enhances work effectiveness and the productivity of an individual through increased physical and mental capabilities (Ajani & Ugwu, 2008).

The menace of diseases, like malaria, poses great challenge to both human and economic development in Nigeria. A lot of effort has been committed to malaria control, nationally and internationally. This is due to the need to meet development targets such as those set in the Millennium Development Goals (MDGs), adopted by United Nations and also meeting the government health policy of enhancing a healthy populace. The importance of this issue is spelt out in the sixth MDG which is to reduce to half, Malaria prevalence between 1990 and 2015 (Alaba & Alaba, 2011).

These high incidence or effect of malaria on health outcomes in Nigeria could be attributed to poor accessibility to health service as well as ignorance of the causes and mode of transmission of it in Nigeria. However, the commitments of government at all tiers, including individuals and institutions to the eradication of malaria have been increased overtime in recent times. This started with the integration of malaria eradication into national and international development strategies and actions are expected to produce improved developments results.

Given that majority of the population is living below poverty line, malaria incidence may increase significantly in Nigeria because many may not be able to afford the newly introduced expensive drugs due to poverty. This has serious implications for the achievements of development blue print in the National Economic Empowerment and Development Strategies (NEEDs), the MDGs target and Nigerian vision 20:2020. Effective control of malaria is capable of reducing household poverty, improvement in health outcomes, human capital development, welfare and aggregate national development in Nigeria. This is because of the positive dividends of good health on productivity and economic development generally.

2.0 Conceptual Clarification

Malaria is a term commonly used for four species of malaria plasmodia that infect human beings. They are plasmodium falciparum, plasmodium vivax, plasmodium ovale and plasmodium malaria. Plasmodium falciparum is the most dangerous form of the disease, accounting for 90 percent of malaria deaths in the world (WHO, 2008). Plasmodium vivax is less virulent but significantly harder to eliminate by interrupting transmission between humans and mosquitoes because it can maintain itself in a dormant phase in the human liver for six months. Plasmodium ovale and malaria are the least virulent species of malaria, but may also persist in the body for months or years (Benjamin, Mangbeni Tsegai & Ringler, 2012).

Malaria is a disease that is common to both young and old in Africa countries like Nigeria. For instance, in Nigeria, malaria accounts for 60% of visits and 30% of hospitalizations among children under five years of age. With a population of over 170 million people, at least 50% of the populations in Nigeria suffer from at least one episode of malaria each year an more reported cases or deaths due to malaria than any other country in the world (WHO, 2012).

The World Health Organization defines health as a state of complete physical, metal and social well being and not merely the absence of disease or infirmity (Parrish, 2010). Health outcomes have been described as measures of the end result of what happens to patients or individuals as a consequence of their encounters with a particular disease or the health care system.

:HLVEURG HW DO DOVR QRWHG WKDW PDODULD GL
IRU D JLYHQ QXPEHU RI KRXUV ZRUNHG +H PHDVXUHG ZRU
earnings which comprise the type of job done and the number of days worked per week. Using data from rural labour participations, Ryan Wallance (1986) in Ryan Wallance, (2014) found that health has a significant positive effect on males but not on female wage rates. Records, also show that of all tropical disease malaria singly slowed down economic growth in Africa by 1.3% each year (WHO, 2005). These estimates includes loss of work efficiency and time, which leads to loss in income earning capacity, family welfare, premature deaths of children and the non improvement of living standards for future generation (Marrow, Smith & Nimo, 1982).

