

NO. 39

**REPORT OF THE STUDY CARRIED OUT
IN IMO STATE (SOUTH EAST GEO-POLITICAL ZONE)**

ON

**THE EFFECT OF WATER, ENVIRONMENTAL
SANITATION (WES) AND HYGIENE ON GIRLS'
EDUCATION IN NIGERIA**

BY

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1.0 EXECUTIVE SUMMARY

The study is essentially an assessment of the effect of water, environmental sanitation and hygiene on the education of girls in Imo State, as the pilot State for the South East Geopolitical Zone.

Using the Survey Method, three Local Government Areas, representing urban, semi-urban and rural settings with each drawn from different Senatorial Districts were purposefully selected. Five research instruments were administered on mothers, in-school girls, out-of-school girls, Focus Group Discussion participants and Key Informants. Observations of the situation of water, environmental sanitation (WES) and hygiene in each research community was also made. Preliminary findings indicate that:

- Girls are going to school in Imo State, and there are more girls in school than boys.
- Water is not available in over 90% of the schools for the use of the students during the school hours.
- The water availability situation is better off in the rural and semi-urban communities than in the urban centre. Majority of households depend on well water. Many are unduly frugal with water usage in the urban centre because of the financial involvement, since they buy water.
- Pit toilets which on the average are clean are the common features in households in the rural and semi-urban communities, and in all the schools sampled in the three communities.
- Refuse disposal is essentially through burning and throwing into the bush in the rural and semi-urban communities, and through government effort which is not prompt and regular in the urban centre.
- Involvement in household chores has often led to lateness of the girls to school, but not often to absence from school and has never led to withdrawal of the girls from school.
- Lack of access to water, lack of privacy, lack of prompt availability of sanitary pads and other sanitary materials has led to girls going late to

school often, and occasionally to absence from school. Performance in texts/exams has also been affected.

- Health of girls has been negatively affected by the water shortage situation as evident in the outbreak of epidemic of water-related diseases in the schools.

Based on the above and other findings in the body of this report, it is recommended that the water situation in all schools and households be as a matter of urgency be improved upon; the environmental sanitation in the urban centre be urgently improved upon; provision of good sanitary wherewithal be ensured during the girls' menstrual flow. If these and other recommendations made in the body of the report are implemented, there will be improvement in the performance of girls in school and in the overall education of girls in Imo State.

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2.0 PREAMBLE

Imo State, also popularly referred to as "The Eastern Heartland" is bounded by Anambra State to the North, Abia State to the West, Rivers State to the South and Delta State to the East.

On Sunday, 3rd of Nov, 2002 by 9am I left Ibadan for Owerri, the capital of Imo State. I finally arrived my destination at about 7pm. Two weeks earlier I had made contact with my Facilitator to choose 3 Local Government Areas representing urban, Semi-urban and rural settings from different Senatorial Districts for our study. I also got in touch with the UNICEF desk officer in the SPEB office- Mrs. Ibetoh. On arrival we met, and I found that the chosen Local Government Areas of ORSU (rural), NJABA (semi-urban) and ORLU (urban) were too close to one another, and they represent only two Senatorial Districts. With the aid of my map of Imo State we chose new LGAs as shown below:

ORSU – Rural – ORLU Senatorial District
IKEDURU – Semi-urban – OWERRI Senatorial District
OKIGWE – Urban – OKIWE Senatorial District

On Monday 4th of Nov, the training of FAs in ORSU LGA, which should have started first thing in the morning, haven been contacted earlier, could not hold. It had to wait while we moved around to make contact with IKEDURU and OKIGWE LGAs. After a successful contact in the newly chosen LGAs we arrived about 1pm to commence training for the FAs. I had some problem with the LGEA Secretary and we had to arrive at a compromise. After this I made straight for the training venue.

