State Fragility and Terrorism in Africa: A Multi-factor Analysis

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Abstract

State fragility is a current topical issue in Africa. It has a multiplicity of determinants. These determinants cut across social, cultural, economic and political issues. The paper examines 12 of these determinants including demographic pressure, human rights, unequal development, human flight, state legitimacy, existence of state elites to run regimes, group grievances, existence of refugees and internally displaced persons, security apparatus available to states, poverty and economic decline, public security, and external intervention.

These are variables that the Fund for Peace, (2014) Fragility Index has generated and used to categorise countries on the basis of a total fragility score derived from these variables. The study hypothesizes that only 6 of these are most salient for **Africa: group grievance, State legitimacy, unequal development, human rights, existence of state elites and human flight. These are then entered into a regression model against the total fragility score.**

In the final model, two variables stand out as the most significant: Human Flight and Functioning State Elites. Unequal Development and Group Grievance make it to the final four.

In advancing this model farther, the study hypothesizes that state fragility is a strong determinant of terrorism in Africa. It explores the correlational effects of state fragility and its related variables on terrorism.

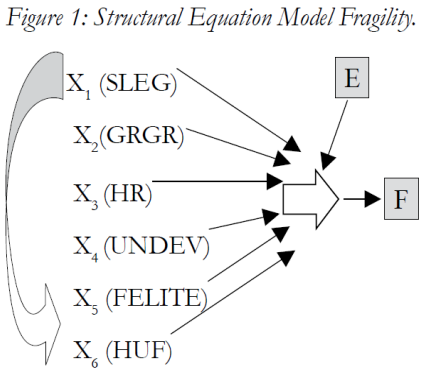
Introduction and Theoretical Framework

Over the last decade, the subject of state fragility has taken centre stage in many human development fora internationally. This is also the case for Africa. State fragility in its layman's connotation refers to a situation where states are unable to provide basic services to their populations. This definition implies that this absence of services has concomitants such as abject poverty, a high propensity to conflict and minimal or total absence of territorial control.

High levels of state fragility pose a serious problem to human development, since they ultimately lead to state collapse, impoverishment and suffering of humans. Explaining the concept of state fragility is elusive, mainly due to its multivariate nature. Its likely causation is rooted in social, economic, political, historical, demographic and cultural factors.

It is the contention of this paper that a few key social variables, related to governance, management of state affairs and human conditions determine state fragility and if addressed, they could stabilize African countries to the extent necessary for sustainable human development. The study focuses on six key likely determinants of state fragility; the legitimacy of states, group grievances in states, human right violations, existence of unequal development, existence of competent elites to run the country and human flight or displacement due to state fragility.

Figure 1: Structural Equation Model Fragility



This model has context in theories that have been advanced by among others, Paul Collier (2010)[13]. The perspective by Collier posits that civil wars occur when it is both financially and militarily possible. Collier downplays social grievances and emphasizes inequalities and building of strong economies. William Zertman (2007) sees the sequencing of need, creed and greed as key forces behind hostilities inside states. He argues for state intervention before greed finds its way into state systems. Frances Stewart (2007), highlights horizontal inequalities between groups as central in generating negative conflict and sees policies that reduce the inequalities as vital in preventing such conflicts. The World Development Report (2011) recognizes many of the variables used as possible factors behind fragility.

Literature

Scholarly works that have looked at the subject of state fragility include those of Andrea Guerzoni, (2013) who views a myriad of variables ranging from economic, institutional, historical, cultural and demographic. The author also considers ethnic identity as a key factor. The study finds no significant correlation between colonial history and state fragility in Africa. This of course depends onthe kind of variables considered to constitute ‘colonial history’ in the study. Some studies on

fragility that consider economic factors find no correlation between income per capita and fragility (Barliamonte and Lutz, 2010). There are studies however that finds that state fragility itself impacts human or national development, (Fosu, 2009). Other studies have looked at the effect of international aid to African countries and found that it impacts on development. However, these studies do not go far enough to show whether development emanating from such aid contributes to either stability or fragility of states in Africa (Burnside & Dollar, 2000). This paper challenges the findings by other scholars that report positive effect of foreign aid on state fragility (Stansen & Tap, 2001). There are also studies that indicate that foreign aid in Africa can prolong state fragility (Chauvetand Linker, 2007).