Malaria affects the economic status of households through days lay off from productive activities. Previous studies on the effect of malaria on economic growth and labour productivity, yield varying results. These difference in results could, however, be explained by variations in study methods and content. However, it is generally accepted that malaria affects the quality of output. No matter the argument, it should be noted that, even though an acute malaria attack might not prevent people from working, it is however capable of slowing down productivity rate and hence efficiency rate. It can reduce the quality of productivity and output (Goodman, 2000). For example, some researchers have argued that malaria reduced the agricultural production by reducing the working capacity of farmers (Kwadwo, Asanta, Tarekegn and Andam 2011). Hong (2005) argues that increased exposure to malaria infections significantly reduces labour productivity of migrants by 8.9% compared to when they are healthy. Hence the labour productivity of infected persons when compared with potential capacity would always suffer a reduction and inefficiency. Therefore, the economic loss from productivity would be substantial most especially for labour intensive occupations that requires physical strength. He further FRQFOXGHV WKDW PDODULD¶V HFRQRPLF EXUGHQ V, H[WHQ
considering the reduction in labour productivity over time to include reduction in standard of living of dependants and relations. Malaria therefore, has an effect on labour supply and productivity of worker. Working through the measurement of worker productivity is often GLIILFXOW WR FDSWXUH EHFDXVH ZRUNHUV¶ SHUIRUPDQFH
in price rate work.

2.1 Economic Burden of Malaria

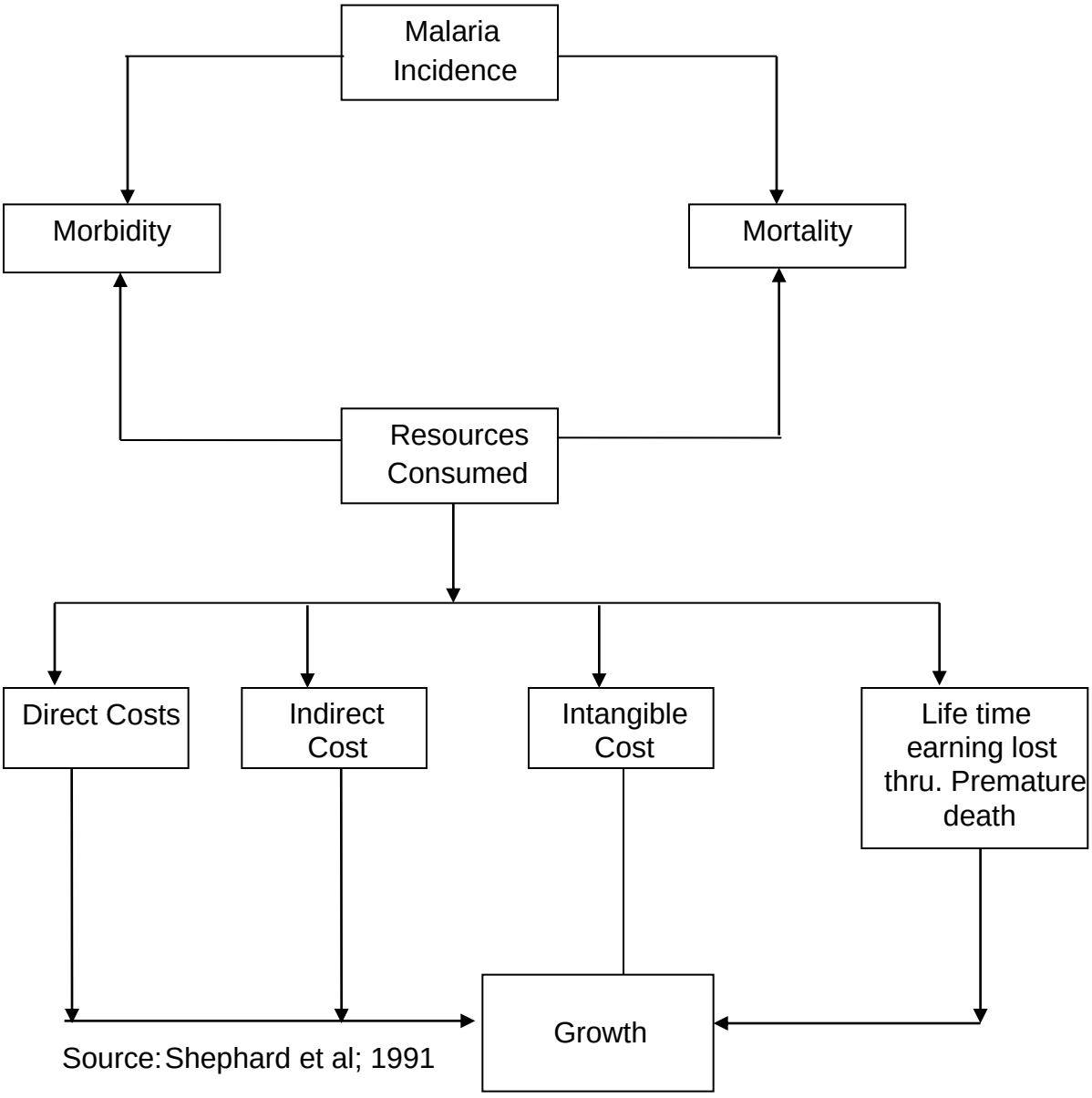
The devastating effects of malaria and poverty on labour productivity was recognized early enough in literature (Sinton, 1935 in Stanley, 1991,Target, 1991 and Madhukar, 1997). Malaria has remained a major health challenge in the tropics especially Sub-Saharan Africa and Nigeria LQ SDUWLFXODU 7KH GLVHDVH LV unH.V.W.D.W.V affects both the GUXJV¶
quantity and quality of production resources especially human factors in the production process. In recent studies of malaria endemic countries, the standard method for measuring the economic burden of malaria has been to HVWLPDWH WKH QXPEHU RI ZRUN GD\¶V ORV
multiplied by daily wage rate (Chima, Goodman, & Mills, 2003 in Obinna, 2013).

