innovation. general, the study examined several factors related to the Egyptian rural woman's education. Specifically, the study investigated different variables related to rural woman's husband that were thought to have impact on her educational level.

The main objective of this study was to determine impact of some rural woman's husband's demographic and knowledge factors (vegetables and fruits) on his wife's (rural woman) educational level. Knowledge of fruit and vegetable crops acquired from listening to the Egyptian agricultural extension radio, "Ardel-Mahrousa", were included in the studied independent variables.

The specific objectives of the study were:(1) to identify characteristics of the study respondents (rural wives' husbands); (2) to determine relationship between the dependent variable (rural woman's educational level) and each of the studied independent variables; (3) to determine the studied independent variables that explain variance in rural woman educational level; (4) to show applicability of the study findings; and (5) to show limitations of the study.

METHODS

The study data were collected during the period March-April, 2000 as a part of a project conducted by AERDRI's for evaluating the agricultural extension radio program, "Ardel-Mahrousa". The study sample encompassed 400 Fruit and vegetable farmers living in four Governorates (Kalioubia, Behira Menia, and Fayoum). The four Governorates were selected randomly from a list of different Delta and Upper Egypt Governorates. Four preconditions were set to be met by the study respondents: (1) the respondent's illiterate wives started at least one of the illiteracy eradication classes; (2) the respondents work primarily in agriculture, or agriculture with additional work(s); (3) the respondents listen regularly to the program with a minimum of an episode a month; and (4) they accept to participate voluntarily in the study.

The study encompassed 400 fruit and vegetable farmers living in the previously mentioned four Governorates (100 each). The selected 100 respondents/Governorate came from four villages (25 respondents each) related to two districts (two villages each) as the following: Kalioubia Governorate's respondents came from Bata and Marsafa villages (Benha District), El-Saphania and Kafr-Mansour villages (Tukh District); Behira Governorate's respondents came from Hamour and Bastwa villages (Damanhour District), Berkat Ghattas and Mitel-Wakil villages (Abu-Homus District); Fayoum Governorate's respondents came from El-Adwa, and Zawiat El-Karadsa villages (Fayoum District), and El-Wanaisa and Abu-Gandeer villages (Etssa District); and Menia Governorate's respondents came from Bradtuha, and Nipal villages (Mutty District), and El-Bihu and Etssa El-Balad villages (Samalut District). Table 4 showed the study sample.

Table 4. Distribution of the study sample in accordance with Governorate, district, and village.

Governorate	District	Village	Number of Respondents
Kalioubia	Benha	Bata	25
		Marsafa	25
	Tukh	El-Saphania	25
		Kafr Mansour	25
Behira	Damnhour	Hamour	25
		Bastawa	25
	Abu-Homus	Berket Ghatas	25
		Mitel-Wakil	25
Fayoum	Fayoum	El-Adwa	25
		Zawiat	
		El-Karadsa	25
	Etssa	El-Wanasia	25
		Abu-Gandeer	25
Menia	Muttay	Barathuda	25
		Nipal	25
	Samalout	El-Bihu	25
		Etssa El-Balad	25
Total	8	16	400

Total number of Respondents=400.

A pre-tested written questionnaire and face-to-face, or interpersonal, interview were used in collecting the study data. Frequency, mean, standard deviation, zero-order correlation, and step-wise forward multiple regression were used in analyzing the obtained study data.

VARIABLES AND MEASUREMENT

1. Age

Each respondent was asked to report his age in years. For the obtained responses, age was ranged 20-81, with an average of about 47 years, and a standard deviation of about 12.9. Almost 50% of the respondents (198) were between in the age category of 41-61 years of, followed by 137 respondents (34.3%) in the age category of 20-40, and 65 of the respondents (16.25%) were in the age category of 62-82 (Table 5).

Table 5. Age as reported by the study respondents.

Age Category	Frequency	Percentage
20-40	137	34.25
41-61	198	49.50
62-82	65	16.25
Total	400	100.00

Number of Respondents=400.

