

## Primary Education In The Era Of Climate Change: Focus On Schooling For The Nigerian Child

Moses Apie Ewa

Article Info	Abstract
<p><b>Article History</b></p> <p>Received: February 06 ,2026</p> <p>Accepted: May 08,2026</p> <hr/> <p><b>Keywords :</b> Climate Change, Schooling, Learning,Primary Education, Nigerianchild.</p> <p><b>DOI:</b> 10.5281/zenodo.20085957</p>	<p><i>Ecological events are becoming commonplace globally, and that is generating serious concerns in regard to schooling for the Nigerian child. Drawing from the United Nations Education for Sustainable Development (ESD) initiative, this survey was, consequently, conducted to examine whether climate change influences schooling for children in Nigeria. Two research questions and hypotheses were posed for the study. 1600 children from eight state primary schools across six geopolitical zones participated. The Climate Change and Children's Schooling Questionnaire (CCCSQ) served as the data source. Data was analysed via the Simple Linear Regression Analysis. Findings suggest that climate change literacy and climate action have significant impacts on schooling for children in Nigeria. It therefore means that when they are made aware about the impact of climate change on education and to take relevant actions in the event of extreme weathers, access to school and learning rate can improve for children in the country. It is recommended that Climate Change Education (CCE) should be introduced into the curriculum of primary education; and children should be made to adapt climate resilient practices such as 'green planet initiative' to their schools to reflect context.</i></p>

### Introduction

Extreme changes in weather are global events of which manifestations posesignificant challenges to the child's rights to education in Nigeria. Schooling, for instance, is becoming arisky venture for many children who reside in places that are predisposed to erratic shifts in the elements of the climate. According to the United Nations Children Fund – UNICEF (2023), Nigeria has over 110 million children and accounts for 10 per cent of children that reside in extremely high-risk zones in the world. Due to that the national government promulgated the Climate Change Act 2021 to give legitimacy to Climate Change Education (CCE) in Nigeria (Federal Ministry of Education (FME), 2025). Even the global education community is seen to be engaged in the topic. 41 founding members of the Conference of the Parties 28 (COP28) have expressed commitments to tackling the issues as evidenced in their endorsement of a collective goal for Education and Climate Change in Dubai, the United Arab Emirates (UAE) in 2023 (United Nations Educational, Scientific and Cultural Organization – UNESCO & Monitoring and Evaluating Climate Communication and Education – MECCE, 2024). CCE, according to FME (2025) and Plan International (2024) is an initiative which is aimed at empowering children with relevant knowledge, attitudes, skills and values to be able to take actions to mitigate the impacts of extreme ecological events on access, learning and wellbeing. That in itself signifies an affirmation of the inviolability of a child's rights to basic education - regardless of the circumstance – in accordance with Article 28 of the United Nations Convention on the Rights of the Child (UNCRC) (United Nations, 1989).

Whereas Article 28 of the UNCRC is meant to provide an ironclad legal guarantee for a child's education, however, it is unlikely that that protection will be absolute especially when the weather becomes unmerciful. Adding another perspective to the debate, Marin et al. (2024) and Haßler et al. (2024) have also expressed concerns as to whether provisions for education are action-oriented and adaptable to the dynamics of the climate to enable schooling for children in disaster-prone regions. For Marin et al., (2024), children in low-income countries and fragile educational systems are more likely to feel the effects of natural hazards on education. The occurrence of extreme weather conditions e.g. drought, excessive rainfalls, landslides and wild winds lead to disruptions in academic calendar. Global Partnership for Education (2022) estimated that every year close to 40 million children experience interruptions in their education due to extreme weather occurrences such as floods, cyclones and heat waves. Apart from rhetoric, policy statements and legislation, it is yet to be seen how climate change education translates to an approach in which children can apply their knowledge and skills appropriately to address climate crises to advantage educational access and learning.

