ROLES OF MATHEMTICS EDUCATION IN GOOD GOVERNANCE AND NATIONAL SUSTAINABILITY IN NIGERIA: A CASE STUDY OF NATIONAL CONFAB

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Abstract

The political development of Nigeria shows clearly that good governance and national sustainability are still mirage. In order to match in a new political development, the present administration convened Nigerians for national conference. This paper presents the roles of mathematics in the process of delegates' selection, proceeding of the conference and also demonstrates the ability of mathematics to predict the possible future of political development in Nigeria. Recommendations and the implications of not employing mathematical strength appropriately and untimely before and during the conference respectively were also succinctly discussed.

Keywords: Good governance, Mathematical tools and concepts, Political development, Confab

Introduction

Many literatures of mathematics and mathematics education always sound the importance of the subject in all fields of life especially in science and technology but much is rarely heard about importance and application of mathematics in the area of politics and national sustainability. Steen (2010) asserted that our economy, democracy, national defense, social security, disaster relief operation as well as political campaign and voting all depend on mathematical models and quantitative habit of mind. To further stress this point, Democracy, one of the modern systems of governance is always referred to as a game of number and interestingly mathematics is unarguably known as a branch of science which uses numbers as one of its ingredients to study, generalize and explain phenomena, political systems inclusive. One would now ask how political system can be developed without mathematics.

This work, in order to logically present the roles of mathematics in the politics and national sustainability, plans to briefly discusssome concepts of Good Governance and what lead to agitation for National conference in Nigeria which is the focal point of this paper.The paper is silent on the roles of mathematics on Nigerian politics before and after colonial era but extensively used just concluded national confab as a case study to make it relevant and purposeful.

Good Governance and national sustainability

In modern day politics, the issue of Good Governance has assumed the front burner of an indispensable requirement for social, economic and political development of any nation

(UNESCO, 2005; Nanda, 2006; Hout, 2007; Gisserlguit, 2012). The increasing priority accorded the concept of Good Governance in international discourses, on politics and development across the globe has resulted in constant definitions and redefinitions as to what really constitutes Good Governance (Doornbos, 2003; Suchitra, 2004; Gisserlguit, 2012).

The definition employ in this paper is the one given by United Nation Development Programme (UNDP) and adopted by other Multilateral Donor Agencies (OECD, UNN, UNESCO). It defines Good Governance as striving for rule of law, transparence, participation, equity, effectiveness and accountability, and strategic vision in the exercise of political, economical and administrative authority (UNDP, 2002). Organization for Economic and Cooperation Development (OECD) (2002) further stressed that Good Governance assures that corruption is minimized, the views of minorities are taken into account and that the voices of the most vulnerable in the society are heard in decision making. All these are the attributes of effective governance.

According to Ogundiya (2010), to describe governance as good or bad, it requires the understanding of the essence of the state which is not only embedded in the constitution but also of religious ideals and nature of the current problems facing the state. Nigeria government, in a bid to ensure good governance and sustainability in the country, had in 1999 constitution in section 16(1) a, b, and c and 16(2) entrenched some of the principles of Good Governance as a possible criteria for governance in the country.

Despite these constitutional provisions, as well as the enormous financial resources and huge potential of the country, including the social and economic policies that have been implemented by successive administrations, good governance and national sustainability continue to be elusive to Nigeria (Dunu, 2013). Nigeria is known both at home and abroad for high rate of employment, diversion of public funds and resources by public officials, escalating rate of corruption, tribal and religious clashes, kidnapping, insurgency, marginalization of minorities, political instability and other types of crime that clearly show that good governance is still a mirage as far as the Nigeria polity is concerned.

Since Good Governance implies the exercise of power in a responsible and responsive manner that will ensure greater good and national sustainability, but how can thesebe achieved? Thus, the idea of national conference or simply confab came to limelight and since then civil society activists, politicians, academia and well meaning Nigerians started agitating for it.

National conference

The idea of confab is primarily to restructure a country in a way that is agreeable to its entire people. Confab presents opportunity to all groups (majority and minority) of the country to be represented in the decision making and governance. Though, previous administrations have organized such conference with their reports and recommendations not implemented (Ero, 2014). The recent agitations by concerned Nigerians lead to conveyance

of another conference by the present administration under President Goodluck Ebele Jonathan to look into the problems confronting the nation.

Another chance of restructuring Nigerian political system and hope of matching in good governance was rekindled on 17 March, 2014 when the much awaited National Dialogue kicked off in Abuja, Federal Capital Territory of Nigeria. The conference was made up of representatives of different ethnic nationalities, civil society organization, professional bodies, traditional rulers, elder statesmen, retired military and security personnel and the federal government (Suleiman, 2014).