Institutional variables have been shown to be instrumental in the determination of state fragility (Moreno and Torres, 2005). Indeed, one of the more systematic studies on fragility (Graziella Bertocchi & Andrea Guerzoni, 2010), report a strong influence of institutional variables, followed by income per capita on state fragility. In the study, colonial history is found to be marginally important in determining state fragility. Conversely, the European Development Report (2009) finds a relationship between state fragility and colonial history. The study by Graziella and Bertocchi does not however consider factors such as foreign investment in Africa and capital flight from the continent. The study utilizes data gathered by the International Development Agency (IDA)[9] that focus one economic development factors, structural policies, social inclusion and equity, public sector and institutional management.

Data

Data for this paper come from the Fund for Peace (2013). In the Fund's compilation of the '*fragile state index'*, they include 12 key variables that they consider salient in determining state fragility, not just in Africa but globally. These include: Demographic pressure, Refugees and Internally Displaced Persons, Group grievance, Human Flight, Uneven economic development, Economic Decline, State Legitimacy, Public Services, Human Rights, Security Apparatus, Funtionalised Elites and External Intervention**.** The State fragility indicator is obtained as a total score of these variables by which all the world countries are ranked. In its calculation, this paper uses this score as the dependent variable. In the analysis, these variables are re- coded as: TOTAL [Total Score], DEMPRESS [Demographic Pressure] , REFDIP [Refugees and Internally Displaced Persons], GRGR [Group Grievance], HUF [Human Flight], UNDEV [Uneven Development], PECD

[Economic Decline], SLEG [State Legitimacy], PS [Public Service], HR [Human Rights], SECAP [Security Apparatus], FELITE [Functionalised Elites], EXTINTER [External Intervention].

The study from which this paper is derived aimed at finding out which group of variables has the most influence on state fragility as measured by the total fragility score. It explores data for 53 (N=53) African countries.

The general hypothesis is that high levels of demographic pressure, numbers of refugees and internally displaced persons, extreme group grievances, high numbers of human flight, high levels of inequality, high economic decline, existence of illegitimate states, poor public service, violations of human rights, poor security apparatus, non-existence of functionalized elites to run the state, and frequent external intervention, together contribute to high levels of state fragility. It is further hypothesized that in states where these factors are minimal, chances for fragility are minimal. Even without testing all these variables for their importance in determining state fragility, experience thus far, suggests that a few of them have more significance than others. These include state legitimacy, existence of functional elites and human rights. To these, other variables including group grievance, unequal development and human flight are added to the model.

Data Analysis.

In the analysis, data from the State Fragility Index is entered in a multiple regression model containing the six variables as independent; it is then regressed against the *total fragility* score. This model is of the order:

$Y=\alpha$ *(Constant)*$+X1\ \beta1+X2\ \beta2+X3\ \beta3+X4\ \beta4+X5\ \beta5+X6\ \beta6\ ..\xi$

Where:

Y = TOTAL X1 = SLEG X2 = FELITE X3 = HR

X4 = GRGR X5 = UNDEV

X6 = HUF and E the error of prediction.

The influence of a given variable on the dependent variable is considered significant at .05 p significance level.

Findings and discussions

Table 1 shows the outcome of the regression model when all the six variables are in the model. The regression outcome shows that these six variables taken together explain more than 90% (R^2 = 0.914) of the variation in state fragility implying that these variables can predict state fragility when each variable's contribution is considered while the other 5 are controlled. The most significant of these variables is *Human Flight* with a P Value of 9.27e-06. This is an expected result since human flight, in reality, an indicator of everything that could go wrong in an unstable state. It is usually preceded by breakout of hostilities, violence and forced displacement of human populations. The least significant of these variables is *State Legitimacy* with a P value of 0.94. This is a telling outcome that indicates that states that are not completely legitimate do not necessarily have to be fragile. All the other variables are significant predictors of state fragility at this stage. The *State Legitimacy* variable is hence weaned from the next model. The P value of the variable *Human Flight* is 9.3 implying that this variable may have effect on state fragility even in a random sample. It is possible for human flight to exist in a situation where state fragility is absent. This is because human flight could be due to other factors, like technology-triggered migration that are not necessarily factors related to state fragility. *Human flight* itself is a composite variable and could show high multi- collinearity with the other variables including the dependent variable and thus, its explanatory effect may not be real. For this reason, it is hence weaned from the next model.