Much of the literature mostly feature the adverse effects of climate change on children's education and overlook the advantages. The present literature, however, has noticed that the necessity to teach about the concept would beneficially prompt people to develop adaptive measures in education such as building climate resilient school

infrastructure, revising the curriculum to integrate CCE and enabling community-level interventions on climate change (United Nations (UN), 2025; Tshabalala, et al., 2025; Nwile & Amie-Ogan, 2023). Engaging in these measures makes it essential for stakeholders to manage environmental risks in order to minimise dropout rates, avert loss of learning and ultimately increase the number of children who can complete the full cycle of primary education. Unfortunately, poor investment in education in Nigeria (Ogunode, et al., 2024) poses serious implications for children especially in the face of harsh weather conditions. United Nations Children Fund (UNICEF) (2025) noted that poor commitment to climate change education produces climate change literacy rates of just 12.8% among the population, and lower for the females than males. As a result of that, there seems to be gaps in knowledge and awareness (Tshabalala et al., 2025) among many youths across the country about climate change and its attendant consequences on juvenile education. It presents a picture of the exclusion of the Nigerian child from global programmes and national education-based initiatives on climate change. A situation where there is minimal participation of children or are left at the periphery leads to the development of solutions which offer superficial outcomes or do not fit context (Vogel & Nkrumah, 2022).

Children are an essential human capital (*cf.* Yelwa & Anyanwu, 2025) whose value is often being ignored. Adults have always set aside the role of the child in solving even problems which directly affect children. Uncritical social perceptions in Nigeria regard children as a people who have yet to develop appropriate competencies to contribute meaningfully to community development. Climate-related education efforts that overlook the contributions of children falls into that categorisation, of those who underestimate the importance and capabilities of children (Søe et al., 2025) to offer useful ideas to sustainably tackle the effects of harsh weather on schooling. More so, that fails to recognize the child as a major stakeholder in the issue, and thus gives a hint about attitudes towards primary education among societies in Nigeria. As government, nonetheless, attempts to maintain efforts to activate the principle of ‘compulsory education’ under the Universal Basic Education (UBE) scheme to check dwindling pupil enrolments and retention (Ewa & Ewa, 2024; Universal Basic Education Commission – UBEC, 2024), climate crisis appears to undermine it.

Birkman et al. (2022, p3), for instance, observed that ‘extreme weather events often lead to the damage or destruction of schools, learning materials, and vital infrastructure, triggering temporary school closures and teacher and pupil absenteeism, which in turn reduce contact time with content, affect learning outcomes, and contribute to dropout’. In addition, some families could find justifications in such situations to prevent children, especially the girls, from attending school (Adesola & Aina, 2024; Chidiebere, 2019). This gives a signal that the effect of climate change on schooling goes beyond the walls of the school. There is no gainsaying that when a school lies in wreck due to natural disaster it provides ample opportunity for some community members to exhibit behaviours that forbid formal education for children. That raises a question as to the proclivity of stakeholders within the school and host community to continue respecting the legislation which mandates every child to go to school in any situation. Even more concerning is the fact that, in an under-resourced educational system, weather events are more likely to cripple the capacity of schools to serve the needs of the child.

A survey was conducted by Enwezor (2021) on perceived impact of climate on academic performance of high school students in Onitsha North, Anambra State. 208 persons participated. A questionnaire was deployed to generate data and it was analysed via ANOVA. The research produced a finding which indicated that children skip attendance in school because school environment is not safe, peaceful and welcoming. A later research on the issue shows a commonality in the outcome as with Enwezor. A descriptive analytic research involving 144 participants was conducted by Nwile and Amie-Ogan (2023) on mitigating the influence of climate change on facilities in public schools in Rivers State. Z-test was used to analyse data. The researchers found proper ventilation as an essential factor for controlling temperature and humidity levels of school facilities to offer a comfortable learning environment for children. As shown in these studies, poor atmospheric temperatures have significant implications for school attendance in Nigeria. A child that learns under intense heat or severe cold would be exposed to health risks (van der Merwe et al., 2021), perspiration, stress and climate-induced distractions at school. Excessive heat or cold like harmattan significantly reduce school attendance, pupil attention and mood (Lu et al., 2026). It is worse for children who stay in spaces like sheds, under the trees and broken classrooms to learn (*cf.* Nawaz et al., 2025) without thermal comfort.

