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WOMEN'S ECONOMIC PARTICIPATION RATE (WER) IN THE CAPRICORN DISTRICT, LIMPOPO, SOUTH AFRICA: LEVEL AND FACTORS

The article defines the level of women's participation in the economy sector in Capricorn District and recommends a strategy that minimizes women's unemployment. At the same time, a survey was conducted of 2,600 women in the Capricorn district at the age of 20 to 54 years. A multistage sample was used to obtain information from these women. The results showed that the level of women's economic participation is only 39.8%. It is recommended that women take marriages (stable unions) and receive a serious education, because they give women the opportunity to participate in the economic activities of the out-of-home.

Keywords: economic activity; participation rate; women; Capricorn district.

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Квабена А. Кейе

РІВЕНЬ ЕКОНОМІЧНОЇ УЧАСТІ ЖІНОК (WER) В ОКРУЗІ КАПРІКОРН, ЛІМПОПО, ПІВДЕННА АФРИКА: РІВЕНЬ ТА ЧИННИКИ

У статті визначено рівень участі жінок у секторі економіки в окрузі Капрікорн та рекомендована стратегія, яка мінімізує безробіття жінок. При цьому було проведено опитування 2600 жінок у окрузі Капрікорн у віці від 20 до 54 років. Багатоступенева вибірка була використана для отримання відомостей від цих жінок. Результати показали, що рівень економічної участі жінок становить лише 39,8%. Рекомендовано, щоб жінки брали шлюб (стабільні спілки) та отримували освіту більш серйозно, оскільки вони надавали жінкам можливість брати участь в економічній діяльності поза домом.

Ключові слова: економічна діяльність; рівень участі; жінки; округ Капрікорн.

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ПОКАЗАТЕЛЬ ЭКОНОМИЧЕСКОГО УЧАСТИЯ ЖЕНЩИН (WER) В ОКРУГЕ КАПРИКОРН, ЛИМПОПО, ЮЖНАЯ АФРИКА: УРОВЕНЬ И ФАКТОРЫ

В статье определен уровень участия женщин в секторе экономики в округе Каприкорт и рекомендована стратегия, которая минимизирует безработицу женщин. При этом был проведен опрос 2600 женщин в округе Каприкорт в возрасте от 20 до 54 лет. Многоступенчатая выборка была использована для получения сведений от этих женщин. Результаты показали, что уровень экономического участия женщин составляет лишь 39,8%. Рекомендовано женщинам заключать браки (стабильные союзы) и получать серьезное образование, потому что они дают женщинам возможность участвовать в экономической деятельности вне дома.

Ключевые слова: экономическая деятельность; уровень участия; женщины; округ Каприкорт.

Introduction. Unemployment has always been a matter of serious concern in South Africa from the 1970s (G.G. Kingdon & J. Knight, 2000). "Women experience

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far higher unemployment or far lower economic participation rate [in the economy]", declared by Lehohla in Pretoria in April 2013 at the release of the Gender Statistics in South African 2011 report. This study focuses on women's participation in the job market in the formal sector, looking at the level of labour participation rate of women in the province, using a case of Capricorn district; and makes an attempt to find the causes of such very low economic participation rate. Lack of job opportunities for women poses a big problem for the society because women are the bread winners therefore without jobs and money, there is a big problem. Most women are bound to look after their children, for such reasons as migrant work and polygamy, therefore, when they are unemployed and without money, the family faces crises. Women continue to face many barriers to entering the labour markets (K.A. Kyei and T. Maboko, 2015). These barriers do not only hold back women, but also hold back economic growth in developing countries with large gender gaps (OECD, 2006, 2008).

Generally, unemployment has a detrimental effect on the development of the country. Tax payers have to pay a lot more in order for the government to raise money for services such as: social grants (disabled, child, pensioners and others); medical facilities, educational system (feeding schemes, textbooks, laboratories), and for policing unit, defence among others (F.C. Barker, 1999; K.A. Kyei and T. Maboko, 2015).

The research questions being asked are: What is the level of women's economic participation rate in Capricorn? Is it higher than the provincial average? What are the factors mitigating against women's economic participation rate (WEP)? This study seeks to find the level of WEP in the Capricorn district. Specifically, the study focuses on women aged between 20-54 years because women in this age bracket are active, strong, healthy and capable of doing (any) job offered to them.

