Covenant Journal of Entrepreneurship (CJoE) Vol. 2 No. 2, Dec. 2018

An Open Access Journal Available Online

Gender Equality and Sustainable Development in Nigeria

Adebosin Walid Gbadebo, Toriola Anu Keshiro, Oyewole Adegboyega Sule, Ayanwole Ayanyemi Adeyemi & Balogun Kamildeen Yemi

Department of Business Education, Michael Otedola
College of Primary Education, Noforija-Epe, Lagos, Nigeria
ddwalid3@gmail.com
toriolaanu@gmail.com
oyegboyeadegboye@gmail.com
adeyemiigosun@gmail.com

***Abstract*:** Sustainable development is development that meets the basic needs of the present generation in a way that did not affect the ability of the future generation to meet their needs. Gender equity serves as an essential building block for this kind of development. Despite the changes in the approach used in addressing social, economic and environmental issues in Nigeria, the achievement of developmental goals still remain a mirage. Women by the social settings carry out more responsibility that are not paid which constraint their capacity to fight for their rights. This study therefore examines gender equality and sustainable development in Nigeria. The study specifically examines the magnitude of the relationship between gender equality and sustainable development and investigates how the relationship between men and women affect sustainable development in Nigeria. Annual time series data sourced from the World Bank Development Index (WDI) covering the period of 2001 to 2016 was used in the study. As preliminary tests, descriptive and graphical trend analysis, and unit root test was conducted while the correlation analysis, OLS regression analysis and Granger causality test were employed in the actual estimation. The correlation analysis indicates a positive very strong correlation between gender equality index and sustainable development index (r= 0.734) while a positive weak correlation was evident in the association

between environmental performance proxy by emission of CO2 and sustainable development index (r= 0.733). The OLS regression estimate showed a significant positive relationship between the sustainable development and Gender equality (β=7.652, t=2.780, p<0.05) and a negative significant relationship between environmental performance and sustainable development (β=-3.654, t=6.868, p<0.05). The main submission from the result is that, gender equality has a significant positive relationship with sustainable development in Nigeria. The study recommends the need to encourage equitable and responsible participation of men and women at the different level where decisions are made and control is exercised by government and policy makers.

Key Words: Gender, Equality, Sustainable Development, Environmental Performance, Economic environment

Word Counts**:** 319

1. Introduction

Sustainable development is now being advocated as means of responding to global environmental concerns, biophysical issues, fairness, equity and distribution (Adejumo and Adejumo, 2014). Thus, both private and public organizations have now embraced sustainable development as a new strategy of development (Lélé, 1991). This development strategy or perspective influences the formulation issues and implementation actions. It captures the interrelationship between environment, society and economy, conceived as separate although connected constituent parts of sustainable development (Tchouassi, 2012). It requires balancing environmental, societal and economic considerations in the pursuit of development and improved quality of life (Arogundade, 2011).

Sustainable development cannot be achieved without gender equality. Gender Equity is the process of allocating resources, programmes, and decision fairly to both males and females without any form of discrimination and addressing the imbalances in the benefits available to males and females (Pathania, 2017). To have a strong family and a viable society in this rapidly changing world there is need for partnership and equality between men and women. Across human history, women have been consistently excluded from decision-making in the society. In governance and all social groups, women are systematically discriminated And this allows the domination of few social groups in governance at the expense of others. This power structure caused further imbalance, marginalization, suffering and conflict (Tchouassi, 2012). Gender equity is very essential in achieving sustainable development because none of the three ingredients of sustainable development can be achieve without ensuring gender equality. For instance, to achieve green environment, women must have the knowledge of their relationship between natural and environmental resources and their roles in resource planning and management. Also economic objective cannot be achieve without putting in place strategies that are gender sensitive. More also, social objective cannot be achieve without gender equality. Sexism, racism and ethnic, religion, social status, political opinion and sexual orientation based

discrimination rising in the society are clear indicators of social inequity (Tchouassi, 2012).