Additionally, deficiencies of precipitation are found to have proximal correlation with water supply and agricultural activities (Ogunrinde et al., 2022) in the country. Food security often results from variations in the frequency and scale of rainfall in the different geographical regions. Optimal amount of precipitation understandably enable crops to thrive. Water scarcity, by contrast, leads to crop failure; decline in food supply and by extension affect children’s education. The linkage between drought and education derives from the interplay of hunger, malnutrition and delays in pupil enrolment in school. You can find evidence of this connection in the work of Elmalkh et al. (2025) entitled ‘long-term effects of early childhood exposure to droughts in MENA’. Horn of Africa (2023) estimated that over 1.5 million children are in need of education in drought-affected areas in the horn of Africa, and that gives a reflection of the situation in Nigeria. Writing on the

impact of flooding on education, Munsaka and Mutasa (2021) stated that flashfloods are responsible for the discontinuation of schooling.

Flooding is a common feature of the rainy/wet season in Nigeria. Also, the release of water from dam accounts for the inundation of school infrastructure in nearby areas. Children who reside in flood-prone communities can become reluctant or lazy to go to school (Ugoma et al., 2022). More than 1.9 million children in Nigeria are displaced by flood (UNICEF, 2023). Authorities have had to cancel classes or close down schools around disaster zones due to rising water levels and devastations. That is quite understandable. It is hazardous for a child to learn in a classroom or school submerged in floodwater. According to Anabaraonye et al. (2024), a significant number of children have lost up to 3 years of education as a result of flooding.

So far, the priority on climate change policy tends to fail to motivate a parallel action on climate change. Actions that work on the ground are necessary to enable school children withstand the effects of climate change to support schooling. Action-oriented efforts on climate change are practices that can open doors for responses which are geared towards saving the school from environmental disasters, ensuring the school calendar does not remain frozen due to natural hazards. It is not just about defining climate change (Ehlers et al., 2022) for the child. Rather, pupil-driven climate actions highlight hands-on activities whereby school children execute practical adaptation skills (UNICEF, 2025) in response to the alterations in climatic conditions to sustain schooling. This strategy offers opportunity for children to transformatively lead the way in climate change mitigation efforts with minimal interference by the adults. Collaboration from their peers also serves as a crucial factor that helps build a stronger front to combat the problem. Human actions, which are performed at the foundational level, can assist to strategically project the plans on climate change into the future. That is important for children to be able to develop the agency to act, for averting climate related inequalities in education (e.g. negative gender norms) (Ehlers et al., 2022) and bolstering long-term climate change programmes in education.

The imperative to enhance schooling for children, within the context of the present subject matter, attempts to empower them to participate actively in the efforts to save education from the impacts of the climate, and this move aligns with the Education for Sustainable Development (ESD) initiative (UN, 2025; Tshabalala et al., 2025). ESD highlights strategic planning and transformative learning as the options for addressing sustainability issues. Environmental dynamics as well as their connection to social systems exist within the frame of the ESD. An inclusive operation of the ESD mainstreams climate change education (CCE) to create opportunities for children to gain awareness and understanding about ecological variations that threaten sustainable primary education and foster responsible intergenerational actions (UN, 2025). It goes beyond critical thinking to also helping minors to acquire appropriate attitudes and values to guide them to behave in ways which are good for the environment and to make urgent decisions (Öztürk, 2023) to resolve climate events to advantage schooling.

