



Follow-The-Money: Policy-Level Engagements for Girl Child STEM Education in Northern Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. Author ANA designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors OOC and LH managed the analyses of the study. Author LH managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/SAJSSE/2021/v11i330284

Editor(s):

(1) Dr. Ridzwan Che Rus, Universiti Pendidikan Sultan Idris, Malaysia.

Reviewers:

(1) John Janowiak, Appalachian State University, USA.

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(3) Alejandra Dalila Rico Molano, Colombia.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/68677>

Policy Article

Received 29 March 2021

Accepted 07 June 2021

Published 30 June 2021

ABSTRACT

In Nigeria in the 1950s, a person with a liberal arts education was considered a truly educated person. The liberal arts education was for personal development and deployment in the administrative services and teaching but had little commercial scientific application. Admittedly, this era of generalists is dying, giving way for a new paradigm. The new paradigm is the knowledge economy. Now, to be an effective player in the knowledge economy, an individual needs specialised knowledge and STEM (Science, Technology, Engineering and Mathematics) education is the building block. In Northern Nigeria, there is a problem - STEM is still generally seen as courses for the men while the women are encouraged by their parents to pursue careers in the liberal arts when they did not drop out. The resultant effect is a reinforcement of gender inequality and economic disparities which negates the spirit of Sustainable Development Goals. Disturbed by the trend, Connected Development with support from development partners, is using her innovative Follow-The-Money project to pilot grassroots-based advocacy aimed against STEM-inclined stereotypes and out-of-school syndrome - which disproportionately affects the girl child. The campaign methodology involves surveying and profiling dilapidated schools in rural

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communities and peri-urban areas in Northern Nigeria and conveying findings to political authorities and policymakers for intervention. While political accountability must be extracted from authorities, we engage social/informal institutions to build up interest for girl child education. Follow The Money is challenging stereotypes, social norms and cultural practices impeding the uptake of STEM education and also strengthening informal structures to demand political accountability. Through high-level engagements, results show unprecedented reconstruction and rehabilitation of dilapidated schools and enrolments are soaring. Undoubtedly, the proportion of girls taking up interests in STEM has improved remarkably. Follow-The-Money is now scaling-up across the 36 states in Nigeria.

Keywords: STEM education; girl child; Northern Nigeria; Follow-The-Money.

1. INTRODUCTION

Women constitute half of the world's population and have contributed significantly to the well-being of humankind. They undertake three-quarters of all agricultural work in addition to their domestic responsibilities [1]. With respect to rural women, they bear excessive burden in fetching and carrying water and wood for household consumption but these contributions are often ignored in the computation of the gross national product (GNP) [2]. This scenario aggravates cases of economic exploitation or endangerment and the root cause is not unknown: intergenerational (mis) treatment of the girl-child. The Nigerian girl-child faces significant obstacles in her path to economic freedom and empowerment engendered by traditional stereotypes that characterize women (the girl-child) as passive, submissive and illogical predominantly in the grassroots whereas their male counterparts (boy-child) are assumed to be competent, logical and independent in accessing social and economic rights. In comparative terms, it can be said that these stereotypes or biases are more dominant or prevalent in Northern Nigeria than in Southern parts.

As argued by Professor Okobiah (2002), the origin of this disparity or dichotomy between the South and the North runs for almost three centuries before the coming of Western education into Nigeria through the Christian missionaries in the 19th century [3]. Meanwhile, the Koranic education with its Arabic culture-orientation and tenets of Islam, had been imposed upon indigenous forms of education. The subsequent western colonial domination led to the inevitable superimposition of western education upon both indigenous and koranic forms of education. Although these forms of education exist side by side till today, western formal education has attained dominance since it

has become synonymous with modernization and development [3].

In the grassroots where we implement interventions, we noticed that many girls are married off as child brides or sent to hawk (child labour) very early in life. When interrogated, their parents and guardians explain that the girl-child tends to bring immediate or better "returns" than boys. As a result, while boys are allowed to attend schools, the girl-child stays behind, encumbered by domestic chores. Left unchallenged, this could jeopordise prospects of attaining SDG4-ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all and SDG 5 - gender equality, not only Northern Nigeria but the country as a whole. The rising incidence of school dropout syndrome in Northern Nigeria lends credence to this possibility.