In Nigeria, despite the changes in the approach used in addressing social, economic and environmental issues in Nigeria, the achievement of developmental goals still remain a mirage. The problem of poverty, flooding, ethnic crisis, environmental pollution, corruption and inequality in income distribution has been on the increase (Adejumo and Adejumo, 2014). In 2004 Nigerian profile showed a relative poverty of 54.4% which increased to 69% in 2010. Besides, flood hazards in Nigerian cities have been have more than doubled in the last ten years (Odermeho, 1993). In 2012, Nigeria experienced the worst flooding (Adejumo and Adejumo, 2014). A review of existing literature on gender and sustainable development indicates a lack of consistency in their interpretation because of their incomplete perception of the problems of poverty, vulnerability, environmental and natural resources, environmental degradation, sustainability and participation. These weaknesses have affected policy making specifically in the context of international trade, agriculture, and forestry. It is against this background that this study was motivated to examine gender equality and sustainable development in Nigeria.

Based on the foregoing, this study will make concrete effort to provide answers to the following pertinent questions: What is the association between gender equality and sustainable development; What is the magnitude of the relationship between gender equality and sustainable development in Nigeria; and How does the relationship between men and women affect sustainable development in Nigeria. This is with a view to enhance the understanding of the analytical content of sustainable development and sensitise the Nigerian government to key into the current wave of sustaining the global economy. The paper will afford economic planners the opportunity to further deepen their understanding of gender equality as a necessary component of national growth and poverty reduction strategies and help them to act on this understanding by integrating measures to overcome gender-related obstacles into national strategies and budgetary policies and procedures in order to achieve the objectives of sustainable development in Nigeria. This introduction section is preceded by literature review section followed be data sources and model specification as section which precedes the empirical results, discussion and conclusion section.

2. Literature Review

Sustainable development refers to the continuous and sustained qualitative improvement in overall standard of living of people in a society or nation and the structural transformation/changes in the productive and distributive input and output systems of the economy (Ojobo, 2005). Springett and Foster (2005) argue that sustainable development has to do with the well-being of all people in a particular society or community. A nation or community could be said to have attained or be on the part of sustainable development when members of that community or society could boast of improved condition of living on a continuous basis over a reasonable period of time. Sustainable development as a goal therefore entails the eradication of poverty in terms of physical and non-physical needs; and

quality of life beyond mere sustenance which implies human dignity and liberty. World Commission on Environment (1987) defines sustainable development as "development that meets the needs of the present without compromising the ability of the future generation to meet their own needs". These needs entail food, housing, clothing, health, education industrial and agricultural development, preservation and protection of the environment to enable people to live a comfortable life.

In recent time, gender equality has been linked with sustainable development in economic literature. According to Pathania, (2017) sustainable development depends on an equitable distribution of resources and it cannot be achieved without gender equality. Gender is referred to as the set of characteristics, roles and behavior patterns that distinguish women from men which are constructed not biologically, but socially and culturally. It refers not only to women and men but also to the relations of power between them and the other marginalized groups (for example the handicrafts group) (Tchouassi, 2012). Gender Equity is the process of allocating resources, programs, and decision making fairly to both males and females without any discrimination on the basis of sex…and addressing any imbalances in the benefits available to males and females (Pathania, 2017). Gender relations are constantly being renegotiated in the context of changing political, economic, social, and cultural environments at the local, national and international level (Sen Gita, 1999).

Gender equality and sustainable development have received a great amount of attention from the theoretical point of view. The two main theories in focus are the social learning theory and humanistic theory**.** Social learning theory of Miller (2011) stated that personality represents an interaction of the individual with his/her environment. Put differently, one cannot speak of a personality internal to the individual that is independent of the environment. Neither can one focus on behaviour as being an automatic response to an objective set of environmental stimuli. Rather to understand behavior one must take the individual (history of learning and experiences) and the environment into account. It is through the contingencies of social learning: cues, recognitions and consequences that individual behavior can best be understood. Miller defines personality as relatively stable set of potentials for responding to situation in a particular way. For Miller, personality and behaviour are always changeable. He opines that if you change the way a person thinks or change the environment the person is responding to, his/her behavior will change. The more life experience one has in building up certain sets of beliefs, the more effort and intervention required for change to occur. The theory of social learning was used in this because the theory explains the individuals' personality and how it is influenced by the environment. The Humanistic theory is a psychological perspective which rose to prominence in the mid-20th century in response to the psychoanalytic theory of Sigmund Freud and the behaviourism of Skinner. The theory is sometimes referred to as a "third force," as distinct from the two more traditional approaches of psychoanalytic and behaviourism. This theory emphasizes on an individual's inherent drive towards self-actualization

and creativity (Aileen Milne 2003). The theory acknowledges that an individuals' mind is strongly influenced by ongoing determining forces in both their unconscious and conscious world around them, specifically the society in which they live. The focus of the humanistic perspective is on the self, and this view argues that individuals are free to choose their own behaviour, rather than reacting to environmental stimuli and reinforcers. Here, issues dealing with self-esteem, self-fulfilment, and needs are paramount.