Capricorn District Municipality falls under the Limpopo province, located on the northern side of South Africa. It derives its name from the Tropic of Capricorn, along which it is situated. Relatively, it is predominantly urban in nature and consists of the following five local municipalities: Aganang, Blouberg, Lepelle-Nkumpi, Molemole and Polokwane. Limpopo's capital city, Polokwane (previously known as Pietersburg), lies in the heart of Capricorn region (http://en.wikipedia.org/wiki/capricorn_district_municipality).

Literature. Available statistics show that labour force participation rates are lower for women than men in almost all countries. However, official labour statistics do not adequately reflect women's activities especially in rural areas where production systems are still predominantly house-hold or family-based (International Labour Organization, (ILO), 2003). According to ILO (2003, 2008) a great deal of women's economic activities, especially for family consumption and unpaid family labour are not reflected in official statistics.

Women are more limited in their choices for labour participation across sectors. This sectoral segregation has increased over time, though, with women moving out of agriculture in developing economies and out of industry in developed economies and into services (C.R. McConnel and S.L. Bruce, 1995). In 2012, at the global level, a third of women were employed in agriculture, nearly half were in services, and a sixth were in industry (UN, 2007; <http://www.tradingeconomics.com>). Women's industrial share only slightly rose over the last two decades as most women moved out of agriculture and directly into services (UN, 2007). In advanced economies, women's

participation rate in the industry halved, crowding more than 85% of them into services, primarily into service areas like education and health. In most developing economies, women moved out of agriculture, and into services, with the exception of East Asia, where women's labour participation rate in the industry rose to a quarter of total participation (United Nations Development for Women, (UNIFEM), 2005). Well educated women tend to enter the teaching and nursing professions rather than in the management, scientific or technical occupations (M.I. Mafiri, 2002). In rural areas, especially in Sub-Saharan Africa, the proportions of women concentrated in agriculture and food production are higher than that of men (ILO, 2003).

Younger women who entered the labour market some few years back experience higher levels of unemployment than middle-aged women, who are better established in employment (United States Bureau of Labor Statistics (USBLS), 2006). Amongst men, the relationship between age and unemployment remains relatively steady until they get to the early 50s when it begins to rise, peaking at age 59. Women are found mainly at the lower echelons in the formal sector (ILO, 2003). The share of women in the labour force in the industry is low; given the limited opportunities in the formal sector, the majority of women in urban areas are self-employed in the informal sector.

This education gap has implications for the ability of girls and women to access economic opportunities later in life. The rapid increase in women's labour force participation rate noted in the Middle East over the past decade has coincided with massive investments in education (ILO, 2008). Longer education spells lower economic participation rates for young women; but whether higher education leads to greater gender equity, in the labour market remains questionable (M. Stampini and A. Verdier-Couchane, 2011).

As documented in a relatively recent cross-country study of 18 sub-Saharan countries, countries with the highest male employment ratio also tend to have the lowest gender gap. The general gender gap is explained by multiple factors. The most important among these factors are social and cultural patterns which keep women out of the labour market as well as a tendency of government authorities to invest too little attention and resources in the promotion of women economic participation; women are "time poor" (USBLS, 2006; UN, 2007). Due to the gender division of labour in the family prevailing in many countries, women responsibility for unpaid household labour leaves only few hours daily for engaging in work outside the household (UNIFEM, 2005).

Methodology. A survey was conducted covering 2600 women aged 20-54 years in the district; and individual face to face interviews were done. Multi-stage sampling was used to get these women. Firstly the municipalities in the district were considered at the primary stage, the towns or villages sampled from each municipal council by simple random sample, next, systematic sampling used to getting the households in a selected town or village and eventually women in those households interviewed.

Multivariate analysis was performed to assess the factors relating to women economic participation in the Capricorn district of Limpopo. Generalized Linear Models (GLM), Loglinear models, and Discriminant analyses were performed.

