



## Rural Women Empowerment in New Valley Governorate, Egypt

Hend M. Diab<sup>1</sup> and Ahmed M. Diab<sup>2\*</sup>

<sup>1</sup>Department of Rural Sociology and Agricultural Extension, Faculty of Agriculture, Ain Shams University, Cairo, Egypt.

<sup>2</sup>Department of Rural Sociology and Agricultural Extension, Faculty of Agriculture, Assiut University, New Valley Branch, Egypt.

### Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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### ABSTRACT

**Aims:** The objectives of this study are to: i) Measure the rural women's empowerment level, and ii) Determine factors affecting rural women's empowerment level.

**Study Design:** One-time point cross-sectional study.

**Place and Duration of Study:** Data were collected through personal interviews of 300 rural women (240 from Al-Mounirah village belonging to El-Kharga district and 60 ones from Al-Thaniyah (the second) village belonging to Darb El-Arbaien, Paris District), during the period from May to June, 2016 using a questionnaire form.

**Methodology:** Frequencies, percentages, range, average, standard deviation, weighted average (relative weight), T test, Pearson's simple correlation, Step-Wise Regression Analysis, and verification of hypotheses were used for data processing and presentation.

**Results:** Findings revealed that dimensions of rural women's empowerment could be ranked as

social (relative weight = 60.8%), cognitive and psychological (RW = 60.7% for each), economic (RW = 58.7%), and finally the political dimension of empowerment (RW = 56%). Of the studied eleven independent variables, eight variables accounted for 71.9% of variance in rural women's economic empowerment, seven accounted for 61.7% of variance in political empowerment, eight accounted for 69.6% of variance in social dimension, one accounted for 4% and 1.6 of variance in cognitive and psychological dimensions, respectively. Results also indicated that the eight independent variables (family type, average of sons' education, average age of sons, family size, women's age, women's employment status, and husband's age) accounted for 63.4% of variance in rural women's overall empowerment.

**Conclusion:** The study concluded that rural women's empowerment could be strengthened through support factors influencing it.

*Keywords: Rural women; empowerment; New Valley; Egypt.*

## 1. INTRODUCTION

In the Middle East and North Africa countries (MENA), agriculture is central to national economies and women assume focal parts in the generation of products. Gender relationships are fundamental to understanding the way farm work is organized inside the household and beyond, the way resources such as land, finance, labor, equipment are managed, and the way decisions are made. The potential of sustainable development and poverty reduction through social and economic growth won't be achieved unless there is a true concerted effort by committed government and development agencies to work towards gender equality and women's empowerment [1].

There are five approaches to the planning of gender in the Third World as follows [2,3]:

1. The wellbeing approach which develops programs to provide goods to low incomes women, since they are in charge of their families, thus helping women to help their families. This kind of program only recognizes and reinforces the reproductive role of women,
2. The equity approach which promotes the reduction of discrimination against women, through policies and programs which recognize the productive role of women in society,
3. The anti-poverty approach, which assumes that women's poverty is caused by their lack of land, capital, training and employment. Thus, it promotes programs which empower women to generate income to overcome poverty,
4. Efficiency approach, its motivation is to guarantee that development is more proficient and compelling through women's

economic contribution, with participation often equated with equity. Women are seen entirely in terms of their ability to compensate for declining social services by broadening their working day, and

5. The empowerment approach, which perceives that the concept of gender is a sociocultural construct and brings out the social relation between men and women, in which women have been systematically subordinated.

Among the five approaches, it is the empowerment approach which perceives the triple role of women in the family, economic production and the community, and suggests challenging the social structure and oppressive situation women have to suffer. Women have to expand their power not in terms of domination over others, but in terms of gains over their self-esteem and internal force. This implies women have the right to decide about their own life and to influence social change, through their capacity to gain control over crucial natural and cultural resources [2].

As indicated by Division for Sustainable Development of the UN [4]; empowering women and promoting gender equality is urgent to accelerating sustainable development. Finishing all forms of discrimination against women and girls is not only a fundamental human right, but it also has a multiplier impact over all other development areas. So, Achieve gender equality and empower all women and girls is one of the UN's Sustainable Development Goals (SDGs).

Gender equality and empowered women are catalysts for increasing development endeavors. Investments in gender equality yield the most astounding of all development investments. Increasing the role of women in the economy is

part of the solution to the financial and economic crises and critical for economic resilience and growth [5]. Kabeer, whose definition is the most generally acknowledged, defines empowerment as “the expansion in people’s ability to make strategic life choices in a context where this ability was previously denied to them” [6]. Women’s empowerment includes enhancing decision-making, control over income, awareness about personal rights and freedom, improving position in the family, and in general the confidence of rural women in their capacities [7,8].