2. Additional Work(s)

Each respondent was asked to indicate if he works in agriculture alone, and if he has an additional job besides agriculture. Working in agriculture alone was given score=1; and working in an additional work besides agriculture with a score=2. Almost three quarters of the respondents (293 respondents) were working in agriculture alone, and 107 of them (26.8%) were working in an additional work besides agriculture (Table 6). The responses ranged between a minimum of 1 and a maximum of 2, with a mean of about 1.3, and a standard deviation of 0.44.

Table 6. Different work(s), in addition to agriculture, as reported by the study respondents.

Work Type	Frequency	Percentage
Working in Ag. Alone	293	73.25
Working in Add. Work	107	26.75
Total	400	100.00

Total Number of Respondents=400.

3. Family Size (Number of Family Members)

Each respondent was asked to report his family number (family size). One hundred ninety seven of the respondents (49.25%) had a family size of 1-5 members, 197(49.25%) had a family size of 6-10 members, 5 respondents (1.25%) had a family size of 11-15 members, and only one respondent had a family size comprised 18 members (16 members and more). This variable ranged 1-18, with a mean of about 6 members, and a standard deviation of about 2 (Table 7).

4. Number of Years Spent in Education (Obtained Educational Level)

Each respondent was asked to mark in front of his educational level from a list. This list included: (1) do not know how to read and write; (2) write and read without

obtaining any formal educational degree; (3) primary and preparatory education (basic education); (4) high school degree and two years after high school degree; (5) university degree. The illiterate was given zero score; write and read was considered as equivalent to the 4^{th} year of primary school and was given a score = 4; and the rest were given the equivalent number of school years as their scores.

Table 7. Family size as reported by the study respondents.

Family Size	Frequency	Percentage
1-5 members	197	49.25
6-10 members	197	49.25
11-15	5	1.25
16 and above	1	0.25
Total	200	100.00

Total Number of Respondents=400.

For the study respondents, the educational levels ranged 0-18, with a mean of 5.7 years, and a standard deviation of 6.4. Table 6 showed that 176 of the respondents (44%) were illiterates, 82 (20.5%) had high school and two years after high school degrees, 78 (19.5%) had primary and preparatory school degrees, 32(8%) with university degree, and 32 (8%) read and write with no formal degree (Table 8).

Table 8. Number of years spent in education as reported by the study respondents.

Educational level	Frequency	Percentage
Illiterate	176	44.0
High School & 2 Years Above	82	20.5
Basic Education	78	19.5
Read and Write (no degree)	32	8.0
University Degree	32	8.0
Total	400	100.0

Number of Respondents=400.

5. Agricultural Land Ownership

Each respondent was asked to write his agricultural land ownership in kirates (Feddan=24 kirates). The obtained responses ranged 3-720 kirates, with a mean of 57.1, and a standard deviation of about 67.4. Three hundred thirty nine respondents (84.75%) were in the category of less than 68 kirates, 44 respondents (11%) own 86-169 kirates, 10 respondents (2.5%) in the category of 170-253 kirates, and 7 respon-

dents (1.75%) were in the category 254 kirates and more (Table 9). This implies that more than three quarters of the respondents were with small agricultural land ownership.

Table 9. Agricultural land ownership as reported by the study respondents.

Agricultural Land Ownership	Frequency	Percentage
Less than 86 kirates*	339	84.75
86-169	44	11.00
170-253 kirates	10	2.50
254 kirates and above	7	1.75
Total	400	100.00

* Feddan=24 kirates; Number of Respondents=400.

6. Number of Times in Listening to the Program/Month

Each respondent was asked to write number of times/month he regularly listens to the program. In accordance with number of times, scores were as: 1=listens once/month; 2=listens twice/month; 3=listens three times/month; and 4=listens four times/month. The responses ranged 1-4, with a mean of about 2.7, and a standard deviation of about 1.18.

One hundred forty four of the respondents (36%) reported that they listen regularly to the program four times/month, followed by one hundred respondents (25%) with three times of listening/month, then 93 respondents (23.25%) with once a month, and sixty three respondents (15.75%) with twice/month (Table 10).

Table 10. Number of regular listening/month as reported by the Study respondents.

Listening times	Frequency	Percentage
Four Times/Month	144	36.00
Three Times/Month	100	25.00
Once/Month	93	23.25
Twice/Month	63	15.75
Total	400	100.00

Number of Respondents=400.

7. Listening Habits

Listening habits implied if the respondent listen to the radio alone or with others.