Results

Generalized Linear Models (GLM). From Table 1, we see that only 39.8% of the women in Capricorn are participating in economic activity in the formal sector;

38.5% of the women are single, 6.9% of them have primary education, 64.6% have secondary education and a high proportion of 28.5% have tertiary education in the Capricorn district. The table further indicates that 51.3% of them are from the low class, 44.4% are from the middle class and 4.3% are from the high class. The mean age is 33.89 year with a standard deviation of 8.093 year, while the mean number of children a woman has is 2.23 with a standard deviation of 1.452.

Table 1. Case processing summary, author's

Variables	Categories	Capricorn	
		N	%
Employed?	Yes	1036	39.8
	No	1564	60.2
Marital Status	Single	1000	38.5
	Married	1600	61.5
Highest educational level	Primary	179	6.9
	Secondary	1680	64.6
	Tertiary	741	28.5
Family Background	Low class	1331	51.3
	Medium	1154	44.4
	High	113	4.3
Mean Number of children		2.23	
Mean age		33.9	

Omnibus Test. The Omnibus Test (in Table 2a), tells us that there is clearly a significant relationship between the dependent variable and the independent variables collectively considered together.

Table 2a. Omnibus Testa

Likelihood Ratio Chi-Square	Df	Sig.
688.492	7	.000

Dependent Variable: Are you employed?

Model: (Intercept), maritalStatus, HigestStandard, FamilyBackground, Age, No.of Children

a. Compares the fitted model against the intercept-only model.

We seek to find out whether all the independent variables have significant relationships with WEP. Table 2b of parameter estimates really confirms that.

The following model is derived from Table 2b of the parameter estimates:

$$\begin{aligned} \log\mu = & -.789 - .583 \text{ Maritalstatus1} + .741 \text{ Familybackground1} + \\ & + .379 \text{ Familybackground2} - 3.705 \text{ Educationallevel1} - \\ & 2.174 \text{ Educationallevel2} + .036 \text{ Age} + .171 \text{ Numberchn} \end{aligned} \quad (1)$$

Equation (1) tells us that in the Capricorn district, the logarithm of women economic participation rate (WEP) (employed) is negatively related to marital status (single)

and education level (primary, 1 and high 2), but positively related to family background (low class 1 and middle class 2), age and the number of children that the woman has.

Table 2b. Parameter Estimates – GLM

Parameter	B	Std Error	Hypothesis Test		Wald Chi-Square	95% Wald Confidence Interval	
			Df	Sig		Lower	Upper
(Intercept)	-.789	.3187	1	.013	6.131	-1.414	-.165
[maritalStatus =1]	-.583	.1031	1	.000	32.058	-.785	-.381
[maritalStatus =2]	0 _a	.	.	.	.	.	.
[FamilyBackground =1]	.741	.2385	1	.002	9.654	.274	1.209
[FamilyBackground =2]	.379	.2344	1	.106	2.610	-.081	.838
[FamilyBackground =3]	0 _a	.	.	.	.	.	.
[HiggestStandard =1]	-3.705	.2727	1	.000	184.630	-4.240	-3.171
[HiggestStandard =2]	-2.174	.1116	1	.000	379.600	-2.393	-1.956
[HiggestStandard =3]	0 _a	.	.	.	.	.	.
Age	.036	.0071	1	.000	26.150	.022	.050
No.ofChildren	.171	.0387	1	.000	19.427	.095	.247
(Scale)	1 _b						

Dependent variable: Are you employed?

Model: (Intercept), maritalStatus, FamilyBackground, HiggestStandard, Age, No.of Children.

Thus the economic participation (WEP) level is 44% lower for women who are single (compared to the married) and women with low educational level (primary and high school graduates); but higher for women in the low class and the middle class family background (compared to those from the high class background). If we take tertiary education as the base, the WEP of high school graduates is 11.4% and that of primary school graduates is only 2.1%.

Table 2c. Goodness of fita

	Value	Df	Value/df
Deviance	1185.816	955	1.254
Scaled deviance	1185.816	955	
Pearson Shi-Square	1137.200	955	1.191
Scaled Pearson Chi-Square	1137.200	955	
Log Likelihood ^b	-849.474		
Akaike's Information Criterion(AIC)	1714.948		
Finite Sample Corrected AIC(AICC)	1715.003		
Bayesian Information Criterion	1761.854		
Consistent AIC (CAIC)	1769.854		

a. Information criteria are in smaller-is-better form.

b. The full log likelihood function is displayed and used in computing information criteria.