Empowerment is complex and multidimensional and it takes time to change profoundly-embedded power relations. However, this also means that there are numerous entry points and that, although empowerment doesn’t happen incidentally, supporting empowerment in one domain – economic, social or political – will have positive effects in the others [9]. There are five main domains for empowerment as follows [9,10,11]:

1. Economic empowerment it is the capacity of women to practice control over their livelihoods through their capacity to make choices on what productive activities to engage and invest in, to choose how and when to engage in markets and to influence the terms on which they do so.
2. Political empowerment: it is about impacting policy, making demands and calling the state to account. In its absence an enabling environment for pro-poor growth is impossible. Political empowerment is a perplexing process that happens in the always moving and obscured limits of state-society relations,
3. Social empowerment: it is about finding a way to change society so that one’s own particular spot inside it is respected and recognized on the terms on which the individual or group wants to live, not on terms dictated by others. a feeling of autonomy and self-value is an important and direct contributory factor for enabling somebody to participate in politics and take optimum advantage of services, such as health and education,
4. Cognitive empowerment: it refers to women’s understanding of their conditions of subordination and the reasons of such conditions at both micro and macro levels of society. It includes gaining new knowledge to make an alternate

comprehension of gender relations as well as destroying old beliefs that structure powerful gender ideologies, knowledge about their sexuality and legitimate rights,

5. Psychological empowerment: incorporates the development of feelings that women can act at individual and societal levels to enhance their condition as well as the formation of the belief that they can succeed in their change endeavors.

Rural women make major and multiple contributions to accomplishing food security and produce of the food for household consumption and for sale as well as continuing their critical role in terms of reproduction; their activities are not defined as “economically active employment” in national accounts but are essential to the well-being of their households. Their capability to do so is limited by multiple and diverse constraints by persistent structural gender disparities that prevent them from enjoying their economic and other rights [12]. Empowerment of rural women is dependent on several factors, including ownership and control over land; access to diverse types of employment and income-generating activities; access to public goods (such as water, village commons and forests), infrastructure, education and training, health care and financial services and markets; and opportunities for participation in political life and in the design and execution of policies and programs [13].

However, agriculture is a major sector in the Egyptian economy (55% of the population depends on it) and it represents about 13% of GDP and 20% of total exports and foreign currency earnings. Egypt has one of the lowest man-land ratios in the world with about 8.9 million feddans to 3.7 million farmers. The total cultivated area is estimated to 3% only of the total land area (farms are generally small, 81% of them cover less than three feddans). Agriculture accounted for high percent of female employment and it is still the most important sector for female employment in sub-Saharan Africa and Asia [13]. Human Development Index (HDI) in 2015 is of 0.690, ranking Egypt among middle-income countries at the 108<sup>th</sup> place (out of 188 countries) [14].

Moreover, Egypt still performs poorly on gender equality and the empowerment of women’, especially when it comes to women’s education, wage employment and political participation.

Gender-based HDI is 0.868, ranking Egypt among the 5<sup>th</sup> group countries (Countries are divided into five groups by absolute deviation from gender parity in HDI values), its value reached 0.633 for females compared to 0.729 for males [14]. Egypt ranked 77 out of 80 countries on the Gender Empowerment Measure with a GEM value of 0.274 where the percentage of women in decision-making was 9% in technical and professional positions and the ratio of estimated female to male earned income was 0.26. According to the World Economic Forum, Egypt is ranked 136 among 145 countries with Global Gender Gap (GGG) index value of 0.599 [15].

Since the fourth World Conference on Women held in Beijing in 1995, the Egyptian government has been dynamic in shutting gender gaps in fields like health and education and in redressing gender unfair legislations. There is a solid political commitment at the highest level to advance the status of women and a National Council for Women (NCW) was established in 2001 with a wide order, huge staff, government

budget and a network of branches in all governorates.

The New Valley governorate (with five administrative districts) is located in the south west part of western desert of Egypt. It represents about 44% from the total area of Egypt, and 67 % of the total area of Egyptian western desert (Fig. 1). The New Valley is one of the most important locations in Egypt, which representative the key future of development in Egypt in terms of land reclamation and new place for settlements to overcome the excessive population growth in Egypt. For example, the presence of Abu Tartor plateau and virgin soils considered to be important factors which play a vital role for development. Furthermore, its natural geographic formation of good sight-seeing and therapeutic tourism emphasizes the importance of New Valley for development in Egypt. The question addressed in this paper is what is the status of rural women's empowerment in the New Valley governorate? In other words, how rural women assess their status of empowerment?