At the macro level, malaria limits mobility of labour and reduces the quality of skills exhibited at work. Gallup & Sachs (1998) in Gallup & Sachs (2001) and Acemoglu and Johnson, (2007) began their investigation of macro economic impact of malaria by suggesting a coincidence between severe malaria and low incomes. The study worked on the assumptions that low incomecould be due to many other factors apart from malaria. They further concluded that malaria could simply be a proxy for the growth constraints Africa is facing. This may also be explained by other reasons such as weak institutions, poor economic policies or ethnic

conflicts. Based on their empirical findings however, it confirms that malaria has a strong QHJDWLYH DVVRFLDWLRQ ZLWK LQFRPH DIWHU FRQWURO increased between 1950 to 1995, suggesting that malaria is an important variables in explaining income levels of many countries in Africa.

At the micro level, imagine the household where fundamental decisions are made. Here malaria strips families of their main sources of finance. For the affected individuals, the consequences may include stress and sometimes even death. Hence, a critical need to cater for those affected and to fund ways of replacing their contributions to the family and community. A decrease of labour productivity, coming from loss in income, results in less support for the elderly and the growing burden of orphans is therefore left on families and some friends. This in turn, through a multiplier effect, spreads down to the economy. Thus this translates to substantial direct and indirect cost, loss in lifetime earnings and investment through premature deaths resulting from malaria. All of these determine poverty and welfare status of the households (Shepherd, 1991in Mia, 2011). Summarily, the cost of malaria can however be considered from different perspectives which includes; death rates from Malaria attacks, prevention and treatment cost and indirect cost (productivity and income loss). Below is Shephard malaria economic burden model presented in figure 1.

Fig 1: Economic Consequences of Malaria



Source: Shephard et al; 1991

The dual health effects of morbidity and mortality may lead to the consumption of already scarce resources through its treatment and prevention. This therefore leads to drain on the finance of the people given that in this part of the globe most health care expenditures are borne by individuals or on the household. To this regard, it serves as major cause of school absenteeism and negatively long term learning capacities of individuals thereby reducing human capital accumulation over time. This effect is further compounded by more complicated links between malaria and productivity