Table 1: Regression Coefficients of the total model

Residuals:

Min	1Q	Median	3Q	Max
-11.0862	-2.4431	0.0805	2.1995	6.7230

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	1.36669	5.32066	0.257	0.798381
GRGR	1.42779	0.49601	2.879	0.005949
HUF	2.80126	0.56488	4.959	9.27e-06
UNDEV	2.97097	0.74687	3.978	0.000234
SLEG	0.07018	1.08722	0.065	0.948799
HR	1.98572	0.89031	2.230	0.030433
FELITE	2.71445	0.76386	3.554	0.000865

Residual standard error: 3.837 on 48 degrees of freedom Multiple R-squared: 0.9144, Adjusted R-squared: 0.9037 F-statistic: 85.41 on 6 and 48 DF, p-value: < 2.2e-16

The 5-variable model turns out highly significant coefficients. It shows how well the five variables, *Group Grievance, Human Flight, Unequal Development, Human Rights and State Elites* complement each other to strongly predict state fragility. Still in this model, not all the variables are not equally strong predictors of fragility. Two of these variables, *Human Rights (p =0.00139) and Group Grievance, (p=0.00159*) are the weakest predictors of fragility. Notably, in scenarios where human right abuse is rampant, group grievances are likely to be rife. Despite these two variables being equally significant, the Human Rights variable is first weaned from the model.

Without the Human Rights variable in the model, *Group Grievance (p = 9.03) e-05* turns out strongly as a predictor variable for state fragility. This shows how strongly human rights status in any country influences group grievances. Countries with accepted human rights records can be expected to portray limited group grievances

Table 2: Regression coefficients: 5-variable model

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	1.3594	5.2651	0.258	0.79734	
GRGR	1.4112	0.4203	3.358	0.00153	**
HUF	2.7969	0.5552	5.038	6.79e-06	***
UNDEV	2.9882	0.6903	4.329	7.37e-05	***
HR	2.0279	0.5983	3.389	0.00139	**
FELITE	2.7463	0.5772	4.758	1.77e-05	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1 Residual standard error: 3.798 on 49 degrees of freedom Multiple R-squared: 0.9143, Adjusted R-squared: 0.9056 F-statistic: 104.6 on 5 and 49 DF, p-value: < 2.2e-16

Table 3: Regression Coefficients: 4-variable model

Residuals:

Min	1Q	Median	3Q	Max
-8.4021	-3.4017	0.3024	3.1962	8.7055

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	4.5872	5.6956	0.805	0.424399	
GRGR	1.8661	0.4381	4.259	9.03e-05	***
HUF	2.7376	0.6103	4.486	4.27e-05	***
UNDEV	2.9664	0.7592	3.907	0.000281	***
FELITE	3.9337	0.5046	7.795	3.45e-10	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1 Residual standard error: 4.178 on 50 degrees of freedom Multiple R-squared: 0.8943, Adjusted R-squared: 0.8858 F-statistic: 105.7 on 4 and 50 DF, p-value: < 2.2e-16

Human Rights and existence of state elites

In many African countries, group grievance is usually about unequal development and, it is a variable that would work together with unequal development to explain fragility. In the absence of the unequal development variable, group grievance still remains strong. The lowest p value in the model is shown by the *Human Rights* variable. It is quite insignificant with a p value that is well beyond the 5% significance level. This variable is therefore dropped from the model.