3.0 OBJECTIVES OF THE STUDY

The objectives of the study were mainly 6 and they are reproduced below:

1. Describe and discuss, using primary and secondary data, the situation of girls education in Nigeria, with particular in-depth study of situation in selected communities in Nigeria.
2. Describe and discuss the situation of water, environmental sanitation and hygiene in the selected communities Nigeria.
3. Asses and determine the extent to which water, environmental sanitation and hygiene are factors affecting girls education in Nigeria, drawing from the findings from the selected communities.
4. Determine what specific aspects of WES and hygiene has an impact on girls education in Nigeria.
5. Establish the exent to which the findings above in (3) and (4) (i.e. effort on girls education) vary among the different geo-political zones, among the different social classes and between the rural and the urban areas in Nigeria.

6. On the basis of findings in 3, 4 and 5 above, come up with appropriate policy and programme interventions that may reduce or eliminate the impact of water, environmental sanitation and hygiene on girls education in Nigeria. Such findings will also enable UNICEF and other development agencies interested in the girl child re-examine their programme focus in Nigeria.

4.0 METHODOLOGY

4.1 Sample – Community Level

The study was carried out in the State using three Communities/Local Government Areas namely:

- Orsu Local Government Area, representing rural community and falling within Orlu Senatorial District.
- Ikeduru Local Government Area, representing semi-urban Community and falling within Owerri Senatorial District.
- Okigwe Local Government Area, representing urban community and falling within Okigwe Senatorial District.

4.1.2 Sample – School Level

Using purposeful sampling, fourteen (14) schools were used for the study in Imo State, made up of:

3 pry schools and 3 sec schools from the urban Community	i.e. 6 schools
2 pry schools and 2 sec schools from the S/urban Community	i.e. 4 schools
2 pry schools and 2 sec schools from the Rural Community	i.e. 4 schools
Total 7 primary and 7 secondary schools	14 schools

Also, students – referred to as In-school girls – were sampled for the study in the proportion shown on Tables 1a – c

**Table 1 – Pupils/Student sample size according to schools
(1a) Urban Community**

Urban School	No. of Pupils (PS)	No. of Students (JSS)	Total
Pry School 1	30	JSS 1 – 30	60
Pry School 2	30	JSS 2 – 30	60
Pry School 3	30	JSS 3 – 30	60
Total	90	90	180

(1b) Semi Urban Community

Semi Urban School	No. of Pupils (PS)	No. of Students (JSS)	Total
Pry School 1	30	JSS – 30	60
Pry School 2	30	JSS – 30	60
Total	60	60	120

(1c) Rural Community

Rural	No. of Pupils (PS)	No. of Students (JSS)	Total
Pry School 1	25	JSS – 25	50
Pry School 2	25	JSS – 25	50
Total	50	50	100

The targets were mature pupils in the senior primary classes (primary 5 and 6) who have reached the age of puberty and students in JSS1 – 3 (i.e. girls between 10 and 18 years of age). The girls were assembled in a classroom in each school, and the In-school Questionnaire was administered on them. Each item was read out to them, and where necessary, translation into the vernacular was done to ensure comprehension of concepts being focused upon.

4.1.3 Sample – Household Level

The households were selected through stratified random sampling. The urban centre was stratified into 4 clusters and 25 households were randomly selected from each cluster. The Semi-Urban centre was stratified into 3 clusters, and 20 households were randomly selected. The rural community was stratified into 2 clusters, with 20 households randomly chosen from each cluster.

Households – 100 for Urban – 4 clusters – 25 / cluster
 60 for S/Urban – 3 clusters – 20 / cluster
 40 for Rural – 2 clusters – 20 / cluster

 Total 200 Households

The target respondent for an household was a woman with children in senior primary or in secondary schools, or that had children in primary/secondary school in the last 5 to 10 years. The essence was to have women whose experience can be relevant to the theme of the research.

The household (mother's) questionnaire was administered on the sample.

4.1.4 Sample – Out-of-School Level

The target were girls who did not complete their primary or secondary school education. These were located in workplaces, markets, motor packs, business centers (Saloons, fashion designer shops etc.) a few about (7) were located in homes as households and this was in the urban community.