Several empirical studies conducted to examine the effect of gender equality on sustainable development pointed to the devastating negative effect of gender inequality on sustainable development in both developed and developing nations. For instance, Tchouassi (2012) analyze the relationship between gender equality and sustainable development based on the Kuznets curve associated to environmental analysis. The cross-sectional analysis, with data from 11 countries in Central Africa in 2010, was used. Results find a positive correlation between gender equality and sustainable development. When the Multidimensional poverty index increases, environmental problems reduce, translating the role of gender in sustainable development in all Central Africa countries. In another study Chowdhury, Dewan, Quaddus, Naude and Siddique (2017) explore the ways and means of mitigating gender inequality for sustainable development of coastal fishing communities of Cox's Bazar, Bangladesh to determine the indicators of gender inequality. Data were collected using the semi-structured interviews from the coastal women, NGO members and local government representatives of coastal fishing community of Bangladesh. Analytical Hierarchy Process (AHP) integrated Quality Function Deployment (QFD) is used to analyse the data. The study finds that ensuring education, access to financing and skill development are the most important factors in mitigating gender inequality for sustainable development. In a similar vein, Fodor and Horn (2015)explores the macro-level determinants of the gender poverty gap in the ten post-socialist European Union member states using the 2008 cross-sectional wave of the survey Statistics on Income and Living Conditions(EU-SILC) and multi-level modeling techniques. In dialogue with the literature on the impact of economic development on gender inequality in Asia and Latin America, the study find that fast-paced, foreign capital led economic growth is associated with a larger gender poverty gap in Central and Eastern Europe, while generous welfare policies, specifically higher levels of spending on pensions and family policies are correlated with women's lower relative destitution. The findings suggest that structural adjustment and global market integration may exacerbate women's vulnerability even when they are well equipped with human capital and other resources to compete with men in the labor market. Also Klasen and Lamanna (2009) investigate to what extent gender gaps in education and employment (proxied using gender gaps in labor force participation) reduce economic growth using cross-country and panel regressions, we. Using the most recent data and investigating an extended time period (1960–2000), the study update the results of previous studies on education gaps on growth and extend the analysis to employment gaps using

panel data. The study finds that gender gaps in education and employment considerably reduce economic growth. The combined ‘‘costs’’ of education and employment gaps in the Middle East and North Africa, and South Asia amount respectively to 0.9–1.7 and 0.1–1.6 percentage point differences in growth compared to East Asia. Gender gaps in employment appear to have an increasing effect on economic growth differences between regions, with the Middle East and North Africa, and South Asia suffering from slower growth in female employment.

3. **Data Sources, Variables and Model Specification and Estimation**

This study on gender equality and sustainable development in Nigeria follows ex post factor research design. The choice of this research design is primarily because it is a quasi-experimental design useful in examining how an independent variable, present prior to the study in the participants, affects a dependent variable. The study used annual time series data covering 14 years period from 2000 to 2016 compiled from the World Bank (World Economic Indicators) and Central Bank of Nigeria (CBN) statistical bulletin. The choice of the base year (2000) and end of period (2016) is premised on the need to cover the major period when 189 Heads of States and Government gathered (September, 2000) to reaffirm their faith in the United Nations and to adopt the United Nations Millennium Declaration for improving the citizens of developing and under-developed nations of the world. The short time frame covered in the study was mainly because relevant data on Nigeria were not available except from year 2001 to 2016. In the study gender was captures using CPIA Gender Equality Index GEIa new index for measurement of gender disparity introduced in 2010 by the United Nations Development Programme (UNDP) in line with the study conducted by Adekola, Olawole-Isaac, Ajibola & Salau, (2015) and Tchouassi (2012). It is a composite measure which captures the loss of achievement, within a country, due to gender inequality, and uses three dimensions to do so: reproductive health, empowerment, and labor market participation. The new index was introduced as an experimental measure to remedy the shortcomings of the previous, and no longer used, indicators, the gender development index (GDI) and the Gender empowerment measure(GEM). Sustainable development was measured using Real GDP per capita growth in line with Minniti and Nardone, (2007).The environmental performance was captured using CO2 emissions (emissions of CO2 per capita and emissions of CO2 growth) to quantify and numerically benchmark the environmental performance of a country’s policies in line with Tchouassi (2012) who used emissions of CO2 as one of the environmental performance index. The functional transformation of the relationship among the aforementioned variables is presented as follows