Table 4: Regression Coefficients: 3-variable model

Residuals:

Min	1Q	Median	3Q	Max
-11.6508	-3.3298	0.4698	3.0702	8.1487

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	19.5869	4.7598	4.115	0.000141	***
GRGR	2.0198	0.4936	4.092	0.000153	***
HUF	3.5033	0.6539	5.358	2.04e-06	***
FELITE	4.1144	0.5685	7.238	2.29e-09	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1 Residual standard error: 4.726 on 51 degrees of freedom Multiple R-squared: 0.862, Adjusted R-squared: 0.8539 F-statistic: 106.2 on 3 and 51 DF, p-value: < 2.2e-16

The removal of the Human Rights variable from the model still leaves a robust model that can still predict significant state fragility. The Human Rights factor entails issues of violations of basic human rights and violence, and it confounds with Group Grievance in explaining state fragility. For a long period in the political history of Africa, the Human Rights factor could be applied on its own to explain state fragility, especially in the period that followed independence in countries such as Ghana, Nigeria, Zambia, and others where the rulers tended to be despotic with little regard to human rights.

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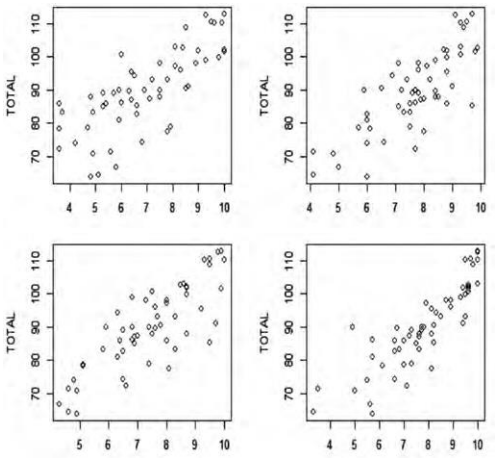
In the 4-variable model (Table 3), *Unequal Development* though significant is the weakest predictor with a *p value of 0.000281*. *Unequal development* has shown to have a staying power of its own, and although it may not directly lead to state fragility, it is a critical long-term factor that is capable of triggering civil strife and revolutions if left un-attended.

Due to its low *p* value and its high prediction error, this variable is subsequently dropped from the model.

The removal of Unequal development variable from the model has literally no effect on the explanatory strength of the model. The predicted R^2 still remains above 80%. These four variables are strong predictors of fragility and show an expected strong correlation with fragility. This is shown in *Figure 1*.



The three factors that remain, *Group Grievance, Existence of State Elites and Human Flight* work well together in explaining about 86% of the variation in *state fragility*. This can be explained by the fact that where a state has a weak power elite in authority, group grievances and unstable human populations are likely to be significant.

From the analysis, one may be tempted to pose the questions: of these three factors which is the least important and which two would hang together in predicting state fragility in Africa? Can the model still hold with two variables?

If it can be argued that when a state has sound leadership, as portrayed by a strong elite in authority, it is likely to be effective in dealing with group grievances. When group grievances are minimal, conflict is less and the state tends to be less fragile. This condition also fosters population stability and human flight that arises from instability is insignificant. Any of the three remaining factors are strong predictors of state fragility and the removal of one of them still leaves a robust predictive model. The removal of Group Grievance leaves a 2-variable predictive model.

Table 5: Regression Coefficients: 2-variable model

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Residuals:

Min	1Q	Median	3Q	Max
-9.9755	-3.5084	-0.1166	3.0675	12.4735

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	21.2918	5.4119	3.934	0.000249	***
HUF	3.4324	0.7461	4.601	2.74e-05	***
FELITE	5.7617	0.4581	12.578	< 2e-16	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1 Residual standard error: 5.394 on 52 degrees of freedom Multiple R-squared: 0.8167, Adjusted R-squared: 0.8096 F-statistic: 115.8 on 2 and 52 DF, p-value: < 2.2e-16

The model outcomes show that *Human Flight* and State *Elites remain* highly significant at levels below 5%, explaining 82% of the variation in state fragility. The model remains sound enough to explain more than 21% of the variation in state fragility even when these two variables are having Zero effect on state fragility. It is possible that these two factors encompass all the other factors in preventing state fragility hence their explanatory power.