Out-of-school girls –

Community	Sample Size
Urban	50
S/Urban	30
Rural	20
Total	100

It was really difficult getting the out-of-school girls. Apart from the logistics of locating the target sample, the majority of the girls found in the target locations were not girls who had dropped out of primary or secondary schools. Many of them were girls who had completed their senior school level, and had:

- either not made the requisite requirement for progress to tertiary level and were thus waiting to retake their exams
- OR had failed the JAMB UME or PCE exams and thus could not proceed further immediately, but were waiting to retake the exams
- OR have financial difficulty purchasing the JAMB form or other admission papers to other tertiary institutions.

There were indeed more out-of-school boys (drop-out) than out-of-school girls. Were the study focus in out-of-school boys, no difficulty would have been encountered obtaining the requisite sample size.

4.1.5 Sample – Focus Group Discussion (FGD) Level

A total of 7 FGDS were held and each FGD was made of 10 participants. The distribution was as shown below:

Urban	3	(i) Male parents (ii) Female parents (iii) JSS male Teachers
Semi-Urban	2	(i) Female parents (ii) Female primary school teachers
Rural	2	(i) Female parents (ii) Female JSS Teachers

An FGD guide was used for the Discussion

4.1.6 Sample - Key Informant Interview (KII) Level

Prominent personalities in the communities were interviewed in-depth.

Though, three (3) were tape-recorded, a number of key personalities relevant to the research were interviewed informally. The key Informants included:

- Current Headteachers of primary schools
- A principal of an urban secondary school.
- A guidance counselor of a semi-urban secondary school.
- A serving sanitary inspector in a rural primary health Centre.
- 2 Local Government Education Secretaries.
- A director of school services of a LGEA.

Table 2: Table Showing Breakdown of Interviews Conducted in Imo State
INTERVIEWEES

Community	Head teacher	Principal	School Counselor	Sanitary Inspector	Public Health Worker	Mothers	LGEA Education Secretary	Director of school services
ORSU (Rural)	√	√		√	√	√		√
IKEDURU (Semi-Urban)	√	√	√			√	√	√
OKIGWE (Urban)	√	√		√		√	√	

4.2 Recruitment and Training of Field Assistants

Recruitment

The original plan was to use female teachers as field assistants (FAS) for the research but because schools were in session, it was not possible to withdraw teachers from their duty post for the research. Staffs of the Local Government Education Authority (LGEA) Secretariat were recruited instead. These staffers proved very useful and capable. The Field Assistants (FAs) were recruited from each Community – the urban, Semi-urban and rural communities. Seven (7) FAs were recruited from and for the urban community, 3 FAs from and for the semi urban and 2 FAs from and for the rural communities. Each FA for the urban and semi-urban communities worked for 4 days, while the FAs for the rural centre worked for 3 days each. The FAs were principally responsible for collecting data at the household level, and also from the out-of-school girls.

Also recruited was a Research Assistant (RA) as I moved from one community to another. The RA was principally responsible for supervising the FAs – ensuring that they did the correct thing and where mistakes were made, ensuring that the FAS went back to make necessary amends.

A Personal Assistant (PA) with a very good knowledge of the State and fluent in the Igbo language was also recruited. The PA was very useful

in the conduct of the FGD, and we worked together in the administration of the In-school questionnaire. The recruitment was per community.

Training

All the personnel's recruited were thoroughly trained in the schedules they were involved in. They were assembled in a central place in each community and were trained in the administration of the questionnaires, and other instruments as appropriate. There was trial testing of the questionnaires in nearby households to ascertain comprehension of training. The pilot questionnaires were assessed by both myself and the RA. It was after the discussion of the pilot exercise that the FAs were sent to the field.

4.3 Global Positioning System (GPS) Readings

The co-ordinates of the communities and the schools used were taken. This can ensure the easy location of the communities and schools for any future purpose, even when the research personnels may not be necessary available.

Table 3 shows the recordings for the communities and schools used in Imo State for this study.