Education for Sustainable Development (UN, 2025) Climate Change Act (Federal Ministry of Education, 2025) and compulsory education (Ewa & Ewa, 2024; UBEC, 2004) obviously provide policy guidelines and legal backings for climate related efforts to ensure uninterrupted schooling for children in the event of ecological disasters in Nigeria. Apparently, these government instruments are made to provide climate change education to act as safeguards to the rights of the child to education in the face of climate crises. Since their establishment, however, these provisions seem to have practically achieved insignificant progress to reflect the situation in context. Much of these approaches appear to collectively serve as mere paper work. Evidence from the United Nations and local researchers suggest that a significant number of children, especially in poorly resourced educational systems such as Nigeria, experience disruptions in schooling due to extreme weathers. Oftentimes response measures to climate change tend to exclude the role of children. That seems to weaken the efforts which are geared towards developing a sustainable process for promoting pupil access to schools sited in environments that are prone to natural disasters.

### **Purpose Of The Study**

The study examined whether climate change has influence on schooling among children in primary schools in Nigeria. It specifically looked at the extent to which:

1. Climate change literacy influence schooling among children in primary schools; and
2. Climate action influence schooling among children in primary schools.

### **Research Questions**

These questions were raised to guide the study:

1. How does climate change literacy influence schooling among children?
2. In what way does climate action influence schooling among children?

### **Research Hypotheses**

The following hypotheses were posed for the study:

1. Climate change literacy does not significantly influence schooling among children.

2. There is no significant influence of climate action on schooling among children.

### Research Method

The survey (Asim et al., 2017) is adopted as the appropriate research design. It enablesthe collection and analysis of statistical data via questionnaires to be able to understand the attitudes and behaviour of a population on an issue of interest (Zimba & Gasparyan, 2023). Surveys align with empirical philosophies and facilitate hypothesis testing. Other research designs such as quasi-experimental, ethnography and Ex Post Facto (Asim et al., 2017) are unsuitable for use and are consequently being ditched. The study is based in Nigeria, a country in West Africa. She is a federation, delineated into 36 states, including FCT Abuja, and covers a total land area of 923,768km<sup>2</sup>. The states are subnational governments, grouped into six geopolitical zones: northeast, northwest, north central, southeast, southwest and south-south. Each zone has six states, except for the southeastern zone which has five states.

Recent data from the FME (2022) indicate that 130,920 primary schools are being established and over 25.6 million children are enrolled in these schools. From that enrolment statistics, more than 14 million of these children are boys and about 10 million are girls (FME, 2022). Due to the large size of the research area, judgmental/purposive and stratified sampling procedures (Adeoye, 2023) were utilized to ease the recruitment of participants. Pupils were drawn from four of the six zones. Two zones: northeast and northwest, were excluded as a result of insecurity. At the first instance, potential participants were purposefully identified across the four zones. One state was chosen from each of the four zones for the study. Furthermore, eight (8) public primary schools, two per zone, were purposefully selected. Thereafter, 1600 pupils, comprising 800 boys and 800 girls were randomly selected from two (2) substrata: boys and girls, in each school. That constitutes .006 per cent of the total population. Each state had 200 representatives. Only children aged from 8-10+ years in Primary 4 and 5 participated. At this age and stage the children can read and understand simple sentences in English Language.

Official approval was obtained from staff of the Universal Basic Education Board of each state to conduct this research in schools. These staff also used their records to identify the schools. Formal authorisation was also received from head teachers, parents for the study to take place in the schools and classrooms. Children cannot self-consent to participate in research. Consequently, class teachers and parents gave consent on their behalf. Participants had opportunity to withdraw participation at any time without giving a reason. CCCSQ was worded in a manner that would avert raising emotive issues in the pupils. When emotive issues are being observed, the affected pupils were counseled to address the situation. More so, one school was placed on standby as a contingency plan to ensure the research continues in each zone even in the event of unpleasant situation. Data generation activities commenced from the farthest area to that which is near to the researcher.

Data is sourced from a self-designed Climate Change and Children's Schooling Questionnaire (CCCSQ). It is a 2-Likert scale questionnaire made up of two sections: the demographics and scaling item. The personal data section contains data about participant zone, state, gender, age, and class; while the scaling item part is composed of 20 items, 10 for each hypothesis. Participants are to place a tick in the box to indicate YES or NO to the questions. CCCSQ passed member checks performed on it by peers as well as face and content validity by Psychometricians. It was thereafter trialed in a real research situation, involving 40 pupils from one state school in FCT Abuja. Data from the pilot study was analysed via Cronbach Alpha, and it produced a score of .83, indicating that the instrument is fit for use in the primary research.