1.1 Basic Education in Northern Nigeria: Koranic or Western?

Education in Nigeria can be obtained in western-type schools or in koranic schools. Nearly all villages have a western-type primary school as a result of the Federal Government's Universal Primary Education policy in 1976 and Universal Basic Education (UBE) launched in 1999 [4] UBE consists of a graded system of education which starts with the teaching of basic literacy at the lower primary levels (1-3), to the teaching of other specialized subjects like Civics, Integrated Science, Mathematics, Quantitative Aptitude, etc. at the upper primary levels (3-6). In its present form, the primary school system in Nigeria prepares the pupils for entry into post-primary institutions. Those who cannot enter post primary schools drop out and either learn some trade, go into petty-trading, migrate to urban areas in search of jobs, or remain on the farms-livestock or cropping.

The inability to proceed to secondary cadre stems mostly from the fact that while primary school is free and compulsory in principle, secondary schools in most States are fee-paying (mostly unaffordable) and often located outside the villages where kids reside (inaccessible). The United Nation Children Education Fund (UNICEF) in its 2018 report stated that although primary education is officially free and compulsory, about 10.5 million of the country's children aged 5-14 years are not in school and that only 61 percent of 6-11 year-olds regularly attend primary school and only 35.6 percent of children aged 3-5 years receive early childhood education [5].

The report asserted that in Northern Nigeria, the picture is bleaker, with a net attendance rate of 53 percent and explains that gender, geography and poverty, are important factors in the pattern of educational marginalisation. States in the North-east and North-west have female primary net attendance rates of 47.7 percent and 47.3 percent, respectively, meaning that more than half of the girls are not in school. The factors responsible for education deprivation in Northern Nigeria include economic barriers and socio-cultural norms and practices that discourage attendance in formal education, especially for girls [5].

From the age of 7 or thereabout, rural Fulani children assist their parents to herd cattle and this undeniably impacts on school enrolment and retention. This fact coupled with transhumance lifestyle, account for the unwillingness of parents to encourage their children to remain in school to the extent that early this year, Kaduna State Government had to issue threats on parents who withdraw their children from school. This was against the backdrop that over 500,000 out of school children still loiter the streets during schools hours in Kaduna State despite efforts of the government [6].

Although steps have been taken to upgrade Islamic education in the country generally, the Koranic schools in rural areas are not controlled by the Ministry of Education. In the south, efforts have been made to re-train some of the Islamic teachers so that they can incorporate subjects like English and Arithmetic into their curriculum [5]. However, since the country uses western standards, Koranic school education is hardly recognized as useful beyond the Moslem community [5].

2. FOLLOW THE MONEY: AN OVERVIEW

Against the backdrop of rising incidence of school dropout syndrome in Northern Nigeria, Follow the Money is implementing "Tracking UBE Spending Project in Kaduna State" with support from John D. and Catherine T. MacArthur Foundation (MacArthur Foundation). In addition to the core objective of tracking funding against corruption, it engages with informal institutions - village heads, family heads and religious leaders, etc. to embrace formal education (western-type) by enrolling their wards in government schools. This is because in addition to the broad function of education, it is a basis of differentiation (stratification) of people in the society and validation of their social statuses. More often than not, the acquisition of formal education and possession of some certificates ensures the individual entry into prestigious jobs. The higher the certificate, the more highly placed the individual with his profession e.g. civil service.

Principally, FTM functions as a form of intermediary between authorities and marginalized rural communities, empowering grassroots with information on public finances (budgetary allocations, procurements, contract details, and specifications) so they can monitor projects independently and hold officials accountable. FTM's flow process can be summarized in these specific steps:

1. Data mining/excavation for donor-supported projects and public budgetary provisions from government's appropriation acts, procurement boards, tender documents, newspapers and radio advertisements.
2. Ground-truthing – physical visitation to project sites to guard against imaginary locations and ascertain implementation status of projects where they are ongoing.
3. Community engagement – facilitation of community outreach activities and town hall meetings where all interested parties: benefiting communities, officials of the government, contractors, community leadership, media, cleric, etc. will converge to discuss project implementation reports, challenges, solutions, ownership and sustainability. In this phase, we engage traditional institutions on stereotypes or biases against equality in excess of benefits and economic rights.
4. Offline advocacy – with outcomes from outreaches and town hall meetings, Follow

The Money writes FOI letters and requests to relevant agencies of the government, letters of complaints or satisfaction and also compiles the community scorecard or petition, where necessary.

5. Online advocacy – the use of new media helps our team for amplification of core messages and mobilization of citizens for collective action. Where necessary, we often institute petitions against officials who are suspected of sabotaging or undermining public interventions or projects.
6. Government feedback – the ultimate aim is to extract government's responsiveness in the form of improvement in service delivery and resolution of conflicts and in this case, the extermination of out-of-school syndrome in Northern Nigeria and dissolution of traditional stereotypes militating against economic empowerment of women in the grassroots [7].