2.2 The Solow-Swan Growth Model

The neoclassical growth theory seeks to understand the determinant of long term economic growth rate through accumulations of factors inputs such as physical capital and labour. In the heart of the neoclassical model lies the Solow growth theory. It is an aggregate production function that exhibits constant returns to scale in labour and reproducible capital. This can be written in general form as follow:

$$Y=F(AK,L) \quad - \quad - \quad - \quad - \quad - \quad - \quad (1)$$

Where Y= output or income

A=Technological Innovation

L=Labour force

K= stock of capital

Such that labour productivity is given by $Y=\frac{Y}{L}$ and capital intensity is given by $K=\frac{K}{L}$

Alternative, the per capita worker production function can be written as

$$Y=F(CK)=K^{\cdot} \quad - \quad - \quad - \quad - \quad - \quad - \quad (2)$$

The neoclassical model can therefore be modified by supposing that there is a productivity/technological parameters A in the aggregate function that reflects the current state technological knowledge

$$Y= F(A_iKL) \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad (3)$$

Assuming that productivity increases smoothly overtime at a constant growth rate (g), hence

$$Y= A_o g^{st} K^{\cdot} L^{i-\cdot} \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad (4)$$

Equation (4) shows that growth in income is determine by productivity growth (g) and the growth of capital per worker

2.3 The Romer Model

In his article published in 1990, Romer took a different approach in accounting for technological progress. This model assumed that technological knowledge is labour augmented, enhancing their productivity. The production function is expressed as

$$Y= K^{\cdot} (AL)^{1-\cdot} \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad (5)$$

So that (AL) denotes a knowledge adjusted workforce. Furthermore, the model assumed that research create technological knowledge in a simple form, expressed thus:

$$\frac{dA}{dT} = SH_A$$

Where H_A is the human capital and S is a parameter. Romer posited that the rate of technical progress will be determined by the stock of human capital of research workers. In other words, an economy with a larger total stock of human capital will grow faster (Romer, 1990). Thus Romer model explicitly recognizes the role of human capital in economy growth. Equation 5 above can be expressed in linear form as:

O R J < . O-R J0NR J $- . O R J / - - - - - -6

3.0 Theoretical Framework

This study adopts the neoclassical production function which expresses output (Y) as a function of capital (K), Labour (L) and the coefficient of technical progress (A). The production function is as expressed below.

Y= AF(K,L) - - - - - - - - (7)

Where A is the level of technology, K is the physical stock of capital, it is the human capital, L is the quantity of labour and Y is output. It is usually assumed that the production function is twice differentiable and subjected to constant return to scale.

In the exogenous growth models, technical change is assumed to be exogenously determined while endogenous growths models assume that technological progress is endogenous determine. In what follows, we adopt the framework of endogenous growth models. In the endogenous growth theories, income growth is determined by technological progress (A), which is a function of profitable research and development activities. In other words, technological innovation and absorption, as reflected in total factor productivity (TFP) are essential for growth and wealth. According to Hall and Jones (1998), more than 80% of income differential among countries are attributed to TFP differences. The question is what explains total factor productivity differences? To this, Hall and Jones (1996) asserted that social infrastructure. Social infrastructure comprises of institutions and government policies. Therefore, in what follows it is assumed that productivity depends, inter alia, on malaria incidence (MI), Life Expectancy Rate (LER) and public Health Expenditure (PHE).

RGDP = F (GFCF, SSER, MI, LER, PHE) - - - - (8)

Following equation 6 above equation 8 is expressed in its linear form to get:

/ 5 * ' 3 $_0$ $_1$ / *) &) $_2$ / 6 6 (5 $_3$ / 0 , $_4$ / / (5 $_5$LPHE+ - (9)

A-priori expectation $_1$ $_2$ú ú$_4$úD Q G! ú $_3$,ú< 0

RGDP is Real Gross Domestic Product, GFCF is Gross Fixed Capital Formation, SSER is Secondary School Enrolment rate, MI is Malaria incidence LER is Life Expectancy rate at birth, 3 + (L V S X E O L F K H D O, is Worked [S Hp QG L W X ú H ú D Q G are the impact measuring parameters for the various explanatory variables and L is natural logarithmic value of the respective variables.