Guided by a calendar, a total of six (6) months was earmarked for data collection and analysis and to cover for travel time and accommodation in these places. Each zone had a month for data generation and the fifth month was dedicated mainly for data analysis. The production and dissemination of the research outcome was done in the sixth month as shown on table 1. There was no need for any research assistants.

**Table 1**  
**Data Collection Calendar**

S/N	Month	Zone	Activity
1	July, 2025	North central	Data gathering
2	August 2025	Southwest	-do-
3	September, 2025	Southeast	-do-
4	October, 2025	South-south	-do-
5	November, 2025	-	Data analysis
6	January, 2026	-	Production of research report and dissemination of findings

Simple percentages and Simple Linear Regression Analysis were utilised to analyse data from the bio-data and scaling items sections of the CCCSQ respectively. The Statistical Package for the Social Sciences (SPSS v20) was deployed to ease all data analyses activities as shown in Tables 2, 3 and 4.

**Table 2**  
**Participants' Demographics**

S/N	Category	Variable	Number	Percentage %
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1	North central zone	Kwara	200	12.5
		Nasarawa	200	12.5
2	Southwest zone	Lagos	200	12.5
		Ondo	200	12.5
3	Southeast zone	Anambra	200	12.5
		Abia	200	12.5
4	South-south zone	Cross River	200	12.5
		Akwa Ibom	200	12.5
5	Gender	<b>Total</b>	<b>1600</b>	<b>100</b>
		Boys	800	50
		Girls	800	50
		<b>Total</b>	<b>1600</b>	<b>100</b>
6	Age	8-9	1200	75
		10+	400	25
		<b>Total</b>	<b>1600</b>	<b>100</b>
7	Class	Primary 4	1000	62.5
		Primary 5	600	37.5
		<b>Total</b>	<b>1600</b>	<b>100</b>

Data on table 2 illustrates that 200 children from the sample, representing 12.5 from 8 states across 4 zones participated. It implies equal representation across these areas. Both genders were equally represented indicating 50% each for boys and girls. However, children aged 8-9 years, representing 75% and their peers aged 10+years, representing 25% also took part. It means younger pupils were overrepresented compared to the older peers. 1000 pupils in grade 4, representing 62.5% participated, while 600 of their peers in grade 5 also took part. A greater number of children in primary 4 were involved in the study compared to those in primary 5.

**Table 3**  
Simple regression analysis of climate change literacy and schooling among children  
Coefficients<sup>a</sup>

Model	Unstandardised coefficient		Standardise d coefficient	T	Sig.	95% Confidence Interval for B	
	B	Std. Error				Beta	Lower bound
1 Constant	7.440	4.157		5.841	.000	78.521	135.206
Climate change literacy	.472	.37	6.12	3.364	.000	0.532	3.621

a. Dependent Variable: Schooling among children

Result of simple linear regression is presented on table 3 above. Estimates of the coefficients are presented in the B column. Constant ( $\beta_1$ ) = 7.440; climate change literacy ( $\beta_2$ ) = .472; P-value for the two coefficients as given in the Sig. column = .000. The calculated t for  $\beta_1$  = 5.841 is greater than  $\beta_2$  = 3.364 and P-value = .000 at 95% confidence interval for B. As such, the null hypothesis which states: climate change literacy does not significantly influence schooling among children is rejected; the alternative hypothesis is retained. It suggests that climate change education do have significant impacts on schooling among children in Nigeria.