Conversely, if we take high class family background as a base, the WEP for women from low class increases by 2.1% and that of middle class by 1.5%. The WEP level equally increases with age as well as the number of children that a woman has. The WEP increases by 3.7% by an additional year and also by 19% by additional child. Furthermore, when we compare the WEP level with primary and high school gra-

duates, we see that the level is much lower for primary than for high school graduates, which means that women with only primary school certificates are mostly at risk of finding jobs. The WEP level with the low class family background is comparatively higher than those in the middle class family background. Thus women from the middle class family background have poorer chance at finding jobs than those from the low class family background in Capricorn; and this observation demands explanation.

Multiple Logistic (Multinomial) Regression Model. The following analysis from multiple logistic regression seeks to further affirm or not the results already obtained from generalized linear modeling. Table 3a presents the results of the goodness of fit test.

Table 3a. Goodness-of-Fit

	Chi-Square	Df	Sig.
Pearson	2128.150	1611	.000
Deviance	2021.801	1611	.000

We observed in the Goodness of fit tables, (Table 3a, Table 3b and Table A (in appendix) that the overall regression is significant as shown by the p-value of .000. That is all the independent variables are collectively significant when we compare the fitted model against the intercept-only model. However, we need to test whether all the variables are relevant in the model.

Table 3b. Model Fitting Information

Model	Model Fitting Criteria			Likelihood Ratio Tests		
	AIC	BIC	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	3973.839	3980.272	3971.839			
Final	2768.218	2826.123	2750.218	1221.620	8	.000

Table 3c of parameter confirms that all the independent variables are relevant in the model, having p-value = .000.

Table 3c. Parameter Estimates – Multiple Logistic Regression

Parameter	B	Std Error	Hypothesis Test		Z	95% Wald Confidence Interval	
			Df	Sig		Lower	Upper
(Intercept)	1.415						
[District =1]	-.262	.030	1	.000	-8.821	-.321	-.110
[District =2]	0 _a	.	.	.	.	.	.
[maritalStatus =1]	.243	.030	1	.000	8.178	.185	.465
[maritalStatus =2]	0 _a	.	.	.	.	.	.
[FamilyBackground =1]	2.963	.094	1	.000	31.653	2.780	3.680
[FamilyBackground =2]	2.889	.094	1	.000	30.803	2.705	3.797
[FamilyBackground =3]	0 _a	.	.	.	.	.	.
[HigestStandard =1]	-.858	.061	1	.000	-14.001	-.978	-.711
[HigestStandard =2]	1.314	.038	1	.000	34.884	1.240	1.751
[HigestStandard =3]	0 _a	.	.	.	.	.	.
(Scale)	1 _b						

Dependent variable: Are you employed?

The AIC (Akaike's Information Criterion) and deviance statistics were employed as a criteria for judging the quality of the model. The results from Table 2c and Table 3 show that the model fit is good, $p\text{-value} = .000$, in Table 3.

Table 4. Tests of Model Effects

Source	Type III		
	Wald Chi-Square	Df	Sig.
(Intercept)	108.834	1	.000
Marital status	32.058	1	.000
Education level	445.557	2	.000
Family background	18.005	2	.000
Age	26.150	1	.000
Number of Children	19.427	1	.000

Discriminant Analysis. Tables 5a & 5b present the results from discriminant analysis. From Table 5a, the mean differences between age (35.28 & 32.96) and the number of children a woman has (2.52 & 2.04) indicate that these independent variables are good discriminators because the separations are relatively large.

Table 5a. Group Statistics

Are you employed?	Mean	Std. Deviation	Valid N (listwise)	
			Unweighted	Weighted
Yes Age	35.28	7.545	1036	1036.000
Marital status	1.72	.450	1036	1036.000
Education level	2.50	.534	1036	1036.000
Family background	1.57	.594	1036	1036.000
Number of children	2.52	1.418	1036	1036.000
No Age	32.96	8.311	1564	1564.000
Marital status	1.55	.498	1564	1564.000
Education level	2.02	.480	1564	1564.000
Family background	1.50	.568	1564	1564.000
Number of children	2.04	1.444	1564	1564.000
Total Age	33.89	8.093	2600	2600.000
Marital status	1.62	.487	2600	2600.000
Education level	2.22	.554	2600	2600.000
Job comfort	1.53	.580	2600	2600.000
Family background	2.23	1.452	2600	2600.000
Number of children				

Table 5b identifies a strong statistical evidence of significant differences between the employed and the unemployed for all independent variables with education level ($F=569.249$), Marital status ($F=79.119$) and the number of children ($F= 69.876$) producing fairly high values of F 's.