A total number of 492 delegates were selected to attend the conference that was billed to run for three months. Many Nigerians were anxiously waiting to see the "fruitful" outcome of the conference. However, as promising as this confab was, different Nigerian group and individual complained about what they described as loopholes or shortcomings to the conference. This complaints ranging from the name adopted for the conference to the wrong timing, from financial implication to fear of implementation of the reports, from qualities of the representatives to inadequate/underrepresentation (Agbo, 2014; Ero, 2014; Ero & Uche-Okebi, 2014). Regrettably, little did Nigerians know that some of these complaints are mathematically generated and resolved if critically analyzed.

Thus, this paper is outlined to sound loud and clear on the roles of mathematics and mathematics education in ensuring Good Governance and National sustainability and as well as the implications of using mathematics either inappropriately, at wrong time or total negligence of its relevant concepts when taking decision about political development and national sustainability of any nation are being addressed. For this, this paper is set out to address the following questions:

(i) What role does mathematics play in the process of selection of delegates for national confab to ensure good governance and national sustainability?
(ii) What role does mathematics play in the proceedings of the national confab to ensure good governance and national sustainability?
(iii) Does mathematics have any role to play in the future political development of Nigeria?
(iv) What implication does mathematics have on Nigerian confab's:
    (i) Delegates' selection processes? (ii) Proceedings and deliberations?

Mathematics and its equitable role in the selection of the delegates

In order to have a conference which all groups of the country would believe and have confidence in, the process of selection of representatives should be fair, reasonably equitable and transparent. In a country like Nigeria where all decisions are drawn along religious and ethnicity lines should have taken into consideration the proportionate or reasonable equal number of religious and ethnic groups to attend the gathering of this nature.

Conversely, due to inappropriate usage of mathematics and its tools/instruments, federal government through his Secretary General of the Federation, proposed the list to include; 37 elder statesmen to be nominated by President; 18 retired military and security personnel;

two traditional rulers to be nominated per every geo-political zone and 1 from FCT. 90 delegates were allotted to socio-political, cultural and ethnic nationalities groups with 15 coming from each geo-political zone. The remaining slots were shared among other groups (Appendix 1).

Allocation of numbers to these groups without considering the sensitivity nature of build- up of the country called Nigeria, had led to many group complaining of underrepresentation at the conference. For instance, Northern delegates threatened to walk out of the conference because they realized that they were being marginalized with composition of the conference which recorded 200 delegates from the north and 290 from the south (Oyewale, 2014); Jama'at Nasir Islam (JNI) also lamented the 62% Christian's composition (Bayok, 2014). Other groups who also faulted the selection process included Northern Elders' Forum (NEF), Arewa Consultative Forum (ACF), Yoruba group, Muslim Ummah of South West of Nigeria (MUSWEN), Nigerian Bar Association of Nigeria (NBA) (Gbedebo, Ejike & Odunsi, 2014; Okohue, 2014).

This wide margin between Northerner and Southerners, Christians and Muslims without any known *facts* would have been reduced if not totally filled by simply adopting one of the commonest tools of mathematics (i.e Table) and its concept of proportion. How?

Table 1: Sample of possible allocation of slots to delegates along zones and religions

	North		South		Total		Total
Zone/Group	Muslim	Christians	Muslim	Christians	Muslim	Christians	Slot
Elder statesmen	9	9	9	10	18	19	37
Federal Gov. of Nig.	5	5	5	5	10	10	20
Traditional Rulers & FCT	4	3	3	3	7	6	13
Retired military & Security Personnel	5	4	4	5	9	9	18
Rep. of Geo-political zones	23	22	22	23	45	45	90
Religious leaders	3	3	3	3	6	6	12
Retired civil servants	2	1	1	2	3	3	6
Labour Rep.	3	3	3	3	6	6	12
Trade Union	3	3	3	3	6	6	12
Organized Private Sectors	2	2	2	2	4	4	8
Nigerian Youth Org.	5	4	4	5	9	9	18
Women Groups	6	6	6	6	12	12	24
Judiciary	2	1	1	2	3	3	6
Political Parties	3	2	2	3	5	5	10
Civil Society Org.	6	6	6	6	12	12	24
Nigerian in Diaspora	2	2	2	2	4	4	8
People living with disabilities	2	1	1	2	3	3	6
Media Rep.	2	2	2	2	4	4	8
Former Political Office Holders	6	6	6	6	12	12	24
State Govt. & FCT	33	22	20	31	53	53	106
Former LGA Chairmen	2	1	1	2	3	3	6
National Academics	2	1	1	1	3	2	5
Professional Bodies	3	4	4	4	7	8	15
Official of N. Conference	1	1	1	1	2	2	4
Grand Total	134	114	112	132	246	246	492

Note: Slot allocations for religions and zones were not made proportionately but reasonably