Using these models, it is possible to predict state fragility of any country on the basis of any of the models. Fragility scores range from 18 for low fragility states such as Finland, Sweden, Iceland and Norway, to over 100 for countries such as South Sudan, Somalia, Chad, DRC and the CAR. If the scores of the low fragility countries on *Human Flight* and *State Elites* are taken to predict fragility in Africa using the 2-variable model, Africa would have a fragility level of 35, which would be at par with countries such as Japan, United States, Korea, Singapore and Uruguay. The best-placed African country with the least fragility tendencies is Mauritius with a score of 46 and Botswana with 64.

Kenya has a fragility level of 99. With a *Human Flight* score of 7.8 and *State Elites* score of 9.3, the model predicts the country's fragility score to be 101, which approximates the 99 it is given

globally. With the *Group Grievance* and *Unequal Development* in the model, Kenya remains at 99, implying that these are the four priority factors the country needs to address. In other words, Kenya needs efficient leadership elite, tackle group grievances, *address Unequal Development and embrace corruption free governance.*

This prediction is an indicator that even with the best scores for the above factors in the world, Africa would have a great deal to do in all the other factors, especially unequal development and group grievances to achieve the low fragility levels of the leading states in the world.

Table 6: Regression GTI Model.

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Residuals:

Min	1Q	Median	3Q	Max
-3.2240	-1.2428	-0.2321	1.2041	3.8290

Coefficients:

	Estimate	Std. Error	tvalue	Pr(>|t|)	
(Intercept)	-2.45784	2.39065	-1.028	0.309	
GRGR	1.16818	0.24177	4.832	1.54e-05	***
UNDEV	-0.31157	0.34163	-0.912	0.367	
SLEG	-0.34232	0.51828	-0.660	0.512	
HR	0.30928	0.41941	0.737	0.465	
FELITE	-0.01808	0.35752	-0.051	0.960	

Model Analysis with Terrorism Variable.

The model predicting terrorism using the same variables as fragility shows that groupgrievance is the strongest predictor of terrorism. Legitimacy of the state also a strong predictor.

Table 7: Fragility and terrorism in a model.

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Residuals:
    Min      1Q  Median      3Q     Max
-3.1817 -1.2001 -0.2044  1.2246  3.8492

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  -2.33299    2.47220  -0.944    0.350
GRGR          1.18426    0.25351   4.671 2.72e-05 ***
UNDEV        -0.25513    0.41919  -0.609    0.546
SLEG         -0.35021    0.52473  -0.667    0.508
HR            0.33924    0.44219   0.767    0.447
FELITE        0.02822    0.41057   0.069    0.946
TOTAL        -0.01325    0.05585  -0.237    0.814
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Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
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Residual standard error: 1.823 on 45 degrees of freedom (1 observation deleted due to missingness) Multiple R-squared: 0.6117, Adjusted R-squared: 0.5599 F-statistic: 11.81 on 6 and 45 DF, p-value: 6.503e-08

In a model where a non-recursive situation between fragility and terrorism exists, fragility