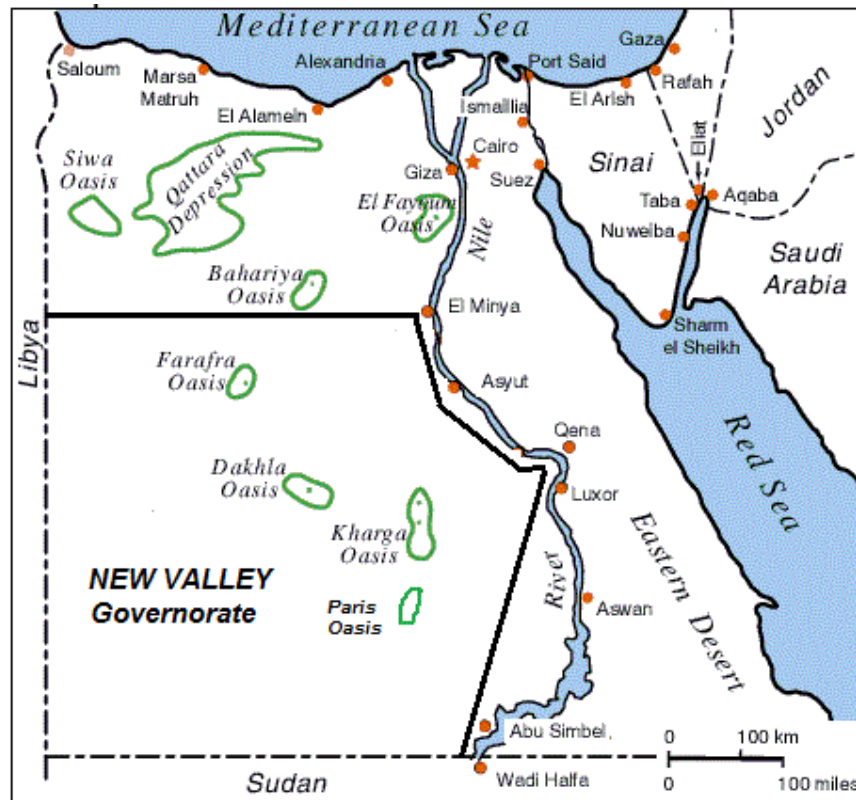


Fig. 1. Map of study location (New Valley, Egypt)

Relying on the previous discussion, the objectives of this study are to: i) Measure the rural women's economic, political, social, cognitive and psychological empowerment level and to ii) Determine factors affecting rural women's economic, political, social, cognitive and psychological empowerment level.

## 2. METHODOLOGY

In order to achieve the study's objectives, two districts (El-Kharga and Paris) had been randomly selected from the new valley's five districts. After that, two villages (Al-Mounirah and Al-Thaniyah village) had been randomly selected from the two districts respectively to be the place of this study. To identify the sample size, the study used the table for determining sample size from a given population [16], as the population of this study were the total number of families in each chosen village (706 at Al-Mounirah and 80 at Al-Thaniyah village), then the sample size were 248 family from Al-Mounirah and 66 from Al-Thaniyah village. Data were collected from 300 rural women (240 from Al-Mounirah and 60 from Al-Thaniyah village), during the period from May to Jun. 2016 through personal interviews using a questionnaire form.

The questionnaire was designed and pretested for achieving the study objectives. It included sets of questions to measure the study variables, as follows: 1) Woman (respondent) age: measured by years from birth till data collection time, 2) Husband age: measured by years from birth till data collection time, 3) Woman (respondent) education: measured by number of respondents' official education years, 4) Husband education: measured by number of husband official education years, 5) Family type: 1 = simple family, 2 = complex family, 3 = extended family, 6) Family size: measured by row family size as indicated by respondent, 7) Average of sons' ages: measured by combination of sons and daughters ages and multiplied by their number, 8) Average of sons' education: measured by combination of official education years of sons and daughters multiplied by their number, 9) Respondent (woman) employment status: 1 = not employer, 2 = governmental employer, and 3 = self-employer, 10) Farm land ownership: 1 = no, 2 = one feddan and less, and 3 = more than one feddan, and 11) Livestock ownership: measured by number of farm animal by sheep (when one large animal = five sheep and two goats = 1 sheep), With regard to the dependent variable, 12) Rural

women's empowerment, was quantified using the dimensions in accordance OECD [9] and Stromquist [10]. The dimensions used are: economic empowerment, political empowerment, social empowerment, cognitive empowerment, and psychological empowerment. Each dimension further contains four statements which have been identified and pre-tested to measure the dimension. Rural women were asked to indicate their opinion on the empowerment statements, their response were based on a five-point Likert-type scale (1 = strongly disagree, 2 = disagree, 3= not indicate, 4 = agree, and 5 = strongly agree). The responses for each dimension ranged from 4 to 20, this responses were divided to three categories low empowered (4 – 9 scores), medium empowered (10 – 15 scores), and highly empowered (16 – 20 scores). Using the addition of the five dimensions' score resulted the total score of empowerment; then responses ranged theoretically between 20 to 100 scores, by dividing responses into three categories, the following categories were founded low empowered (20 – 46 scores), medium empowered (47 – 73 scores), and highly empowered (74 – 100 scores). The reliability of the scale (0.849) was estimated by Cronbach's alpha. The relative weight (RW) or weighted average of rural women's empowerment was calculated according the following formula after giving weights of 1, 2, and 3 for the categories of low, medium and highly empowered, respectively.  $RW = ((\text{Sum}(\text{category's individuals} * \text{category's weight}) / (\text{total sample size} * \text{greater weight})) * 100$ .

In order to achieve the second objective, sixty six hypotheses (H1.1. to H6.11) could be formulated as follows: Rural women's economic empowerment is significantly affected by the eleven studied variables (Rural women's age (H1.1), Husband's age (H1.2), Rural women's education level (H1.3), Husband's education level (H1.4), Family type (H1.5), Family size (H1.6), Average age of sons (H1.7), Average education of sons (H1.8), Women's employment status (H1.9), Farm land ownership (H1.10), and Livestock ownership (H1.11)). Rural women's political empowerment is significantly affected by the eleven studied variables (hypotheses from H2.1 to H2.11). Rural women's social empowerment is significantly affected by the eleven studied variables (hypotheses from H3.1 to H3.11). Rural women's cognitive empowerment is significantly affected by the eleven studied variables (hypotheses from H4.1 to H4.11). Rural women's psychological

empowerment is significantly affected by the eleven studied variables (hypotheses from H5.1 to H5.11). Finally rural women’s overall empowerment is significantly affected by the eleven studied variables (hypotheses from H6.1 to H6.11)

Frequencies, percentages, range, average, standard deviation, weighted average (relative weight), T test, Pearson’s simple correlation, Step-Wise Regression Analysis, and hypotheses verification were used for data processing and presentation.