3.1 Methodology and Sources of Data

In order to lend empiricism to our work, we shall employ the use of regression analysis. Total Productivity proxied, by Real Gross Domestic Product, is regressed on gross fixed capital formation, secondary school enrolment rate, malaria incidence, life expectancy rate at birth and public health expenditure.

Times series data obtained from National bureau for statistics and the central bank statistical bulletin are utilized. The scope of the work is (1981-2013). This period is chosen for the fact that [illegible] There is high tendency that economic time series variables are non-stationary at levels, but may become statunary only after first differencing or second (Iyoha, 2011; Guyarati, 2009). The dangers inherent in using non-stationary time series variables in running regression has been established (see Granger & Newbold, 1974; Box and Jenkins, 1970 in Box and Pierce, 2012; and Yule, 1926). The study employed Augumented Dickey-Fuller tests statistics to ascertain the stationarity status of the time series. The Engle-Granger two stage and that of Philip Ouliaris cointegration tests are employed in determining the existence of long run relationship between the regressand and regrssors. This was adopted because the specified econometrical model is linear. The confirmation of this, culminated in the specification and estimation of the error correction mechanism (ecm) model.

4.0 Empirical Analysis

In this section of the study, results of the relevant statistical tests as well as those of the econometric estimation are presented thereafter recommendations are proffered. The results are presented in the order of unit root; co-integration analysis and the parsimonious Error Correction Model.

4.1 Stationarity Test

In this section of the study, we examine the Stationarity Sate of the variables. The aim of the exercise is to know the order of homogeneity of the variables that is whether they are integrated of order Zero or One. The study utilized the Augmented Dickey Fuller approach which is presented in table 4.1 below:

Table 4.1 Summary of Unit Root Estimates at 5% Level of Significance

Augumented DickeyFuller Test Statistics Levels				Augumented DickeyFuller TestStatistics@ 1st Difference				
Variables	Lag	Test Statistic	Critical Value@5%	Variables	Lag	Test Statistic	Critical Value@5%	Remark
LRGDP	0	-1.843652	-3.587527	D(LRGDP)	0	-37.79273	-3.592973	Stationary
LSSER	0	-1.200961	-3.548490	D(LSSER)	0	-7.997236	3.557759	Stationary
LMI	0	-2.114342	-3.587527	LDMI	0	-6.039210	3.562882	Stationary
LPHE	1	-2.14072	-3.548490	D(LPHE)	1	-4.47695	-3.562882	Stationary
LGFCF	1	-1.65341	-3.546728	D(LGFCF)	1	-5.34721	-3.57342	Stationary

Source: **Author's Computation Using E**-view 8.0

4.2 Co-integration Analysis

In the Literature, two or more variables are said to be co-integrated if a long-run meaningful relationship exist among them. When two or more variables are co-integrated, then a linear combination of the programmes will produce stationary series regardless of the stationarity VWDWH RI WKH YDULDEOHV DW OHYHOV ,Q WKLV VWXG\ Z Co-integration. The results are presented in table 4:2 below.

	Engel-Granger Cointegration Test		Philip Ouliaris Cointegration Test	
Dependent	Tau-statitistic	Probability	Tau-statistic	Probability
LMI	-2.632162	0.6270	-5.659965*	0.0036
LPHE	-5.304839*	0.0081	-5.440720*	0.0060
LSSER	-3.151255	0.3809	-3.534724	0.2316
LRGDP	-9.955475*	0.0000	-8.821351*	0.0000
LGFCF	-7.368932*	0.0000	-6.984531*	0.0007

Source: **Author's compilation using E**-view 8.1* Significant @ 5% Level of Significance.

Table 4.2 above shows the Engel Granger two stage and Philip Ouliaris cointegration tests results. From it, result shows three and four cointegrating vectors respectively in both Engel Granger and Philip Ouliaris results. This thus results into the rejection of the null hypothesis that there is no cointegration between the dependent and the independent variables in the empirical model. This implies that a long-run relationship do exist between the regressand and regressors.