The scores were 1 to listening to the program alone (by himself only), and 2 to listening to the program with others. The obtained study responses1-2, with a mean of about 1.8, and a standard deviation of about 0.46. Table 11 showed that 284 of the respondents (71%) reported that they listen to the program with others, and 116 of the respondents (29%) listen to the program alone.

Table 11. Listening habits as reported by the study respondents.

Listening Habits	Frequency	Percentage
Listen With Others	284	71
Listen Alone	116	29
Total	400	100

Number of Respondents=400.

8. Knowledge Discussion with Other(s)

In order to measure this variable, each respondent was asked to report number of individuals who regularly discuss with them the knowledge accrued from the Program. The scores were as: 0=do not discuss with anyone; 1=discuss with one source (person); 2=discuss with two sources; 3=discuss with three sources and more. The responses ranged 0-3, with a mean of 1.1, and a standard deviation of about 1.1.

One hundred twenty sixty five of the respondents (41.25%) reported their regular discussion to the program knowledge with one person, followed by 110 of the respondents (27.50%) with no discussion,104 of the respondents (26%) with two persons, and 21 of the respondents (5.25%) with three persons and more (Table 12). Table 12 showed that about 75% of the study respondents discuss their knowledge with others.

Table 12. The program knowledge discussion with others as reported by the study respondents.

Knowledge Discussion	Frequency	Percentage
Discuss With One Person	165	41.25
Do not Discuss	110	27.50
Discuss With Two Person	104	26.00
Discuss With More Than Two Persons	21	5.25
Total	400	100.00

Number of Respondents=400.

9. Fruit Knowledge Accrued from Listening to the Radio Program

Each respondent was asked to mention a piece of knowledge, or a recommendation provided by the program. The scores were given as one score for each recommendation, or a piece of knowledge the respondents ; and 0 for those who do not know any piece of knowledge, or anyrecommendations. The responses ranged 0-4, with a mean of 0.23,a standard deviation of about 0.5. Three hundred twenty eight of the respondents (82%) showed no knowledge, followed by 58 respondents (14.5%) with only one piece of knowledge, then 2 respondents (0.5%) with acquired knowledge of two pieces, and only one respondent (0.3%) with four pieces of knowledge, or technical recommendations (Table 13). It was found that more than three quarters of the respondents had no acquired fruit knowledge.

Table 13. Fruit knowledge acquired by the respondents from listening to the radio program as reported by the obtained study responses.

Fruit Knowledge	Frequency	Percentage
No Knowledge	328	82.0
One Piece	58	14.5
Two Pieces	11	2.8
Three Pieces	2	0.5
Four Pieces	1	0.2
Total	400	100.0

Number of Respondents=400.

10. Vegetable Knowledge Accrued from Listening to the Radio Program.

Each respondent was asked to mention a piece of knowledge, or a recommendation provided by the program. The scores were given as one point score for each recommendation or a piece of knowledge the respondent; and 0 for those who did not know any piece of knowledge, or any technical recommendations. The variable ranged 0-4, with a mean of 0.7, and a standard deviation of 0.9.

Two hundred eleven of the respondents (52.8%) showed no vegetable knowledge, followed by 125 respondents (31.3%) with one piece of knowledge, 41 respondents (10.3%) with two pieces of knowledge, then 18 respondents (4.5%) with three pieces of knowledge, and 5 respondents (1.3%) with four pieces of knowledge (Table 14). Almost half of the showed no vegetable knowledge acquisition which was less than what was shown in fruit knowledge acquisition.

Table 14. Acquired vegetable knowledge by the respondents as reported in the obtained study data.

Vegetable Knowledge	Frequency	Percentage
No Acquired Knowledge	211	52.8
One Piece	125	31.3
Two Pieces	41	10.3
Three Pieces	18	4.5
Four Pieces	5	1.3
Total	400	100.0

Number of Respondents=400.

11. Wife's Educational Level (The Dependent Variable)

This variable reflected the respondent wife's obtained educational level measured in number of years. The variable was scored similar to number of years spent by the respondent in education (the respondent educational level)with illiterate but started attending illiteracy eradication class=0. For the obtained responses, Wife's educational level ranged 0-16, with a mean of about 2.7, and a standard deviation of about 4.7.