The above table indicates that total number of Northern delegates could be made 248 and their Southern counterparts 244 while the issue of Religions is being handled by keeping both Muslim and Christians delegates at 246 each. This table adopts a "neutralizing technique" to handle any group in which its slot is odd. Such groups are Elder statesmen, Traditional rulers, National academies and Professional bodies. In conclusion, the table is used to demonstrate how all the slots allocated to each group could be distributed *reasonably equal* or even improve on it by adopting *proportional distribution* with known facts (e.g Percentages) from governmental agencies such as Nigeria Population Commission (NPC) and National Identity Management Commission (NIMC)

Mathematics and its Powerful Unifying Role in the Proceedings of the Confab

The well known challenge to any people oriented system of governance which believed to enthrone good governance and national sustainability is how to achieve consensus or harmonize different views and opinions of people on issues. This unifying role, when consensus cannot be achieved, has been played only by mathematics.Percentages, fractions and ratio have always been the last resort to resolve any divergent views of people at any proceedings, referenda or conferences anywhere in the world. To put it in perspectives, let us quote from the voting procedure as contained in order 6, rule 3 of the conference as quoted by Oyewale (2014). It reads: "Any question proposed for the decision in the conference shall be determined by consensus and when that is not achievable, it should be determined by three-quarter majority of the delegate present and voting".

Convincingly, mathematics proved it worth as one and only unifying force for good governance and national sustainability at 2014 edition of national conference when Northerner and Southerner delegates clashed on the voting pattern as provided by the conference rule. While delegates from the southern part of Nigeria argued for a two-third majority voting formula, their northern counterpart routed for three-quarter provided by the rule of the conference (the reason well known to the mathematics users and educators). This disagreement resulted into days of rowdy and disrupted proceedings and finally suspension of the conference. It took some days to resolve the two-third and three-quarter dichotomy by 50-man consensus group.

The consensus group came up with unanimously agreed 70% voting formula. Thanks to Professor and Doctors (i.e Academics) among the 50-man consensus group that could apply mathematics once more to solve this problem. How?

Northerner: 3/4 *Southerner: 2/3*

Converting the fractions to Percentage, we have 75.0% and 66.7% respectively. To be fair toboth parties, we determine the mid percentage of 75.0% and 66.7%.

Let x *represent agreed voting formula, then* $x = \frac{75.0\% + 66.7\%}{2}$

x *= 70.85%*

= 70% (approx. politically reasonable)

Mathematics and its Ability to Predict the Possible Future of Nigerian Political Development

Apart from being a science of numbers and shapes, mathematics also uses deductive and inductive reasoning to make a valid and probable conclusion respectively. This section is aimed at demonstrating the ability of mathematics to predict the possible future of Nigerian political development. That is, it is simply to predict the possible outcome of the conference based on the arguments provided by Nigerian public and political analysts which will determine next political fate of Nigeria.

Arguments:

(a) No such conference reports have been implemented in the country.
(b) The conference has no constitutional backing.
(c) The closeness of the confab to 2015 election is wrong timing.
(d) The confab outcome must be subjected to national assembly ratification before it can be implemented.
(e) The confab's reports will only be implemented if subjected to referendum instead of national assembly ratification.

Deductively, considering some of these arguments we can establish if these arguments are valid or not for possible implementation of the conference's reports and recommendations. How?Consider these arguments;

If National conference is organized in Nigeria (p), itsreports will never be implemented(q)
National conference is organized in Nigeria(p)
Its reports will never be implemented(q)
Transforming this to logical statements, we have

$$\frac{p \rightarrow q}{\frac{p}{q}}$$

Using Truth Table to verify this,we havethis valid argument.

p	q	(p→q)	(p→q)	**Λp[(p**→q)**Λp]**→q
	T	T	T	T T
T	F	F	F	T
F	T	T	F	T
F	F	T	F	T

Let us again consider these arguments;
Conference reports will be implemented (p)if it passes through national assembly ratification(q)

If national conference lacks constitutional backing(r) it will not pass through national assembly ratification($\sim q$)

National conference lacks constitutional backing (r)

Conference reports will not be implemented ($\sim p$)

In logical statements, we have

$$\begin{array}{l} p \rightarrow q \\ r \rightarrow \sim q \\ \hline \sim p \end{array}$$

Using Truth Table once more, we also have this valid argument.

p	q	r	p→q	~q	r →~ q	(p→q)**Λ(r** →~ q)	(p→q)**Λ(r** →~ q)**Λr**	~p	(p→q)**Λ(r** →~q)**Λr** → ~p
T	T	T	T	F	F	F	F	F	T
T	T	F	T	F	T	T	F	F	T
T	F	T	F	T	T	F	F	F	T
T	F	F	F	T	T	F	F	F	T
F	T	T	T	F	F	F	F	T	T
F	T	F	T	F	T	T	F	T	T
F	F	T	T	T	T	T	T	T	T
F	F	F	T	T	T	T	F	T	T

Therefore, the ability of mathematics to predict the possible future of political development in Nigeria cannot be trivialized. The implication of this is that if all the arguments raised by concerned Nigerians about the conference report implementation such as lack of constitutional backing, subjection of the reports/recommendations to referendum instead of national assembly ratification and breaking the jinx of not implementing any conference's reports ever can be effectively and sincerely addressed, then Nigeria is set to open a new page of a political history that all its citizens can be proud of otherwise the well known ugly status quo with Nigeria remains.