### 3. RESULTS AND DISCUSSION

#### 3.1 Characteristic of the Study’s Sample

Results in Table 1 show that the age of respondents ranged between 21 to 60 years. The majority (57.3%) are over 46 years old. The majority (66.3%) have low educational level. The majority (59%) are belonging to the type of simple family with a family size less than six members (62.3%). More than two-fifths (41%)

their sons and daughters are youthful and educated with average of  $\geq 21$  years old and  $\geq 12$  years of official education, respectively. With regard to their employment, the findings showed that the majority of respondents (69%) were not employees, 79.6% of them were –unfortunately– none owners of farm lands. Near half of respondents were located on low category of livestock ownership.

#### 3.2 Level of Rural Women’s Empowerment

In order to investigate the mean differences of rural women’s empowerment within the two studied villages, compare means “t” test (two-independent samples) was used. Findings in Table 2 revealed that “t” value reached 0.658, such value is not significant at any probability level; this indicated that there are no mean differences of rural women’s empowerment within the two studied villages, that resulted on the combination of both study’s samples into one sample.

**Table 1. Distribution of rural women by their studied characteristics (n = 300)**

No.	Variables	Range		Mean (mode <sup>*</sup> )	S. D.	Categories					
		Min.	Max.			Low		Medium		High	
				F	%	F	%	F	%		
X1	Rural women’s age	21	60	44.82	11.86	65	21.7	63	21.0	172	57.3
X2	Husband’s age	25	62	48.97	11.74	65	21.7	91	30.3	144	48.4
X3	Rural women’s education level	0	16	5.62	6.58	199	66.3	41	13.7	60	20.0
X4	Husband’s education level	0	16	7.58	6.47	147	49.0	69	23.0	84	28.0
X5	Family type	1	3	1 <sup>*</sup>	-	177	59.0	109	36.3	14	4.7
X6	Family size	3	11	5 <sup>*</sup>	-	187	62.3	79	26.3	34	11.3
X7	Average age of sons	1	30	17.30	9.58	103	34.3	74	24.7	123	41.0
X8	Average of sons’ education	1	16	8.41	5.57	103	34.3	69	23.0	128	42.7
X9	Women’s employment status	1	3	1 <sup>*</sup>	-	207	69.0	62	20.7	31	10.3
X10	Farm land ownership	1	3	1 <sup>*</sup>	-	239	79.6	50	16.7	11	3.7
X11	Livestock ownership	5	84	34.7	15.32	139	46.3	105	35.0	56	18.7

Source: Study findings

**Table 2. t test of mean differences of rural women’s empowerment for the two studied villages**

Mean differences	Std. error differences	t value	df	Sig.
1.67	2.53	0.658	298	0.511

Source: Study findings

Results in Table 3 indicate that mean of dimensions of rural women’s empowerment are ranged from 10.33 scores to 11.72 scores, the highest relative weight (RW) is belonging to social empowerment with per cent of 60.78% followed by cognitive empowerment and psychological empowerment with per cent of 60.57% for each. While economic and political empowerment were in the tail of list with RW reached about 58.67% and 56.33%, respectively. According to this finding, it is clear that rural women’s perception of their social empowerment (the highest score) was the highest identifiable dimension of their empowerment, in dissimilarity their perception of the political dimension of their empowerment (the lowest score). With regard to rural women’s distribution within each dimension, findings in the same table expressed that the per cent of less empowered rural women were 44.6%, 50.6%, 40%, 42.6%, and 41.6% in relation to economic, political, social, cognitive and psychological empowerment.

These results, regarding the dimension of rural women’s empowerment, reflected on the total number of rural women’s empowerment, figures indicate that the RW of the total empowerment reached 61.33%, while the highest ratio of respondents (44.6%) were medium empowered women, followed by 35.7% were less empowered and the remaining per cent (19.7%) were highly empowered women as indicated in Table 3.

### 3.3 Factors Affecting Rural Women’s Empowerment

Pearson’s correlation coefficient was used to determine the direction, strength, and significance of the bivariate relationships of the variable in the study. The value of correlation coefficient closer to 1 indicates the existence of

stronger relationship. Findings in Table 4 show that there are nine variables were significantly correlated with rural women’s economic empowerment (y1) at 0.01 level of probability these variables are: rural women’s age (X1), husband’s age (X2), rural women’s education level (X3), family type(X5), family size (X6), average age of sons(X7), average of sons’ education (X8), women’s employment status (X9) and farm land ownership (X10).

While there are ten variables related with rural women’s political empowerment (y2), nine of them at 0.01 level of significant namely: rural women’s age (X1), husband’s age (X2), rural women’s education level (X3), husband’s educational level (X4), family type (X5), family size (X6), average age of sons(X7), average of sons’ education (X8), and farm land ownership (X10), and the women’s employment status (X9) at 0.05 significant level.