Table 15 showed that 284 of the respondents' wives (71%) started attending illiteracy eradication classes, 47 (11.75%) had high school (secondary school) and two years up certificates, 34 (8.5%) had primary and preparatory school degrees (basic education), 23 (5.75%) can read and write without obtaining any formal educational degrees, and 12 (3%) had university degrees. In general, all the respondents' wives adopted education, at different levels, as previously explained.

Table 15. Rural women's educational levels as reported by the study participants.

Educational level	Frequency	Percentage
Illiterate but Started attending IEC*	284	71.00
High School & 2 Years Above	47	11.75
Basic Education	34	8.50
Read and Write (no degree)	23	5.75
University Degree	12	3.00
Total	400	100.00

* Illiteracy Eradication Classes; Number of Respondents=400.

RESULTS AND DISCUSSION

1. the respondent's age was significantly and negatively related to rural woman's educational level (r=-0.198, at 0.01 significant level). The finding was consistent with the obtained data with about 50% of the respondent in the age category of 41-61 years (Table 5). In this age, it is very difficult to change attitudes and traditions in favor of wife's education. The finding was also consistent with other characteristics of the respondents including, 73.25% of the respondents (293) were working in agriculture only; 49.25% of the respondents with a family size of 1-5 members and 49.25 of the respondents with a family size of 6-10 members; 84.75% of the respondent with agricultural land ownership of less than 86 kirates;44% of the respondents were illiterates; 82% of the respondents with no fruit knowledge; and 52.8% of the respondents with no vegetable knowledge. Those characteristics showed their traditional way of thinking and their resistance any new ideas including rural woman's education (non-openness);

2. the respondent's educational level was significantly positively related to rural woman's educational level (r=0.564, at 0.01 level);

3. the respondent's knowledge in vegetables was significantly positively related to rural woman's educational level (r=0.168, at 0.01 level); and

4. the respondent's agricultural land ownership was significantly positively related to rural woman's educational level (r=0.093, at 0.05 level).

From the previously mentioned findings (Table 16), it may be possible to conclude that husband's young age, good educational level, additional work(s) to agriculture, good agricultural land ownership, and good knowledge (e.g., vegetables) affect positively his wife's educational level. Husband's young age, husband's educational level, knowledge may imply openness and acquisition of supporting attitudes towards wife's education and openness. In addition, good financial (material) conditions (agricultural land ownership, and additional work(s) to agriculture) may provide husband with courage and freedom to support his wife's education.

The respondent's educational level alone explained 31.8% of the variance in the dependent variable, rural woman's educational level. The respondent's knowledge in vegetables explained 1.1% of the variance in rural woman's educational level, followed by the respondent's agricultural land ownership (1.1%), and the respondent's age (0.8%). The four significant independent variables (the respondent's educational level,

knowledge in vegetables, age, and agricultural land ownership) together explained about 35% of the variance in rural woman's educational level (Table 17).

Table 16. Zero order correlation coefficients between each of the studied independent variables and rural woman's educational level.

Independent Variables	Correlation Coefficient (N = 400)	Significance
Husband's Age	-0.198*	0.000
Husband's Additional Work(s)	0.170**	0.001
Number of Family Members (Family Size)	-0.069	0.168
Number of Years Spent By The Respondents In Education	0.564**	0.000
Husband's Knowledge in Vegetables	0.168**	0.001
Husband's Knowledge in Fruits	0.035	0.480
Agricultural Land Ownership	0.093*	0.012
Number of Listening Times to the Program/Month	0.047	0.384
Husband's Listening Habits	-0.017	0.738
Husband's Knowledge Discussion With Others	0.060	0.230

** at 0.01 significance level; * at 0.05 significance level.

Table 17. Multiple regression results showing significant independent variables that predict rural woman educational level.