Implication of Mathematics on National Conference

This paper will not be completed without mentioning some recommendations and implication of mathematics on national conference. These recommendations and implications are briefly discussed under the following headings:

(i) Delegate selection process: Inadequate adoption of mathematical tools and its concepts in selection of delegates for the conference by the federal government and other selected groups did not only offer a premise for the loss of confidence in the conference but also create an avenue to declare its outcome unacceptable by the underrepresented and marginalized/sidelined groups. To buttress this point, Ekundayo (2014) quoted a constitutional lawyer, Dr. Tunji Abayomi, as saying "National conference was not only unconstitutional but also lacked the support of most Nigerians".

(ii) Voting formula clash: Though later resolved, the number of days it took the 50-man committee and the whole house to have an orderly proceedings as a result of two-third – three - quarter dichotomy greatly contributed to the extension of the conference sitting. The implications of this extension include:

(i) Financial implication: More money wasdisbursed for the extra "30 days" of extension. At least (4×489) million naira for delegates' allowances, and feeding, accommodation and

other administrative expenses must also consumedsome billions of naira with this extension. This was also confirmed by the chairman of Representative committee on Justice, Dr. Ali Ahmad when he said "We voted N7billion but from what we are hearing, because of the extension, more than N7billion has been spent" (Krishi, 2014).

(ii) Rushing proceedings: The mode of conference proceeding changed significantly. The "fast forwarding" of sitting time of delegates from 10:00am to 9:00am, the reduction to 1 hour and adjustment to 3 minutes of break time and speaking duration of each delegate respectively are the glaring signs of a rushing proceeding (news247, 2014).

Conclusion and Recommendations

(i) The politics and political development of Nigeria, despite entrenching good governance in its constitution, have shown that Nigeria has not gotten it right in terms of good governance and national sustainability. This paper convincingly presented the roles mathematics play in the political development and national sustainability of Nigeria especially at the just concluded National conference. The role discussedis mathematics and its equitable role in the delegates' selection process and how this was inadequately employed by the conference conveners. The role of mathematics as a unifying force and its implication on untimely usage at the conference was also discussed. And finally, the ability of mathematics to predict possible future of political development in Nigeria was also demonstrated.This paper has clearly provided with evidence and as well as demonstrated the roles mathematics and mathematics education played in entrenching good governance and national sustainability and the consequences of not adopting mathematical strength and ability appropriately when great decisions are being taken.

(ii) Therefore adequate adoption of glaring and acceptable mathematical tool is necessary for delegate selection process as well as voting formula clash in terms of financial implication and timing of proceedings in any future gathering for national development.

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APPENDIX 1

ALLOCATION OF SLOTS TO CONFAB DELEGATES GROUPS

Groups	Slots	Condition
Elder Statesmen	37	Nominated by President
Federal Government of Nigeria	20	FGN
Traditional Rulers and FCT	13	2 from each Geo-political zone and 1 from FCT
Retired military and Security Personnel	18	6 each from the 3 Categories
Rep. of Geo-political zones	90	15 from each zone
Religious Leaders	12	6 from each two Religions
Retired civil Servant	06	Nominated by the Group
Labour Rep.	12	Nominated by the Group
Trade Union	12	Nominated by the Group
Organised Private sector	08	2 each from 4 identified Orgs.
Nigeria Youth Org.	18	6 each from 3 selected Orgs.
Woman Groups	24	Nominated by5 selectedGroups
Judiciary	06	Nominated by the Group
Political Parties	10	2 each from 5 political parties
Civil Society Orgs.	24	From diff selected Orgs.
Nigerians in Diaspora	08	2 each from 4 continents
People living with Disabilities	06	Nominated by the Group
Media Rep.	08	2 each from 4 selected Orgs.
Former Political Office Holders	24	6 each from the 4 Groups
State Government and FCT	106	3 from each state and 1 from FCT
Former LGA Chairmen	06	Nominated by the Group
National Academies	05	1 each from 5 Categories
Professional Bodies	15	Nominated by the Bodies
Officials of the conference	06	Appointed by the FGN

Source: Compiled from FGN release on confab delegates in Oyoyo (2014).