Table 3 – Table Showing Schools Used And Their GPS Readings

S/N	Name of School	LGA	Community Status	GPS Reading
1	Ihitenansa Secondary School, Ihetinansa	ORSU	Rural	N 05 ⁰ 52'.701" E 006 ⁰ 59'.226"
2	Girls Secondary School, Awo-Idemili	ORSU	Rural	N 05 ⁰ 50'.445" E 006 ⁰ 56'.834"
3	Community Primary School, Akama,	ORSU	Rural	N 05 ⁰ 52'.736" E 006 ⁰ 59'.723"
4	Community primary School, Amoakere	ORSU	Rural	N 05 ⁰ 49'.915" E 006 ⁰ 57'.375"
5	The centre of ORSU LGA is at AWO-IDEMILI	ORSU	Rural	N 05 ⁰ 49'.830" E 006 ⁰ 57'.359"
6	Atta Girls Secondary School, Atta	Ikeduru	Semi-Urban	N 05 ⁰ 37'.167" E 007 ⁰ 08'.107"
7	Girls Secondary School, Akabo	Ikeduru	Semi-Urban	N 05 ⁰ 34'.062" E 007 ⁰ 05'.464"
8	Central Primary School	Ikeduru	Semi-Urban	N 05 ⁰ 36'.738" E 007 ⁰ 07'.611"
9	Community Primary School, Akabo	Ikeduru	Semi-Urban	N 05 ⁰ 33'.011" E 007 ⁰ 04'.987"

10	The Centre of Ikeduru LGA is at Umuomi- Uzoagba	Ikeduru	Semi-Urban	N 05 ⁰ 33'.335" E 007 ⁰ 07'.786"
11	Ubaho Urban Model Secondary School, Okigwe	Okigwe	Urban	N 05 ⁰ 50'.168" E 007 ⁰ 20'.802"
12	City Commercial Secondary School, Opara Road	Okigwe	Urban	N 05 ⁰ 49'.424" E 007 ⁰ 20'.908"
13	Girls Model Secondary School, Umu-Opara, Okigwe	Okigwe	Urban	N 05 ⁰ 48'.402" E 007 ⁰ 20'.894"
14	Okigwe Urban Primary School, "M", Okigwe	Okigwe	Urban	N 05 ⁰ 49'.852" E 007 ⁰ 21'.092"
15	Okigwe Township Model primary school, Umueze Village, Okigwe	Okigwe	Urban	N 05 ⁰ 49'.808" E 007 ⁰ 21'.414"
16	Ihube Community Primary School, Ugwuntu Village, Okigwe	Okigwe	Urban	N 05 ⁰ 52'.675" E 007 ⁰ 22'.044"
17	The Centre of Okigwe LGA is at Opara Road Junction Okigwe	Okigwe	Urban	N 05 ⁰ 49'.596" E 007 ⁰ 20'.905"

4.4 ANALYSIS

Analyses of the preliminary findings have been done through Tables showing situation analysis, frequency counts and percentages. Qualitative description of events has also been employed as a tool of analysis.

5.0 PRELIMINARY FINDINGS

5.1 Brief Write Up / Summary Table on Schools Used

Fourteen Schools made up as below were used on the whole,

- Urban community – 3 primary schools and 3 secondary schools
- Semi/Urban community – 2 primary schools and 2 secondary schools
- Rural Community - 2 primary schools and 2 secondary schools

Urban Community – Okigwe LGA

Primary Schools

1 Ihube Community Primary School

This school, established in 1932 is situated on a hilly site in Ihube Community, some 10kms away from the LGEA Secretariat and away from the “heart” of Okigwe town. On the day of the visit, the headmistress, a very pleasant, warm and intelligent lady was met. After understanding the thrust of our study, she advised that we extend our sample to primary 4 where some matured girls who fit into the study criterion can be found. With this done, we were able to get the sample size of 30.