Variables Entering Regression	Cumulative R^2	Standardized Regression Coefficient (Beta)	T
Husband Educational Level	31.8	0.654	13.63**
Husband's Knowledge in Vegetables	32.9	0.105	2.53*
Husband's Age	33.7	-0.092	-2.20*
Agricultural Land Ownership	31.7	0.103	2.47*

** Significant at 0.01 level; * significant at 0.05 level.

LIMITATIONS OF THE STUDY

1. it was not possible to generalize from this study because the study findings showed opinions, perceptions, and attitudes of its participants who did not represent all the Egyptian farmers. In this sense, the obtained findings may be changed if we change

the study sample, the timing of conducting the study, and the studied independent variables;

2. the study was not conducted, under control, in a radio forum (or listening clubs) in order to have relatively accurate findings (Omar, 1992); and

3. it was found that the studied four significant independent variables explained only about 35% of the variance in wife's educational level. The finding showed that some other independent variables should be used in order to explain the variances in the dependent variables. Other researches with different independent variables should be conducted.

APPLICABILITY OF THE STUDY FINDINGS

1. the study drew some attention towards emphasizing importance of rural women's education and variables that had some impacts on it, and proper selection of different studied independent variables to explain variance in the study dependent variables;

2. the study emphasized the importance of conducting evaluation of different agricultural extension radio programs in a controlled experimentation of radio forums, or radio listening clubs;

3. the study indicated that the respondents had better vegetable knowledge (about 50%) than the fruit knowledge (18%). This was obvious from the significant relationship between respondents' vegetable knowledge and rural wife's educational level. This finding should be addressed and studied by other future researches. The agricultural extension radio program, with other means of communication, should be directed towards enriching farmers' fruit knowledge; and

4. the study drew the attention towards conducting different future researches in this area including studying different independent variables and conducting researchers under control (e.g., experimentation, radio forums/listening clubs).

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العوامل المؤثرة على تبنى المرأة الريفية للتعليم فى أربع محافظات مصرية من وجهة نظر أزواجهن

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استهدفت هذه الدراسة وبصفة أساسية تحديد العوامل المؤثرة على تبنى المرأة الريفية للتعليم فى محافظات القليوبية، البحيرة، الفيوم، المنيا. تم جمع بيانات هذه الدراسة خلال الفترة الزمنية (مارس – إبريل/ ٢٠٠٠) كجزء من مشروع تم تنفيذه من قبل معهد بحوث الإرشاد الزراعى بغرض تقييم البرنامج الإرشادى الزراعى المصرى "أرض المحروسة" وأثره على المعلومات المكتسبة بواسطة المزارعين المصريين فى بعض محافظات مصر. هذا وقد اشتملت عينة هذه الدراسة على ٤٠٠ مزراع من مزارعى الفاكهة والخضر القليوبية، البحيرة، الفيوم، المنيا. هذا وقد تم اختيار هذه المحافظات عشوائياً، وتم كذلك اختيار ١٠٠ مزارع من كل من تلك المحافظات وفقاً لشروط ثلاثة : (١) أن تكون مهنته الأساسية الزراعة ولا مانع من اشتغاله بعمل أو أعمال إضافية بجانب الزراعة، (٢) أن يكون المبحوث مواظباً وبصفة منتظمة على الإستماع إلى البرنامج بحد أدنى حلقة واحدة شهرياً، (٣) أن تكون زوجة المبحوث غير المتعلمة قد بدأت عملياً محو أميتها والتحقت بأحد فصول محو الأمية، (٤) أن يكون المبحوث متطوعاً بجزء من وقته للمشاركة فى هذه الدراسة.

استخدم فى جمع بيانات هذه الدراسة استمارة استبيان، مكتوبة تم اختيارها قبل تنفيذ الدراسة، مع المقابلة الشخصية. وتم تحليل بيانات هذه الدراسة باستخدام التكرارات، والنسبة المئوية، والمتوسط الحسابى، والانحراف المعيارى، ومعامل الارتباط، والانحدار المتعدد الصاعد.

اتضح من النتائج المتحصل عليها من جراء تحليل بيانات هذه الدراسة أن المتغيرات الخاصة بالمستوى التعليمى لزوج المرأة الريفية، ومعلوماته الخاصة بالخضر، وحيازته للأرض الزراعية، وكذلك عمره كلها مجتمعة معاً تفسر حوالى ٣٥٪ من المتغير التابع (المستوى التعليمى للمرأة الريفية مقدراً بعدد سنوات تعليم المرأة الريفية). وقد تم استعراض النتائج، والمحددات، والأهمية التطبيقية لهذه الدراسة.