Findings also revealed that there are nine variables significantly related with social empowerment (y3), these variables are: rural women’s age (X1), husband’s age (X2), rural women’s education level (X3), family type (X5), family size (X6), average age of sons(X7), average of sons’ education (X8), women’s employment status (X9) and farm land ownership (X10).

With regard to rural women’s cognitive (y4) empowerment, findings revealed that there are significant correlation coefficients with five variables namely: family type (X5), family size (X6), average of sons’ education (X8), women’s employment status (X9) and farm land ownership (X10). While the three variables namely: family type (X5), family size (X6), and farm land ownership (X10) are significantly related with to rural women’s psychological empowerment (y5).

**Table 3. Distribution of rural women by their level of empowerment**

No.	Dimensions of empowerment	Range		Mean	S.D.	Categories						RW (%)
		Min.	Max.			Low		Medium		High		
						F	%	F	%	F	%	
y1	Economic empowerment	4	19	11.67	4.97	134	44.6	104	34.7	62	20.7	58.67
y2	Political empowerment	4	18	10.33	4.89	152	50.6	89	29.7	59	19.7	56.33
y3	Social empowerment	4	19	11.72	4.06	120	40.0	113	37.7	67	22.3	60.78
y4	Cognitive empowerment	4	19	11.49	4.11	128	42.6	98	32.7	74	24.7	60.67
y5	Psychological empowerment	4	19	11.49	4.09	125	41.6	104	34.7	71	23.7	60.67
Y	Overall empowerment	20	94	56.70	17.54	107	35.7	134	44.6	59	19.7	61.33

Source: Study findings

**Table 4. Values of Pearson's correlation coefficients between level of rural women's empowerment and the studied variables**

No.	Variables	Dimensions of empowerment					Total
		Economic	Political	Social	Cognitive	Psychological	
1.	Rural women's age	0.262**	0.288**	0.159**	0.071	0.019	0.212**
2.	Husband's age	0.294**	0.312**	0.211**	0.089	0.048	0.251**
3.	Rural women's education level	-0.265**	-0.276**	-0.199**	-0.111	-0.082	-0.243**
4.	Husband's education level	-0.084	-0.306**	-0.089	-0.090	-0.073	-0.088
5.	Family type	0.549**	0.521**	0.465**	0.207**	0.132*	0.461**
6.	Family size	0.546**	0.537**	0.463**	0.188**	0.132*	0.486**
7.	Average of sons' ages	0.329**	0.345**	0.244**	0.088	0.056	0.280**
8.	Average of sons' education	0.339**	0.348**	0.261**	0.133*	0.056	0.298**
9.	Women's employment status	0.165**	0.142*	0.153**	0.130*	0.084	0.172**
10.	Farm land ownership	0.322**	0.272**	0.330**	0.196**	0.140*	0.332**
11.	Livestock ownership	-0.051	-0.041	-0.028	0.070	0.051	-0.004

Source: Study findings.

According to rural women's overall empowerment (Y), findings in Table 4 indicate that the level of women's empowerment is significantly related with ten variables at 0.01 level of significant, these variables are: rural women's age (X1), husband's age (X2), rural women's education level (X3), husband's educational level (X4), family type (X5), family size (X6), average age of sons(X7), average of sons' education (X8), women's employment status (X9) and farm land ownership (X10). Findings imply that rural women's livestock ownership has not related with any dimension of empowerment rather than the overall empowerment level. Also husband level of education has not related with rural women's economic, social, cognitive, and psychological empowerment.

In order to investigate in per cent of contribution of the studied independent variables in interpretation of variance in the studied dependent variables (dimension of women's empowerment), Step-Wise Regression Analysis was used. Results of multiple regression analysis could be illustrated below:

### **3.3.1 Factors impacting rural women's economic empowerment**

The model presented in Table 5 reports the strength of the relationship between the model and the dependent variable, rural women's economic empowerment (y1). R indicates correlation between the observed and predicted

value of the dependent variable. Larger value of R indicates stronger relationship and also indicates that model fit the data well. R square is the proportion of variation in the dependent variable explained by regression model. Higher value of R Square (0.726) indicates that model having good predictive ability.

Table 5 show the result of regression analysis based on eight independent variables (i.e. family type(X5), family size (X6), average age of sons(X7), average of sons' educational level (X8), rural women's age (X1), rural women's education level (X3), husband's age (X2), and women's employment status(X9)) indicate positive relationship (R = 0.852) and statistically significant relationship (P 0.000 < 0.01) with dependent variable (y1) (i.e. rural women's economic empowerment). The independent variables accounted for 71.9 percent (adjusted R<sup>2</sup> = 0.719) of variance in dependent variable.

The ANOVA tests the acceptability of the model from a statistical perspective; the significance value of the F-statistic is less than 0.01, which means that the variation explained by the model is not due to chance.

Findings in Table 5 revealed that the most significant factor impacting women's economic empowerment (y1) is family type (X5) with largest percent of explained variance (29.9%) and other significant factors with highest predictive ability which are followed by X5 are average of sons' education, X8, (explains about



18.1%), average of sons' ages, X7, (explains about 13.2%) and rural women's age, X1, (explains about 4.45%), while the lowest significant factors impacting rural women's economic empowerment are husband's age (X2) and women's employment status (X9), both accounted for 0.7% of variance in dependent variable. The observed "t" values of all factors in the model are significant at 0.01. In summary, there was sufficient statistical evidence to support H1.1, H1.2, H1.3, H1.5, H1.6, H1.7, H1.8 and H1.9 hypotheses.