$$SDI = f(GEI, ECO2) \quad (1)$$

This functional relationship is transformed into an econometric model for the purpose of estimation as follows

$$SDI = \beta_0 + \beta_1 GEI + \beta_2 ECO2 + e \quad (2)$$

Where SDI is sustainable development proxy by Real GDP per capita growth, gender equality was proxy by gender equality index GEI and environmental performance proxy by emissions of CO2. The Jarque-Bera Normality test,

line graph trend analysis, and unit root test was conducted as pre estimation test. In the actual estimation correlation analysis to determine the association among the variables, regression analysis to determine the relationship among gender equality, environmental performance and sustainable development and Granger causality test to determine the direction of causality between gender and sustainable development. The choice of Granger causality technique was because the technique is suitable in determining whether past changes in a variable is responsible in the present observation or not as there is a possibility that the relationship that exist in theory may not work in real life situation due to some factors which may not be clearly specified in the theory (Ajisafe et al 2006).

4. Results and Discussion

A. Preliminary Test

The preliminary test to evaluate the time series properties and or the nature of the distribution of the data set used in this study consist of descriptive and graphical trend analysis and unit root test. These results are presented and discussed as follows:

I. **Descriptive Analysis**

Table 1: Descriptive Statistics

	SDI	GEI	ECO2
Mean	4.812825	3.071765	0.769657
Median	3.018654	3.000000	0.672129
Maximum	30.34224	3.510000	1.334583
Minimum	0.793569	3.000000	0.486844
Std. Dev.	6.792836	0.136209	0.286609
Skewness	3.375475	2.213869	0.694257
Kurtosis	13.27443	7.357947	2.010598
Jarque-Bera	107.0570	27.33924	2.059045
Probability	0.000000	0.000001	0.357177
Sum	81.81802	52.22000	13.08416
Sum Sq. Dev.	738.2820	0.296847	1.314317
Observations	17	17	17

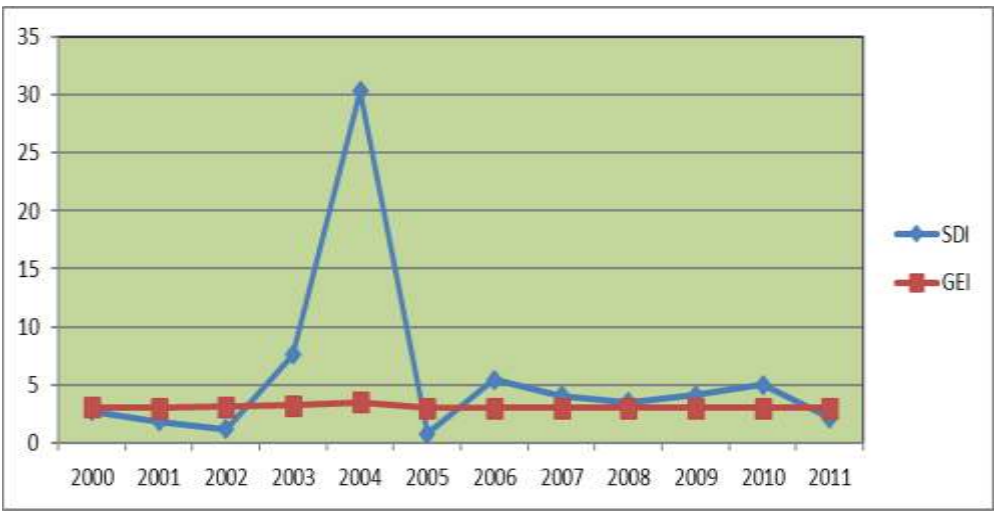
Source: Author, 2018

The result as presented in Table 1 showed that sustainable development, gender equality and environmental performance are positively skewed since their means are greater than the medians. The skewness coefficient of gender is greater than one for sustainable development and gender equality indicating that this variable is highly symmetrical while the skewness coefficient of environmental performance is not. The positive values of the kurtosis of all the variables established the fact that these variables are leptokurtic in nature. The values of the Jarque-Bera statistics showed that sustainable development and gender equality are normally distributed since their p-values are not statistically

significant at 5% level of significance while environmental performance is not.