4.4 The Parsimonious ECM

Under the parsimonious ECM, we simply regress RGDP on the independent variables (LGFCF, LMI, LPHE, LSSER). The ECM is introduced so as to ascertain the speed of correction of the dispersion between the the short and long run dynamics. The estimated model is presented in table 4.4 below.

Table 4.4: The Parsimonious Error Cerrection Mechanism Results

Variables	Coefficient	Std. Error	t-Statistic	Prob
Constant	0.1786	64095.66	0.0027	0.5832
LGFCF	-0.0098	0.0047	-2.0853	0.0428
LMI	-0.3774	0.0097	-3.9908	0.0006
LPHE	0.0451	0.1171	1.9618	0.0346
LSSER	0.6399	0.0027	2.8876	0.0067
ECM(-1)	-0.6263	0.2965	-2.1123	0.0082
R-squared=0.98	Adjusted R-squared= 0.97	F-statistics = 108.95	Prob.(f-stat.)= 0.00	DW Statistic = 1.96

Source: Authors Computation (2016)

4.5 ECM Results

Table 4.4 above shows the results of the parsimonious error correction model. From it all the variables but one (LGFCF) were correctly signed. LGFCF is a variable proxying infrastructure. For it to be negatively signed violates the priori expectation because it is expected theoretically, that as infrastructure grows RGDP would also grow since infrastructure facilitate production. The case of Nigeria here may be predicated upon inefficiency and corruption. All the

variables but public expenditure on health (PHE) were statistically significant at 5% level. This also shows the gross inadequacy of government expenditure on health.

From the results also, the constant is 0.1786 implying that, even if all other variables were equated to zero there will still GDP growth of 17.86% in Nigeria. For the other variables, it shows that there will be a 0.0098% decrease in RGDP growth owing to 1% increase in GFCF.Similarly RGDP will reduce by 37.744% due to 1% increase in malaria incidence (MI). On the other hand, 1% increase in public health expenditure (PHE) and secondary school enrolment rate (SSER) will yield 0.0451% and 0.6399% in RGDP respectively.

The coefficient of determination (R^2) is valued at 0.985 showing that 98.5% of the variation in RGDP is due to the variation in the included regressors, while the remaining 1.5% is due to the stochastic error ten adjusted What adjusted to its degree of freedom, the coefficient of determination becomes 93.89%.Thus the regressors essentially account for 97.6% in systematic variation in RGDP in Nigeria The F-statistics = 108.95 with p-value = 0.000 shows that, at 1% level, there is a statistically significant relationship between the RGDP and the regressors in the model. The Durbin-Watson statistic of 1.96 shows absence of autocorrelation in the empirical model. This implies that all the forecast estimates of the error correction mechanism are efficient. The ECM is statistically significant at 5% level and correctly signed. This implies that up to 62.63% of deviation between the short and longrun equilibria is corrected annually by the ecm. Results converged after 10 iterations.

5.0 Policy Implication

- The above results present some issues of policy interest.
- Infrastructure (GFCF) is shown to be negatively related to RGDP against apriori expectation. This confirms the existence of this age long challenge to productivity in Nigeria.
- Public expenditure on health (PHE) not being statistically significant also confirms the unserious policy attention paid to the health sector by the government.
- Malaria incidence (MI) and secondary school enrolment (SSER) being statistically significant and correctly signed shows that they are critical drivers of economic growth in Nigeria and thus requires serious policy attention.

5.1 Policy Recommendation

- Base on the foregoing, this study recommends as follows:
- Infrastructure should be adequately provided and monitored
- Budgetary provision for the health sector should be appreciably increased and faithfully executed.
- More serious policy attention should be given to malaria eradication.
- Education is critical to the cultivation of healthy habits. Thus more serious policy attention should be given to the development of functional education in Nigeria.