**3.3.2 Factors impacting rural women's political empowerment**

With regard to factors affecting rural women's political empowerment (y2), findings in Table 6 show the result of regression analysis based on seven independent variables (i.e. family size (X6), average age of sons (X7), average of sons' educational level (X8), family type(X5), rural women's age (X1), rural women's education level (X3), and husband's education level (X4)) indicate positive relationship (R = 0.775) and statistically significant relationship (P 0.000 < 0.01) with dependent variable (i.e. rural women's political empowerment). The independent

variables accounted for 61.7 percent (adjusted R<sup>2</sup> = 0.617) of variance in dependent variable (y2).

The significance value of the F-statistic is less than 0.01, which means that the variation explained by the model is not due to chance. The observed t values of X6, X7, X8, X5, X1, and X3 are significant at 0.01, whereas observed t value of husband's educational level (X4) is significant at 0.05.

Findings in Table 6 revealed that the most significant factor impacting women's political empowerment (y2) is family size (X6) with largest percent of variance explanation (28.6%), followed average of sons' education (X8) explains about 10.6%, average age of sons (X7) explains about 9.48%, family type (X5) explains about 4.71%, rural women's age (X1) explains about 2.61%, women's education level (X3) explains 2.48% of variance and husband's educational level (X4) that explains 3.2% of variance in dependent variable (women's political empowerment). In summary, there was sufficient statistical evidence to support the bellow hypotheses: H2.1, H2.3, H2.4, H2.5, H2.6, H2.7 and H2.8.

**Table 5. Accumulative effect of studied variables in rural women's economic empowerment**

Model	Variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	% of explained variance	F	t
1 <sup>st</sup>	Family type (X5)	0.549	0.301	0.299	29.90	128.54**	11.34**
2 <sup>nd</sup>	Family size (X6)	0.570	0.324	0.320	2.08	71.29**	3.18**
3 <sup>rd</sup>	Average age of sons (X7)	0.676	0.457	0.451	13.17	83.03**	-8.50**
4 <sup>th</sup>	Average of sons' education (X8)	0.798	0.637	0.632	18.05	129.34**	12.09**
5 <sup>th</sup>	Rural women's age (X1)	0.826	0.682	0.676	4.45	126.01**	-6.45**
6 <sup>th</sup>	Rural women's education (X3)	0.843	0.711	0.705	2.87	120.15**	5.44**
7 <sup>th</sup>	Husband's age (X2)	0.848	0.719	0.712	0.69	106.62**	-2.84**
8 <sup>th</sup>	Women's employment status (X9)	0.852	0.726	0.719	0.65	96.43**	2.79**

Source: Study findings

**Table 6. Accumulative effect of studied variables in rural women's political empowerment**

Model	Variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	% of explained variance	F	t
1 <sup>st</sup>	Family size (X6)	0.537	0.288	0.286	28.60	120.79**	10.99**
2 <sup>nd</sup>	Average age of sons (X7)	0.62	0.385	0.381	9.48	92.959**	-6.83**
3 <sup>rd</sup>	Average of sons' education (X8)	0.702	0.492	0.487	10.64	95.70**	7.91**
4 <sup>th</sup>	Family type (X5)	0.735	0.541	0.534	4.71	86.76**	5.56**
5 <sup>th</sup>	Rural women's age (X1)	0.753	0.568	0.560	2.61	77.21**	-4.29**
6 <sup>th</sup>	Women's education level (X3)	0.77	0.593	0.585	2.48	71.28**	4.31**
7 <sup>th</sup>	Husband's education level (X4)	0.775	0.626	0.617	3.22	69.91**	-2.19**

Source: Study findings

**3.3.3 Factors impacting rural women’s social empowerment**

The model presented in Table 7 reports the strength of the relationship between the model and the dependent variable (y3) (rural women’s social empowerment). R indicates correlation between the observed and predicted value of the dependent variable. Larger value of R (0.840) indicates stronger relationship and also indicates that model fit the data well. R square is the proportion of variation in the dependent variable explained by regression model. Higher value of R Square (0.705) indicates that model having good predictive ability.

Table 7 show the result of regression analysis based on nine independent variables (i.e. family type (X5), rural women’s age (X1), average of sons’ educational level (X8), family size (X6), rural women’s education level (X3), women’s employment status(X9), average age of sons (X7), farm land ownership (X10), and husband’s age (X2)) indicate positive relationship (R = 0.840) and statistically significant relationship (P 0.000 < 0.01) with dependent variable (y3) (rural women’s social empowerment). The independent variables accounted for 69.6 percent (adjusted R<sup>2</sup> = 0.696) of variance in women’s social empowerment (y3). The significance value of the F-statistic is less than 0.01, which means that the variation explained by the model is not due to chance.

Findings in Table 7 also revealed that factors impacting women’s social empowerment could be ranked as follows: is average of sons’ educational level (X8) (percent of explained variance = 22.55%), family type (X5) (percent of explained variance = 21.35%), family size (X6)

(percent of explained variance = 9.48%), rural women’s education (X3) (percent of explained variance = 7.18%), rural women’s age (X1) (percent of explained variance = 4.2%), Women’s employment status (X9) (percent of explained variance = 3%), average age of sons (X7) (percent of explained variance = 0.9%), farm land ownership (X10) (percent of explained variance = 0.5%), and finally husband’s age (X2) (percent of explained variance = 0.33%).