II Trend Analysis

Figure 1: Trend of Sustainable Development and Gender Equality



Source: Author, 2018.

The trend of sustainable development as shown in Figure 1 indicates that over the entire period there sustainable development index have been very unpredictable in the sense that for some years there is a sharp increase and for some other years there is a dramatic sharp decline in the index in Nigeria. Meanwhile gender equality was significantly very low over the entire period.

II. Lag Selection

Table 2: Lag-Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-40.89819	NA*	20.50522*	5.853092*	5.994702*	5.851583*
1	-40.84756	0.074259	23.45321	5.979674	6.168487	5.977663
2	-40.24844	0.798818	25.07143	6.033126	6.269142	6.030612

Source: Author, 2018

Based on the result in table 2 a maximum of 0 lags as suggested by sequential modified LR test, Final prediction error and Hannan-Quinn information criterion (HQ) was used in the analysis

III. Unit Root Test

Table 3: Unit root test results.

Variables		ADF Test (Value)		Order of Integration
		Level	First Diff	
SDI		--2.697384	-6.140506	I(0)
GEI		0.031039	-5.966270	I(1)
ECO2		-1.884840	-3.348406	I(1)
Critical Value @	1%	-2.717511	-2.728252	
	5%	-1.964418	-1.966270	
	10%	-1.605603	-1.605026	

Source: Author, 2018

The result of the Augmented Dickey Fuller (ADF) unit root test as presented in Table 3 showed that all the variables except sustainable development index were only stationary at first difference at 5% level of significance.

B. Empirical Results

I. Association between Gender Equality and Sustainable Development.

The result of the empirical analysis of the first specific objective of the study which is to association between Gender Equality and Sustainable Development is presented in table 4:

Table 4: Correlation Results

	SDI	GEDR	ECO2
SDI	1		
GEDR	0.733925	1	
ECO2	0.177701	0.008452	1

Source: Author, 2018

Table 4 shows that there is a positive very strong correlation between gender equality index and sustainable development index (r= 0.733925). When the sustainable development index increases gender equality increases. When the gender equality index increases the environmental problems are reduced, then ensuring sustainable development in Nigeria. On the other end, there was also a positive weak correlation between environmental performance proxy by emission of CO2 and sustainable development index (r= 0.733925).

II. Relationship between gender equality and sustainable development in Nigeria

The result of the second specific objective of the study which is to investigate the relationship between gender equality and sustainable development in Nigeria is presented in table 5:

Table 5: OLS Estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GEI	7.652484	2.752356	2.780339	0.0156
ECO2	-3.654607	1.187598	-3.077310	0.0088
C	0.980856	0.142807	6.868396	0.0000
R-squared	0.658507			
Adjusted R^2	0.605969			
F-statistic	12.53404			
Durbin-Watson stat	2.340593			

Source: Author, 2018

Table 5 presents the results of the Ordinary Least Squares regression estimate and shows that there is a significant positive relationship between the sustainable development index and the Gender inequality index (β=7.652484, t=2.780339, p<0.05) in Nigeria. However, the result also showed a negative significant relationship between environmental performance and sustainable development index (β=-3.654607, t=6.868396, p<0.05). The coefficient of determination 0.658507, showed that the explanatory variables predict about 66% of the variation in sustainable development index while the remaining 34% is accounted by other variables outside the scope of this study

III. Relationship between Men and Women and effect on Sustainable Development in Nigeria

Table 6: Granger Causality Test

Hypothesis	F-Statistics	Prob
Panel A: **Causality from other variables to SDI**		
GEI → SDI	6.89125	0.0131
ECO2 → SDI	4.41670	0.0422
Panel B: **Causality from SDI to other variables**		
SDI → GEI	9.60055	0.0047
SDI → ECO2	0.39348	0.6847

Source: Author, 2018

The Granger causality test results shown in panel A of table 6 shows that all the variables in the system (GEI and ECO2) granger cause sustainable development d at 5% level of significance. Hence, the null hypothesis that there is no causality relationship among these variables is rejected. In panel B sustainable development granger cause gender equality at the 5% level except for environmental performance. Therefore, the Granger causality test established a bi-causality relationship between gender equality and sustainable development while causality only run from environmental performance to sustainable development it does not run from sustainable development to environmental performance