5.2 Summary and Discussion

This study examined the L P S D F W R I P D O D U L D L Q F L G H Q F H R Q 1 L J Annual time series data for the period (1980-2013) was utilized. Our secondary data was obtained from the central Bank of Nigeria statistical Bulletin, Nigeria Statistical Bulletin and world Development Indicators. The study proxies economic growth by real Gross Domestic Product. The stationarity state of the variables was examined using augmented Dickey Fuller (ADF) and the series are homogenous of order One. The Engle-Granger two stage statistic shows that residual is integrated of order zero at 5% level, thus confirming cointegration. The parsimonious ECM reveals that malaria incidence crowd out economic growth performance. The study therefore validates several studies that show that the growth rate of per capita income for a Malarions society is half that of a non Malarions society. Again, Public Health Expenditure does Q R W V L J Q L I L F D Q W O \ L P S D F W R Q 1 L J H U L D ¶ V H F R Q R P L F J U positively and significantly impact on economic growth. Against the back drop, it becomes pertinent to give intensive policy efforts towards tackling the Menace of malaria in Nigeria. This is very important for the attainment of the macroeconomic goal of rapid economic growth and development.

REFERENCES:

Abiding R.Z. & J.J. Peveira (2011) Malaria and Climate Change: A Discussion on Economic Impacts. American Journal of Environmental Science, 7(1).

Acemoglu D. & S. Johnson, (2007) Disease and Development: The Effects of Life Expectancy on Economic Growth. Journal of Political Economy, 115 (6) University of Chicago U.S.A.

Ajani, O.I.Y & P.C Ugwu, (2008). Impact of Adverse health on Agricultural Productivity of Farmers in Kainji Basin North-Central Nigeria, Stochastic production frontie Approach, Trends Agric Econs, 1:1-7.

Alaba, O.A & O,B Alaba, (2011). Malaria in rural Nigeria; implication for the Millennium Development goals. Department of Economics university of Pretoria, South Africa.

Benjamin, W., M.Mangheni, T.Danniel, & RClaudia, (2012). (FPR) discussion paper 01232 December Environment and production technology Division.

Box, G.E.P. & G.M. Jenkins, (1976). Time Series Analysis: Forecasting and Control. Revise Edition. San Francisco: Holden Day.

Box, G.E.P. & D.A Pierce, Distribution of Residual. Autocorrelations in Autoregressive Integrated Moving Average Time Series Models. Journal of the American Statistical Association, 65 (332).

Brinkmann, U., D.S, Shepherd, M.B Billing, & R. Savervorn, (1991). The Economic cost of malaria in Africa. Tropical medicine parasitology, 42(3): 199-203

Coker, H.A.B, C.M Chukwani., H.D. Ifudu & B.A. Aina The Malaria Scourge. Concepts in Disease Management. Nigeria Journal of Pharmacy, 32.

Egsuche C.M., C.I. Eneanya, D.N Aribodor, O.A. Eneanya C.N. Ogbuaya & Ezugbo-Nwobi, I.K. (2013). Malaria Prevalence and use of Insecticide-Treated Net Among Community Members in Aguelri, America State, Nigeria. The Bioscientist 1(1) http://www.bioscientistjournal.com.

Gallup, J.L & J.D Sachs, (2001). The economic Burden of malaria. American journals of tropical medicine and hygiene. http://www. Net martafrica.Org/ key issues/ facts sheet (85-96).

Goodman, C.A & K.I, Chima (2000). The economic impact of malaria in Africa: a critical review of the evidence, health policy 63(1):17-36
Granger C. & P. Newbold (1974) Spurious Regression in Econometrics Journal of Econometrics, 2(2).
Grossman, M (1972). A stock approach to the demand for health national bureau of economic Research, 72:1-10
Gujarati D.N. & D.C. Porter, (2009). Basic Econometrics McGraw-Hill.

Hall, R. E. & Jones, C.I. (1996). The Productivity of Nations NBER Working Paper No 5812.