The observed t values of X5, X1, X8, X6, X3, X9, X7, and X10 are significant at 0.01, whereas observed t value of husband’s age (X2) is significant at 0.05. The previous findings imply that there was sufficient statistical evidence to support H3.1, H3.2, H3.3, H3.5, H3.6, H3.7, H3.8, H3.9 and H3.10 hypotheses.

**3.3.4 Factors impacting rural women’s cognitive empowerment**

The model presented in Table 8 reports the strength of the relationship between the model and the rural women’s cognitive empowerment (y4). Result of regression analysis based on family type (X5) indicates positive relationship (R = 0.207) and statistically significant relationship (P 0.000 < 0.01) with dependent variable (y4) (rural women’s cognitive empowerment). The independent variable, (X5), accounted for 4% (adjusted R<sup>2</sup> = 0.040) of variance in dependent variable. The significance value of the F-statistic is less than 0.01, which means that the variation explained by the model is not due to chance. The observed “t” value of the factor (X5) in the model is significant at 0.01. In summary, there was sufficient statistical evidence to support the hypothesis namely H4.5.

**Table 7. Accumulative effect of studied variables in rural women’s social empowerment**

Model	Variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	% of explained variance	F	t
1 <sup>st</sup>	Family type (X5)	0.465	0.216	0.213	21.35	82.14**	9.063**
2 <sup>nd</sup>	Rural women’s age (X1)	0.51	0.260	0.255	4.20	52.30**	-4.220**
3 <sup>rd</sup>	Average of sons’ education (X8)	0.697	0.486	0.481	22.55	93.34**	11.402**
4 <sup>th</sup>	Family size (X6)	0.762	0.581	0.576	9.48	102.41**	8.191**
5 <sup>th</sup>	Rural women’s education (X3)	0.808	0.653	0.647	7.18	110.85**	7.817**
6 <sup>th</sup>	Women’s employment status (X9)	0.827	0.684	0.678	3.00	105.71**	5.328**
7 <sup>th</sup>	Average age of sons (X7)	0.833	0.694	0.686	0.88	94.46**	-3.034**
8 <sup>th</sup>	Farm land ownership (X10)	0.837	0.701	0.693	0.66	85.33**	2.696**
9 <sup>th</sup>	Husband’s age (X2)	0.840	0.705	0.696	0.33	77.15**	-2.046*

Source: Study findings

**Table 8. Effect of studied variables in rural women’s cognitive empowerment**

Model	Variables	R	R Square	Adjusted R Square	% of explained variance	F	T
1 <sup>st</sup>	Family type (X5)	0.207	.043	.040	4.00	13.41**	3.66**

Source: Study findings

**3.3.5 Factors impacting rural women’s psychological empowerment**

The model presented in Table 9 reports the strength of the relationship between the model and the rural women’s psychological empowerment (y5). Result of regression analysis based on Farm land ownership (X10) indicates positive relationship (R = 0.207) and statistically significant relationship (P 0.000 < 0.05) with dependent variable (y5) (rural women’s psychological empowerment). The independent variable, (X10), accounted for 1.6% (adjusted R<sup>2</sup> = 0.0.016) of variance in dependent variable. The significance value of the F-statistic is less than 0.05, which means that the variation explained by the model is not due to chance. The observed “t” value of the factor (X10) in the model is significant at 0.05. In summary, there was sufficient statistical evidence to support the hypothesis namely H5.10.

**3.3.6 Factors impacting rural women’s overall empowerment**

With regard to factors affecting rural women’s overall empowerment (Y), findings in Table 10 show the result of regression analysis based on eight independent variables (family type (X5), rural women’s age (X1), average of sons’ educational level (X8), family size (X6), average age of sons (X7), rural women’s education level (X3), Women’s employment status (X10) and husband’s age (X2)) indicate positive relationship (R = 0.802) and statistically significant relationship (P 0.000 < 0.01) with dependent variable (Y) (rural women’s overall empowerment). The independent variables accounted for 63.4% (adjusted R<sup>2</sup> = 0.634) of variance in rural women’s empowerment variable (Y). The significance value of the F-statistic is less than 0.01, which means that the variation explained by the model is not due to chance.

Findings in Table 10 revealed that the most significant factor impacting women’s overall empowerment (Y) is family type (X5) with largest percent of explanation variance (23.56%),

followed by average of sons’ education (X8) counted about 18.54% of variance in women empowerment (Y).The other significant factors with highest predictive ability which are followed by X8 are: average age of sons (X7) explains about 7.8% of variance, family size (X6) explains about 7.72%, women’s age (X1) explains about 2.3%, women’s employment status (X10) explains about 1.4%, and husband’s age (X2) that explains about 0.5% of variance in rural women’s overall empowerment, respectively.

The observed t values of X5, X1, X8, X6, X7, X3 and X10 are significant at 0.01, whereas observed t value of husband’s age (X2) is significant at 0.05. This result implies that there was sufficient statistical evidence to support the bellow hypotheses: H5.1, H5.2, H5.3, H5.5, H5.6, H5.7 H5.8 and H5.10.