Table 5b. Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
Age	.980	52.260	1	2598	.000
Marital status	.970	79.119	1	2598	.000
Education level	.820	569.249	1	2598	.000
Family background	.997	8.905	1	2598	.003
Number of children	.974	69.876	1	2598	.000

The very high value of F for education suggests that education level is the most predictive factor. Marital status, the number of children and Age are also predictive factors.

Discussion. First, a loglinear analysis was done to find the association among factors (see Table A1 in appendix). Next GLM was conducted to find the relationship between dependent variable (women economic participation) and the independent variables. And as a further proof to test and affirm the relationship between the dependent and the independent variables, multiple logistic (multinomial) regression was conducted. The multinomial regression analysis was conducted to predict a response (employed or unemployed) from the predictor variables (age, marital status, education level, family background and the number of children a woman has). Model fit tests and diagnostics were conducted to prove the results of the analyses (Table A2 in appendix).

Our model shows that all the variables – education, age, marital status, family status and the number of children – influence the women economic participation rate very strongly. And interprets that women's economic participation level is lower for women who are single (compared to married) and also for women with low educational level (primary and high school graduates) (compared with those with tertiary). The WEP level however increases for women in the low class and the middle class family background (compared to those from the high class background). Furthermore, when we compare the levels with primary and high school graduates, we see that the level is much lower for primary than for high school graduates, which means that women with only primary school certificates are most at risk for finding jobs. Higher education improves women economic participation rate (P. Serneels, 2004; OECD, 2006; K.A Kyei and T Maboko, 2015).

Conversely, women from the middle class family background have better chance at finding jobs than those from the low class family background. Age has an impact on women labour force participation because younger women are more able to afford unpaid job-search since they have fewer financial commitments than older women do. According to F. Kryger (1999) the probability of being unemployed decreases with the age initially but then increases after 40 years as the woman becomes older.

Conclusion. We have seen that the economic participation rate by women in the formal sector in the Capricorn district is very low at 39.8% and that the most predictive factors affecting women activity rate which have been confirmed by all the techniques used are education, age, marital status, family status and the number of children. These factors influence women economic participation rate very strongly (p-value = .000).

The paper recommends that women should take marriages (stable unions) and education seriously because they empower women to participate in economic activity outside home.

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Appendix

Hierarchical Loglinear Analysis

Table A1. K-Way and Higher-Order Effects

	K	Df	Likelihood Ratio		Pearson		Number of Iterations
			Chi-Square	Sig.	Chi-Square	Sig.	
K-way and Higher Order Effects ^a	1	23	6394.561	.000	9170.866	.000	0
	2	18	2275.844	.000	3119.314	.000	2
	3	9	29.542	.001	31.955	.000	6
	4	2	3.051	.217	2.933	.231	3
K-way Effects ^b	1	5	4118.718	.000	6051.552	.000	0
	2	9	2246.301	.000	3087.359	.000	0
	3	7	26.491	.000	29.023	.000	0
	4	2	3.051	.217	2.933	.231	0

a. Tests that k-way and higher order effects are zero.

b. Tests that k-way effects are zero.

Generalized Linear Models – Logit procedure.

Table A2. Model Fitting Criteria

Effect	Model Fitting Criteria				
	AIC of Reduced Model	BIC of Reduced Model	-2 Log Likelihood of Reduced Model	Chi-Square	Sig.
Intercept	2768.218	2826.123	2750.218 ^a	.000	.
Age	2829.030	2880.500	2813.030	62.811	.000
No.ofChildren	2775.056	2826.526	2759.056	8.837	.003
District	2843.768	2895.239	2827.768	77.550	.000
maritalStatus	2798.196	2849.666	2782.196	31.977	.000
HighestStandard	3415.915	3460.952	3401.915	651.697	.000
FamilyBackground	2769.259	2814.295	2755.259	5.040	.080