**Table 4**  
Simple regression analysis of climate action and schooling among children  
Coefficients<sup>a</sup>

Model	Unstandardised coefficient		Standardise d coefficient	T	Sig.	95% Confidence Interval for B	
	B	Std. Error				Beta	Lower bound
1 Constant	5.702	3.432		4.253	.000	71.022	124.501
Climate action	.364	.28	4.26	3.001	.000	0.423	3.431

a. Dependent Variable: Schooling among children

Result of simple linear regression is given on table 4 above. Estimates of the coefficients are presented in the B column. Constant ( $\beta_1$ ) = 5.702; climate action ( $\beta_2$ ) = .364; P-value for the two coefficients as given in the Sig. column = .000. The calculated t for  $\beta_1$  = 4.253 is higher than  $\beta_2$  = 3.001 and P-value = .000 at 95% confidence interval for B. As such, the null hypothesis which states: there is no significant influence of climate action on schooling among children is ditched; the alternative hypothesis is accepted. It surmises that climate action does have significant effects on schooling among children in Nigeria.

### Discussion Of Findings

Finding for the first hypothesis indicates that climate change literacy significantly impacts schooling for the Nigerian child. It is so because, according to Ehlers et al, (2022) education is critical to climate progress. Many children in Nigeria have little or no knowledge about the concept of climate change. A significant number of them is left at the periphery in regard to the subject of climate change and its influence on education. As a result, they may not know what to do when faced by extreme weathers (Marin et al., 2024; Vogel & Nkrumah, 2022). Education, however, enables children to gain knowledge and understanding about climate change, thus helping them to respond effectively in ways that could promote schooling. Such education at this level serves as the building block for addressing climate events to benefit schooling. It aligns with the Education for Sustainability (ESD) Initiative (UN, 2025; Tshabalala et al., 2025) which presents a framework for provisioning an education that is transformative to enable children develop awareness about climate change and to be able to make appropriate decisions (Öztürk, 2023) to tackle the impacts on educational access. That acknowledges the importance of primary education and incorporates the child into the broader efforts to address climate crises. When understanding is achieved children are likely to partner with other stakeholders to proffer measures that can adapt to context, particularly initiatives that would foster the building of climate resilient attitudes and schools (Birkman et al., 2022). Marin et al. (2024) pointed that greening the planet is a climate related concept which when domesticated in school curriculum can expose children to the notion of tree and grass planting as effective approaches for protecting school environment in the events of windstorm, erosion and flooding.

Furthermore, the outcome of data analysis for hypothesis two indicates that climate action has significant effects on schooling among children in Nigeria. With education, children would be able to engage in practices which are not only reactionary, but can proactively safeguard them in school in places which are vulnerable to natural hazards. An emphasis on action motivates them to take responsibility to ensure ideas on climate change work on the ground (Nwile & Amie-Ogan, 2023). According to UNICEF (2025), climate actions highlight hands-on tasks whereby school children are able to perform practical adaptation skills in context. It connotes the actual implementation of acquired principles, knowledge, skills and dispositions to save the opportunities for schooling from the risks of climate change events. Such actions ensure that children do not experience prolonged or unnecessary disruptions in their academic calendar due to the occurrence of, for example, flood, drought, windstorm, harmattan and heat waves. The ability and willingness to take action and when to do so would show how children can draw upon their agency to assist in building and sustaining a school that can withstand punishment from natural disasters.

### Conclusion

Drastic shifts in the climate are generating huge concerns in the field of education in Nigeria. Research evidence indicates that extreme weathers are becoming commonplace worldwide and that is posing significant risks particularly to access to education for school children in vulnerable communities in Nigeria. For instance, drought, flooding, harmattan, heat waves and windstorm are climate related factors of which occurrence is found to be causing a decline in children's enrolment and retention in primary schools across the country. A significant number of children are losing on education due to the impacts of climate change. The situation, by extension, poses a challenge to the efforts of stakeholders to protect children's rights to education; sustain mass literacy and human capital development at the foundational level.

### Recommendations

Arising from the findings of this research, the following recommendations were made:

1. Climate Change Education (CCE) should be injected into the curriculum of primary education in Nigeria; and
2. Children should be made to adapt climate resilient practices such as the 'green planet initiative' to their schools to reflect context.

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**Moses Apie Ewa, PhD**

Department of Educational Foundations  
Faculty of Education  
University of Cross River State  
P.M.B. 1123 Calabar, Nigeria

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