Girls outnumbered the boys in the 3 classes of primary 4-6 used for the study. There has been very little attribution of girls in the school. The highest was 5 in 1997.

Water Situation

The school has no water source – no pipe borne water facility and no well. The headmistress explains that this is partly due to the hilly location of the school, but more importantly, because of the proximity of the school to the community, the children have no difficult bringing water from their homes to the

school or running back home during break time to drink water if the need arises. There was outbreak of two water related diseases – cholera and dysentery in 1996. There was also outbreak of measles and chicken pox in 1998. The headmistress absolved the school from being responsible for the outbreak of the diseases. She was particularly emphatic on the water/related ones and said ‘Thank God, the school does not supply water to the children, and so, there is no link with the school. The carry over was from the community’.

She said more females than males were affected by the epidemic. This definitely has implication for the girls education, as she confirmed that the affected ones were absent from school and the resultant effect was their low performance in tests and exams those years. She said the pupils had never experienced Guinea-worm outbreak.

Toilet Facility

The school has pit toilets which were kept clean. The toilets were demarcated for boys and girls. Though, I did not ask for the population of the school, but a cursory look appears to me that the ratio of toilets to the school population was adequate.

General Quality of the School

The school compound was neat and generally clean. I did not see dilapidated buildings and infact, a new UBE block which has just been handed over to the school was partly being used for the pre-school children.

Though no flowers were seen, but the compound with its general level of cleanliness can be said to be learning-friendly. The ‘headmistress’ office was well arranged and due to the orderly filling and arrangement system she has for the school registers and other documents, it was not difficult for her giving information on secondary data regarding her school. This quality has the potential of rubbing off on the students and helping them develop orderliness, good organizational skill and good study habits.

2 Okigwe Urban Primary School ‘M’

The school was established in 1948 and appears to have a large population from the number of pupils I saw on the field and on the corridors during the break time. The school operates only the morning shift and this is the ‘m’ (morning) part of the school’s name.

Water Situation

The school has no water source and the pupils either buy satchet water or use the water they bring from home, primarily for drinking. The head-teacher reported that there has not been any outbreak of any epidemic in the school in the last 10yrs.

Toilet Facility

The school uses pit toilets and the state of cleanliness was just fair. I doubt if the girls use the toilet facility much, as a few girls whom I interviewed informally and on a random basis said they don't use the toilet due to its state which they find just fair.

General Quality of the School

The school was not neat. The school was not well planned out. The classrooms were crowded and the walls did not have charts and posters. The environment is not really learning friendly.

3 Okigwe State Primary School

The school came into existence on 1935 and is located in a community called Ope. The school is a populous school. Attrition rate in the school generally has been low and girls have not been adversely affected. The attrition rate has not exceeded 2 in the last one decade.

Water Situation

No organized water source was seen in the school. The secondary data revealed that there was outbreak of cholera and dysentery in 1999, measles and chicken pox in year 2000 and 2001. Typhoid has also been rampant in the school. The head teacher reported that females were more affected by the epidemic. They were absent from school and they performed low in tests and exams.

Toilet Facility

The school uses pit toilets. The state of cleanliness was just fair.

General Quality of the School

Just fair

Table 4 gives in summary form information on the other eleven (11) schools and the situation of WES and hygiene in these schools.