It could be noted that findings of this study are agreed with Rehman et al. [17] that factors influencing women’s empowerment includes age and family type. Also results are agreed with that obtained by Rehman et al. [17] and Parveen and Eonhäuser [18] concerning education as a contributing factor that influence women’s empowerment. Moreover, results of this study revealed that women’s employment status is important to empowerment as mentioned by West [19]. There is a positive association between women’s empowerment and son’s education level as obtained by Hatlebakk and Gurung [20]. Results also came in line with Assaad et al. [21]; age, education, employment, family size, sons’ age in addition to a woman’s husband characteristics (age and education) appeared as significant determinants of empowerment. On the other hand findings of this study are disagreed with Upadhyay and Karasek [22,23] regarding the contribution of family size in women’s empowerment.

Further, most of studied factors, showed varying impact depending on the dimension of empowerment studied.

**Table 9. Effect of studied variables in rural women’s psychological empowerment**

Model	Variable	R	R Square	Adjusted R Square	% of explained variance	F	t
1 <sup>st</sup>	Farm land ownership (X10)	0.140	0.020	0.016	1.6	5.99	2.45

Source: Study findings

**Table 10. Accumulative effect of studied variables in rural women’s overall empowerment**

Model	Variables	R	R square	Adjusted R square	% of explained variance	F	t
1 <sup>st</sup>	Family type (X5)	0.488	0.238	0.236	23.56	93.15**	9.651**
2 <sup>nd</sup>	Women’s age (X1)	0.513	0.264	0.259	2.30	53.15**	-3.203**
3 <sup>rd</sup>	Average of sons’ education (X8)	0.671	0.450	0.444	18.54	80.59**	10.002**
4 <sup>th</sup>	Family size (X6)	0.726	0.528	0.521	7.72	82.37**	6.979**
5 <sup>th</sup>	Average age of sons (X7)	0.778	0.606	0.599	7.80	90.39**	-7.642**
6 <sup>th</sup>	Women’s education level (X3)	0.789	0.622	0.614	1.50	80.35**	3.531**
7 <sup>th</sup>	Women’s employment status (X10)	0.798	0.637	0.628	1.41	73.21**	3.481**
8 <sup>th</sup>	Husband’s age (X2)	0.802	0.643	0.634	0.52	65.61**	-2.264

Source: Study findings.

**4. CONCLUSION**

Relying on the study findings, dimensions of rural women’s empowerment could be ranked according to its relative weights as social empowerment followed by cognitive, psychological and economic empowerment ending by the political dimension of empowerment. It was found that out of eleven independent variables; nine were significantly (eight positively, and one negatively) correlated with women’s economic empowerment, ten were significantly (eight positively, and two negatively) correlated with women’s political empowerment, nine were significantly (eight positively, and one negatively) correlated with women’s social empowerment, five were and three significantly and positively correlated with cognitive and psychological dimensions of women’s empowerment. There are nine independent variables significantly (eight positively, and one negatively) correlated with women’s overall empowerment.

The ownership of livestock was not significantly correlated with any dimension of women’s empowerment. The education level of rural women was significantly and negatively correlated with economic, political, social dimensions of empowerment and overall women’s empowerment. The education level of rural women husband also was significantly and negatively correlated with women’s political empowerment. The remaining correlated independent variables have positive correlation coefficients values.

This study also sought to analyze the impact of demographic variables in empowering the rural women. The outcomes of multiple regression revealed that eight factors (family type, family size, average age of sons, average level of sons’ education, rural women’s age, rural women’s education level, husband’s age, and women’s employment status) can significantly influence rural women’s economic empowerment.

With regard to women’s political empowerment, the outcomes of multiple regression revealed that seven factors (family size, average age of sons, average of sons’ educational level, family type, rural women’s age, rural women’s education level, and husband’s education level) can significantly influencing it. The outcomes of multiple regression concerning women’s social empowerment indicated that nine factors (family type, rural women’s age, average of sons’ educational level, family size, rural women’s education level, women’s employment status, average age of sons, farm land ownership, and husband’s age) can significantly impacting it. Also, the outcomes of multiple regressions revealed that family type and farm land ownership can significantly influence the cognitive and psychological dimensions of rural women’s empowerment, respectively.

Finally, the outcomes of multiple regression reported that eight factors (family type, rural women’s age, average of sons’ educational level, family size, average age of sons, rural women’s education level, women’s employment status and

husband's age) can significantly influence rural women's overall empowerment.

Traditionally, rural women's role was to provide support to their husband and family which show the suppression of women in rural household. The results of this study states that rural women's empowerment has impacted by their socio-economic conditions. Governments and development partners can play an important role in helping strengthen rural women's empowerment through support factors, stated in this study, influencing empowerment.

Since the employment status of rural woman is influencing her empowerment, the government should put great efforts in gender preference in hiring policies (especially in public sector); the government also could provide unemployed rural women –like graduated youth and beneficiaries- with farm land or livestock to capitalize their economic empowerment.

This study provides future directions to the academics and practitioners who want to work on same area to enrich the literatures related to women empowerment. Moreover, other dimensions of empowerment i.e., personal, legal and interpersonal are needed to be investigated in order gain better estimation of empowerment and to build good generalizations.

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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