The intervention was implemented in four focal local government areas: Kajuru, Kudan, Zangon Kataf and Jema'a. Due to the overwhelming success of the intervention, FTM is replicating the same programme in Adamawa State with support from the Malala Fund [8].

3. MOBILIZING UNOFFICIAL POLICY ACTORS FOR CHANGE

Going by massive failures in school certificate examinations especially in English and science-based subjects in Nigeria [9] compounded by school dropout syndrome, especially Northern parts, it became self-evident that the increasing decline and deterioration in policymaking and implementation needs to be stopped with a sense of urgency. Truly the problem is huge. However, we were preoccupied with sustainable change but how can this happen?

The first line of action was leveraging existing structures or channels although their capacity was weak. We moved in to resuscitate these structures, unofficial policy actors - interest groups, mass media and individual citizens by tailored training or capacity building. Notable amongst these channels is the school-based monitoring committees (SBMCs). FTM recognized SBMCs as a viable tool for promoting effective community participation, commitment, transparency, accountability, supportive services and best practices in school planning, management, monitoring and evaluation of

performance of school administrators, teachers and learners to ensure quality service delivery and learning outcomes.

Knowing this, the first thing we did was to build their capacity to engage with Educational Secretaries in their respective local government areas on the exact specification of works to be done in their domain. In addition, we taught members of the SBMC how to engage with contractors to ensure that what is contained in the bill of quantities (BoQ) is what is implemented, without shortchanging the people or beneficiaries. Our belief is that since the SBMCs are closest to the people, that they are well-positioned to interface and interact with pupils/students in terms of career guidance in the sciences. Therefore, we capitalised on them to generate a critical mass of interested and active citizens in the communities for both monitoring projects and confronting stereotypes skewed against women and girls. The SBMC is usually made up of 12 to 19 people in each school. We achieved this through the involvement of meaningful, close, strong and goal-oriented partnership between the school authority and other relevant stakeholders [parent-Teachers Association (PTA), Old Students Association, Communities, Traditional Institution, Civil Society Organizations, Faith-Based Organizations, Ministries, and other professional and social institutions] [10].

To satisfy the mandate of empowering citizens with information for effective participation and inclusion of marginalized voices in development programming, the approach draws anchorage or legitimacy in national legal frameworks and international protocols, for instance Freedom of Information Acts 2011 and Open Government Partnership (OGP), respectively. Follow The Money is a Pan-African social accountability movement that mobilizes a critical mass of citizens to lead anti-corruption campaigns for structural reforms in social sectors (education, health and environment) and good governance in general [11].

However, one bottleneck is politicization of school policy issues often caused by inadequate knowledge or experience of some SBMC members. The operation of the SBMC is faced with the challenges of low administrative capacity of key members; lack of cooperation from the school managers; teachers' misconception of the role of the SBMC as an interference on their profession. In this regard, FTM facilitated the forging of a working relationship among key

members of SBMCs and partnership with other relevant bodies. Now, there is unity of purpose - educational change and development is rightly on course.

4. HIGH-LEVEL ENGAGEMENTS FOR QUALITY EDUCATION

Official policy actors are individuals and institutions vested with the legal authority to make and implement policies. In Kaduna State, as regards basic education, the highest of these personalities are the Governor, Deputy Governor and the Commissioner of Education. Having comprehensively engaged with unofficial policy actors and harvested/armed with real-time problems facing primary schools in the grassroots, we proceeded to talk with policymakers-tableting problems and suggestion solutions.

Through clarity of purpose, FTM firstly devised ways to build/foster healthy partnership and working relationships with Education Secretaries of the local governments and Office/Director of Social Mobilisation in Kaduna State Universal Basic Education Board (Kad-SUBEB). It helped that officials at Kad-SUBEB understood our mission - empowering marginalized communities in remote areas to hold their governments accountable - and as such sympathised with our passion. The open-door policy of Kad-SUBEB was particularly helpful to our course as they responded to our persistent queries on public expenditures, freedom of information letters, phone calls and text messages or in person visits to Kad-SUBEB to scrutinize records and proposed plans of the government on transforming basic education in the state.

Accordingly, FTM exploited this window and organized courtesy calls with the office of the Governor and that of the Deputy Governor where we further obtained/extracted commitments to total reformation of primary and post-primary facilities in the state through reconstruction of dilapidated blocks and construction of new ones. We sustained engagement – bringing to authorities' attention the condition of dilapidated schools and calling for intensified action.

Since our intervention in Kaduna State, the education board had obliged to frequent monitoring exercises or facility tours across construction sites as it relates to basic education and acted on recommendations that follow

reports on the progress of projects in the state. On meetings convened by the education board involving top officials, FTM ensures attendance and participation because these meetings afford us rare opportunities to share results/findings with other stakeholders in Kaduna and beyond.