Hall, R.E. & C.I. Jones (1998) Why Do Same Countries Produce So Much more Output per Worker than others centre for Economic Policy Research Stanford and National Science Foundation.
Hong, S.C (2005). A longitudinal Analysis of the Burden of malaria on Health and Economic productivity: the American case, University of Chicago Mimeo
Iyoha M.A. & O.T. Ekenhem, (2011). Introductory Econometrics Mareh Publishers Benin City, Edo State, Nigeria marehpub@yahoo.com.
Kwadwo A.O., F.A.ASaute, J.Tarekegu & K.S Audam, (2011). A Review of the Economic Impact of Malaria in Agricultural Development The Journal of the International Association of Agricultural Econometrics, 42 (3).
Madhukar, P. A.W. Zachariah, S. Rose, S. Afyajit, S.Verghese, & A. Joseph, (1997) Malaria and Migrant labourers Socio-Epidemiological Inquiry Economic and Political Weekly, 32 (16) http://www.jstor.org/stable/4405311
Marrow, A., N.Smith, & E Nimo, (1982). Epidemiological basis for clinical diagnosis of child malaria in endemic zone in West Africa. Lancet 338. 1292-1295.
Mia .S. and J. Kallio (2016). Children Perception of Poverty. Child Indicators Research. The Official Journal of the International Society of Child Indicators. Journal No. 12187. Vol9(2)
Obinna O., N. Uguru, E.Etiaba, I. Chikezie, B. Uzochukwu & Adjagba, A. (2013). The Economic Burden of Malaria on Households and Health System in Enugu State South East Nigeria https://www.ucbinlm.nih.gov/pme/article/pmc3817251 Vol. 8(11).
Onwujekwe, O. Malikel, P, Mustafa, S. & Mnzavaa, A. (2000). Do malaria prevention intervention reach the poor? Socio economic inequalities in expenditure on and used mosquito control tools in Sudan. Health Policy Plan.
Parrish, R.C (2010). Measuring population Health outcomes. Preventing chronic disease. Public health research, practice and policy, 7(4).
Rome D. (2011). Advanced Macroeconomic McGraw-Hill/Irwin.

Ryan, W. (2014). Human Capital in the City: Exploring the Relationship Between Skill and Productivity in US Metropolitan Areas University of Massachussets.
Shepard D.S., M.B. Effing, U. Briakman & Saverborn, R (1991). The Economic Cost of Malaria in Africa. Trop Med. Panasitol, 42. PMID1801147.
Stanley C.O., V.S. Mitchell, G.W. Pearson & Carpenter, C.C.J. (1991). Malaria, Obstacles and Opportunities Status Review and Alternative Strategies, Division of International Health. Institute of Medicine National Academy Press.

Target G.A.T. (1991) Waiting for the Vaccine. London School of Hygiene and Tropical Medicinefirst Annual Public Health Forum.John Wiley and Sons Ltd.ngland.

Weisbrod, Burton A; Andrean OR;alphj, L. B. & Rosert, E. (1973) Disease and Economic Development: The Impact of Panasitic Diseases in St. Lucia University of Wisconsin Press.

Weisbrod, B.A (1973). Economics of public health, measuring the economic impact of disease. Philadelphia,University of Pennsywaniapress.

World Health Organization (2010).World Malaria Report ISBN978924 156106. NCM Classification WC765. Geneva.

World Health Organization (2006).Waking Together for HealthThe World Health Report ISBN 9241563176 NCM Classification: 530.1.

World Health Organization (2002).Malaria Entomology and Vector Control. Learners guide Social Mobilization and Training. Available at www.malaria .org.zw/vector/VC24 pdf.

World Health Organization (2006).Malaria in Africa. Roll Back Malaria info Sheet. World Health Organization Genera.

World Health Organization (2002). Roll back malaria partnership. Malaria and children. Accessed fromhttp://www rbn: wlto. Int/ cmc ±upload /0/000/015/367M info sheet 6, htm. Geneva.

World Health Organization (2012). World Health Development indicators. Washington, DC.

World Health Organization (2008). World malaria report, Geneva, 2008

Yale G. U.(1726) Why Do We Sometimes Get Nonesense Correlation between Times Series A Study in Sampling and Nature of Time Series.Journal of the Royal Statistical Society, 89(1).