Table 4: Summary of Information and Situation of WES/Hygiene in Eleven Schools

School	Community Status	Year Established	Availability of water and status of the water	Availability of toilet and status of toilet	General cleanliness of school	Epldemic experienced	Year experienced	Sex most affected	Consequence
1) City College, Okigwe	Urban	1984	None	Available but clean	Just fair	None	—		Absence from school
2) Girls Model Sec School	Urban	1963	Well water and drinkable	Available and clean	Good	Cholera typhoid	1995 1998		Absence from school
3) Urban Model Secondary	Urban	1993	Well Water and drinkable	Available and clean	fair	Cholera typhoid	2000 2001	Girls	Absence from school
4) Central School Atta (Pry)	Semi-Urban	1924	None	Available and just fair	Fair	Dysentery Measles	Nov 1998	Girls	Absence from school
5) Akabo Community School (Pry)	Semi-Urban	Not supplied	None	Available and clean	Good	Cholera	1994	Girls	Low performance
6) Girls Sec. School Ikeduru	Semi-Urban	1966	None	Available and clean	Good	Typhoid	—	Girls	Absence from school
7) Atta girls Sec. School	Semi-Urban	1965	None	Available and clean	Good	None	—	—	—
8) Community Pry School, Amaokwe	Rural	Not supplied	None	Available and clean	Good	Typhoid	June, 1997	Girls	Absence from school
9) Community Nansa Pry school	Rural	Jan, 1954	None	Available and clean	Good	Measles	Jan, 2002	Girls	Absence from school
10) Ihenansa Sec. School	Rural	1965	None	Available and clean	Good	None	—	—	—
11) Girls Sec. School, Awoidehill	Rural	1978	None	Available and clean	Good	None	—	—	—

5.2 Brief Summary Of My Observations About WES And Hygiene In The Selected Communities In Imo State

As already known, three communities were selected for the study in Imo State

ORSU LGA (Rural Community)

The community does not appear to have pipe-borne water facility. Many households have wells in their compounds, and the households that do not have, have access to their neighbours' wells at designated times. But the generosity as reported declines during the dry season when the well water levels go down. None of the households used had water closet facility toilets, though reports have it that some households have them. Pit toilets dug outside the main house enclosure is the common feature. Some of these toilets have cemented or concrete walls, while some are just fenced round with corrugated iron sheets. The schools also make use of pit toilets.

The schools visited had no organized source of water like well etc. the students either buy sachet water, or take water from home to school and the latter is the more common practice.

Gabbage heaps were not seen around in the community. Each household disposes its refuse by either burning it or throwing it into the nearby bushes that are common features around many houses. This same method of refuse disposal is employed by the schools. Generally, the rural community was clean and tidy.

IKEDURU LGA (Semi-urban community)

The description given about the rural community above can safely be given about the semi-urban community.

OKIGWE LGA (Urban community)

Quite some households have water-closet toilets, but many have the problem of regular water supply to manage the toilets with. Most of the households depend on the wells they dug in their compounds for their water supply. Some households buy water from tankers.

The schools visited do not have pipe-borne water supply and only one of the three secondary schools has well. The students either buy sachet water or take water from home to school for their use during the school hours.

There were a number of gabbage heaps seen around in the community. Though gabbage heaps was not a feature in the schools used, but the general cleanliness of the school environment cannot be scored high.

5.3 Brief Conclusions On Each Of The Study Objectives

STUDY OBJECTIVE 1 – *Situation of girls' education in Imo State* *Girls in Imo State*

Going by the findings in the three selected communities, girls are being educated in Imo State. In six of the seven primary schools visited, and in the primaries 5 and 6 used for the study in each school, girls outnumbered the boys. It is only in one primary school (Community Primary School, Awoidemili) in the rural community of ORSU LGA that the boys were about equal number with the girls. This pattern of girls outnumbering the boys cannot be said conclusively to persist into the secondary school level, at least at the junior secondary school which was the focus of the study.

A contributory reason for the inconclusiveness is because four of the seven secondary schools used are all girls' schools while the other three schools were co-educational schools. In one of the co-educational schools (City College), girls outnumbered the boys astronomically – 105 girls to 20 boys in JSS1, and 115 girls to 19 boys in JSS2. In the other 2 co-educational schools, the difference in the number of boys to girls is quite minimal, e.g. 76 boys to 71 girls in JSS2 in Ihetenansa Secondary School (rural setting), and 94 boys to 84 girls in Urban Model Secondary School, Okigwe – an urban setting. In all the girls schools, the population of girls is quite high. No class – JSS1, 2 or 3 had less than 140 on role. Thus, it can safely be said that the state of girls' education in Imo State is quite satisfactory.