C. Discussion of Results

The result of the correlation analysis indicates a positive very strong

correlation between gender equality index and sustainable development index (r= 0.733925) while a positive weak correlation was evident in the association between environmental performance proxy by emission of CO2 and sustainable development index (r= 0.733925). The result of the OLS regression estimate showed that there is a significant positive relationship between the sustainable development index and the Gender inequality index (β=7.652484, t=2.780339, p<0.05) and a negative significant relationship between environmental performance and sustainable development index (β=-3.654607, t=6.868396, p<0.05). From the foregoing empirical results, it is evident that, gender equality has a significant positive relationship with sustainable development in Nigeria. As economic implication, it is clear from the result that when sustainable development index increases, the Gender equality index increases. This means that the economic participation of women, the education of women, the access to health and political empowerment of women increase. Our results gave credence to the findings of Tchouassi (2012) on the relationship between gender equality and sustainable development. Results find a positive correlation between gender equality and sustainable development. This result corroborates the findings of Chowdhury, Dewan, Quaddus, Naude and Siddique (2017) on the ways and means of mitigating gender inequality for sustainable development of coastal fishing communities of Cox's Bazar, Bangladesh. The study finds that ensuring education, access to financing and skill development are the most important factors in mitigating gender inequality for sustainable development.

5. Conclusion and Recommendations

Based on evidence from the result, it can be inferred that gender equality has a significant positive relationship with sustainable development while environmental performance has a negative relationship with sustainable development in Nigeria. As economic implication, it is clear from the result that when sustainable development index increases, the Gender equality index increases. This means that the economic participation of women, the education of women, the access to health and political empowerment of women increase. On the basis of the findings, the study recommends that, if the processes of democratizing development and securing its social and political sustainability are to be firmly established, equitable and responsible participation by both men and women at the different levels where decisions are made and control is exercised should be encourage by the government. It is also important to recognize the active contribution made by men and women through unpaid, shared and cooperative work in local initiatives designed to mitigate existing deficiencies or overcome particular environmental problems and thus improve the quality of life for their families and the world around them.

References

Adejumo, A.V and Adejumo, O.O (2014) Prospects for Achieving Sustainable Development through the Millennium Development Goals in Nigeria, *European Journal of Sustainable Development* (2014), 3, 1, 33-46

Arora, R.U (2012) Gender Inequality, Economic Development and

Globalization: A State Level Analysis of India, *The Journal of Developing Areas, 46(1), 1-12.*

Chowdhury, M.H, Dewan, M.N.A, Quaddus, M, Naude, M. & Siddique, A (2017) Gender Equality and Sustainable Development with a Focus on the Coastal Fishing Community of Bangladesh, *International Journal of Research, 5(4), 15-21*

Farré, L (2016) The Role of Men in the Economic and Social Development of Women-Implications for Gender Equality, *InstitutD'anàlisiEconòmica and Barcelona Gse*

Ferranty, G (2013) How Gender Inequalities Hinder Development: Cross-Country Evidence, *Feminist Economics 16(3), 11-31*

Fodor, E & Horn, D (2015) Economic Development" and Gender Equality: Explaining Variations in the Gender Poverty Gap after Socialism, *Hungarian Academy of Sciences Budapest,19*

Hiller, V (2014) Gender Inequality, Endogenous Cultural Norms and Economic Development, *Scand. J. of Economics 116(2), 455–481*

Klasen, S and Lamanna,F (2009) The Impact of Gender Inequality in Education and Employment on Economic Growth: New Evidence for a Panel of Countries, *Feminist Economics 15(3), 91–132*

Kleven, H & Landais, C (2017) Gender Inequality and Economic Development: Fertility, Education and Norms, E*conomica*

Moheyuddin, G (2015) Introduction to Gender, Economic Development and Poverty Reduction, European *Journal of Business and Social Sciences, 1(3), 12-18*

Pathania, S.K (2017) Sustainable Development Goal: Gender Equality for Women's Empowerment and Human Rights, *International Journal of Research*, 5(4), 1-15

Tansel, A, & Güngör, N.D (2016) Gender Effects of Education on Economic Development in Turkey, *Discussion Paper No. 6532*

Tchouassi, G (2012) Does Gender Equality Work for Sustainable Development in Central Africa Countries? *European Journal of Sustainable Development, 1(3), 11-16*

Uwantege, K.L & Mbabazi, P (2015) The Impact of Women Economic Empowerment Projects on their Socio-Economic Development in Rwanda: The Case of Agaseke Project, *European Journal of Business and Social Sciences, 4(6), 59 – 87*