In 2019, in a high-level briefing with the Deputy Governor of Kaduna State-Dr Hadiza Sabuwa Balarabe (under the close attention of the Governor), FTM presented an Independent Needs Assessment [12] of 609 primary schools in focal local government areas under our coverage. It was an evaluation of what has been done in the recent past and existing gaps that need urgent attention in terms of ongoing reform efforts. The report was honoured by the state government and assured the public of the government's willingness and preparedness to internalise contents of the report and to act although such public commitment was not entirely new. The government had in 2015 declared a State of Emergency in Education [13] to enable accelerated procurement and payment procedures for education projects, and began a programme of renovation and rehabilitation of primary schools. This included providing roofs, doors, and windows, boreholes and toilets. Where urgently needed, the government built new classrooms. In addition, Kaduna State began placing orders for school furniture, because in some places up to 90% of pupils had neither desks or chairs [14] but so much remains yet undone or completed to appropriate scale.

5. PROTECTING THE RIGHTS OF GIRLS

To pursue aspirations in the sciences, the girl-child needs to be alive first of all or protected from abusers either within the family or neighbourhood. Over 3 million children live in Kaduna and as opposed to being in school gaining knowledge that ultimately would benefit society, a good number of them work as street hawkers, child labourers or are being used for criminal activities [15]. In a striking newspaper column by Abdulhassan Rabi in 2016, he argued that Northern Nigeria has the highest rate of child indignities anywhere in the country, particularly street begging and hawking. As at October, 2020, 25 Nigerian States had domesticated the Child Rights Act which was passed in 2003 and 11 were yet to develop a Child Rights law [10].

The 11 states are Northern states including Adamawa, Bauchi, Borno, Gombe, Jigawa, Kano

Katsina, Kebbi, Yobe, Sokoto and Zamfara states and would not even consider this bill as it was seen to be at odds with religious and cultural provisions [15]. Impressively, Kaduna State has passed the bill, Kaduna is one of only 2 North Western States that have domesticated the bill, the other is Jigawa State. In addition to prohibiting child marriage and child betrothal, the Child Rights Law categorically states that the best interest of the child shall be of paramount importance in all considerations. It is predictable that enacting the Child Rights Act will guarantee a safer and more accessible learning environment which would translate to a more knowledgeable population capable of contributing to the growth of society. This growth can be activated and transported to the limelight with STEM as the conveyor. When so empowered, children would be less likely to be abused or become abusers themselves.

However, due to spikes in incidences of child abuse, Kaduna State in its Penal Code (Amendment) Law 2020 amended the Penal Code Law (No.5) of Kaduna State, 2017 by substituting section 258 with surgical castration and death on whoever commits rape of a child below the age of fourteen (14) [16]. This will undoubtedly supply or inject the needed deterrence against rising and embarrassing rates and incidences of child rape and abuse. It is believed that these policy interventions will ensure a safer space for the girl-child and for attainment of educational objectives in line with the SDGs.

6. CONCLUSION

The enablers and drivers of girls' child education, especially STEM are connected to religion, value system, culture and societal perception. The evolving society is expected to impact on these perceptions, although the dynamics seem different in the Northern part of Nigeria. Therefore, FTM pushes further for a more deliberate, conscious and conscientious effort to ensure that girls enrol, stay and study science-inclined subjects is imperative. The Follow the Money model has engaged with stakeholders in Northern Nigeria to stimulate and provide a paradigm shift in the mindset of people on economic, social, cultural and political deprivation of the girl child. A concerted effort by all stakeholders (Government, Civil Society Organisations, community leadership, Schools, among others) is pertinent at this time to permanently give a dead end to stereotypes and

retrogressive thoughts and practices against the girl child in Nigeria.

Although there is increasing awareness and consensus that the foundation of civil society and industrial development is determined by the level of investment in education, FTM urges state governments in the North to undertake bolder educational reforms. We testify that efforts have been made but they are not enough. As the problems remain significant and massive, some recurrent or persistent challenges to quality education in Nigeria include but not limited to: deteriorating physical infrastructures, non-availability of accurate data on pupils/students enrolment as well as inaccurate statistics on available teachers. There is a drastic fall in the quality of education occasioned by the unwholesome practice of mass promotion to higher class regardless of performance in promotion examinations. Early marriage among school age girl children account for the most remarkable reason why pupils drop out of school. With more efforts from state governments, these are all surmountable problems.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:

*The peer review history for this paper can be accessed here:
<http://www.sdiarticle4.com/review-history/68677>*