Figure 2: *Fragility Non-recursive model.*

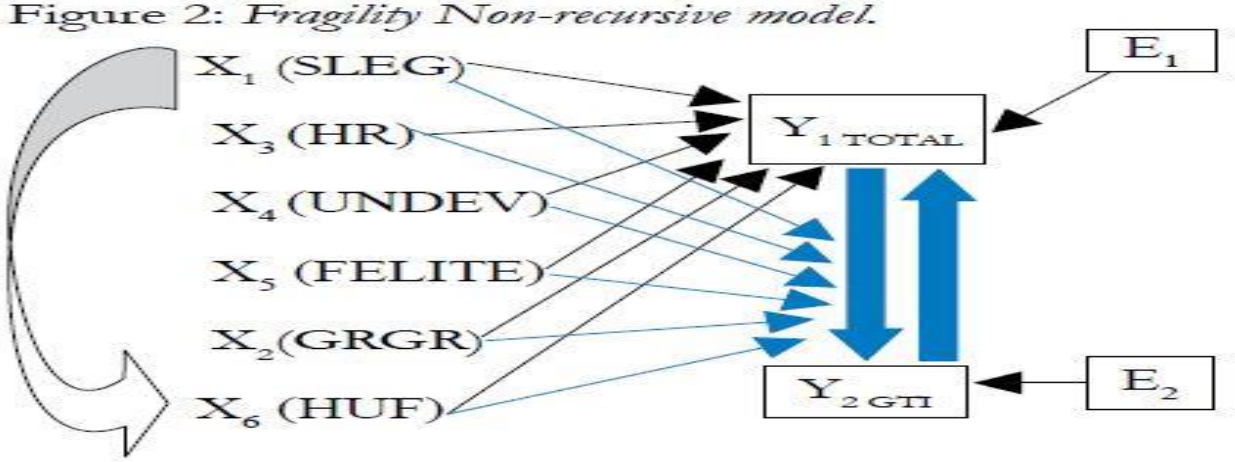

Figure 2: *Fragility Non-recursive model.*

and terrorism together with the other variables still remain strong explanatory variables for each other. There seems to be little difference between terrorism and state fragility, since the existence of one enhances the existence of the other. The model predicting state fragility that contains terrorism is stronger (R square.848) than the model predicting terrorism that contains state fragility, (R square .559). The weak negative relationship between fragility implies that even states that may experience do not necessarily have to fragile.

Discussions and Conclusions

In perspective, all the fragility variables are critical in predicting state fragility in Africa. However, of these variables, there are those that the continent needs to prioritize as a prerequisite basis for the others.

Demographic pressure is a silent force that indirectly bears on state fragility. Rapid population growth in man African countries will always put pressure on the available resources, and enhance competition for them.

Rapid population growth also cancels out economic gains and the states appear like they are not making any progress to improve making no improvements on the conditions of life for its citizens. Africa has an abundance of resources and can, undoubtedly, cope with much larger populations. However, the resources need to be managed in a manner that enables the states to cater for these large populations. When this does not happen, injustices easily creep into state systems. The population competes and fights over scarce resources. The net effect is that the states fall into fragility.

The population pressure factor is compounded with *unequal development* and *group grievances.* Where governments are perceived as illegitimate the leadership elites fail to control rampant

corruption, the state slides into anarchy and instability. Even without addressing a whole range of issues that make states fragile.

One can ensure legitimacy if they deal with *group grievances*, fight *unequal development* and where the *state elites* embrace humane and democratic governance.

It is vital that states deal with terrorism and fragility with equal measure of effort. States that are fragile but without significant terrorism, need to view terrorism as a potential hazard. Fragility is an indicator of impending terrorism. States with terrorism need not only deal with the potential, but also the reality of terrorism. Terrorism is both a reality and doctrine. Reality has staying power because of doctrine. Impacting ideology and doctrine, will eventually dent the reality of terrorism.

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Prof. Timothy Henry Gatara *is a social scientist specialized in research and Demography. He graduated from the University of Nairobi with a B.A (Hons) in Sociology and a Master's degree in Development Sociology. He went on to take a position as Research Officer with the Food and Agriculture Organization (FAO) of the United Nations. He served the Flying Doctors and the African Medical and Research Foundation (AMREF) as a Senior Field Officer. He studied Population Dynamics at the Johns Hopkins University at Baltimore, USA, and proceeded to the Centre for the Study of Population at the Florida State University, Tallahassee, where he obtained a PhD in Sociology, majoring in Demography. He taught Population Dynamics and advanced Demographic Techniques at the Population Studies and Research Institute (PSRI) at the University of Nairobi for 7 years. He joined the International Planned Parenthood Federation (IPPF), Africa Region, where he served for 15 years in various senior capacities in the region and internationally, focusing mainly on programme development, institutional dynamics, strategic planning and management of donor funds. He has had extensive consulting experience with international, governmental and private organizations throughout the world. Prof Gatara is the author of 3 books: Research Methodology; The Poverty of Mind and Statistical Techniques. This is in addition to numerous articles and research and consulting reports. His latest work is on development of models to predict state Fragility in Africa. On leaving IPPF, he joined the Nairobi Evangelical Graduate School of Theology (NEGST) (now Africa International University), as Director of the Institute of African Realities (ISAR). He served as Deputy Vice-Chancellor for Administration and Finance, the Presbyterian University of East Africa. He now serves as Professor and Senior Research Scientist at the International Peace Support Training Centre (IPSTC).*