STUDY OBJECTIVE 2 – *Situation of WES and Hygiene in the selected communities in Imo State*

Water

In the rural and semi-urban communities, pipe-borne water was not available in all the schools visited (primary and secondary schools), neither was it available in the households sampled, as reported by the FAs who carried out the household surveys. While the schools had no organised source of water, majority of the households had wells dug within their compounds.

In the urban community of Okigwe, FAs reported that some of the households have pipe-borne water facility, but the taps do not run on a constant basis. In the primary schools that I visited none had pipe-borne water facility, nor in fact any organised source of water like well etc. The only exception was the Model Primary School, (a UNICEF project school) that not only had pipe-borne

water facility, but the taps were reported to run in the mornings as expressed by the headmistress. This school was actually not in our sample, but the UNICEF desk officer in the SPEB office (Mrs. Ibetoh) only took us to that school on our way out on the day (4th Nov) when we were going to make fresh contact with Okigwe and Ikeduru as already mentioned in the Preamble section of this report. Organized source of water was also not available in many of the urban schools though two of the schools—Girls Model Secondary School and urban model secondary school—had wells dug within the school compound.

Many of the households in the urban community were reported to have pipe-borne water facility installed in their homes, but they reported that their main source of water are the wells they dug in their compounds since the taps hardly run. Some of the households also reported that they buy water from water tankers, which they pour into surface tanks or underground tanks. Some reported that during the dry seasons (harsh dry seasons like that of last year), they fill their dried up wells with the water they purchase from the tankers.

Environmental Sanitation And Hygiene

The rural and semi-urban communities were quite clean. The urban community was not as clean as the other 2 communities. Gabbage heaps were sparingly seen in the rural and semi-urban communities, unlike the very sorry sights of gabbage heaps in the urban community. Though Owerri, the State capital was not a sampled community, but that was my sojourn for the study period and thus it was impossible not to see the very poor hygienic and environmental sanitation situation of most parts of the town. Owerri, the State capital was not as clean as Okigwe, the urban community sampled for the study.

In the rural and semi-urban communities, shops, stores and stalls were not as many as they were in the urban community, and these commerce places were better arranged / planned out than in the urban community. One felt more relaxed in, and more at home with the environment in the rural and semi-urban community than with that of the urban community. The scattered stalls, the blasting of music from loud speakers of record stores, the blasting of horns from motorists during hold up periods, the shouting on one another and on pedestrians by "Okada" operators, all contribute to make the urban community less friendly to the psyche.

STUDY OBJECTIVE 3 – *The Extent To Which WES And Hygiene Are Factors Affecting Girls Education In Imo State*

In the rural and Semi-urban communities, mothers at the household level, and at the in-school level, (without any apparent differential between primary

practice also has implications for lateness to school and fatigue at school especially during the first two to three periods of the school day.

From the findings of the mothers at the households level, the poor state of water, environmental sanitation and hygiene in the schools and in the neighbourhood never tempted the mothers to think of stopping their female children from continuing attendance at school. The girls also reported that though they are sapped, energy-wise by the scarce water situation during the dry season, they have never thought of withdrawing from school.

At the in-school level, the girls reported that though they feel uncomfortable during their menstrual flow as a result of lack of water, and poor sanitation conditions in the schools in particular, but it had never crossed their minds to stop going to school during the period.

At the out of school level, the girls reported that they dropped out of school, not due to the poor water, environmental sanitation and hygiene conditions of their schools, but essentially due to the financial constrains on the part of their parents.

Thus, it can be said that WES and hygiene factors have not had much inhibiting effects on the education of girls in Imo State, especially in terms of their being absent from or dropping out of school.

STUDY OBJECTIVE 4 – *The Specific Aspect of WES and Hygiene That Has Impacted On Girls' Education in Imo State.*

Though study objective 3 has indicated that WES and hygiene have not on the average impacted negatively on girls' education in Imo State, there are still some aspects that can be highlighted. The girls are not comfortable with themselves during their menstrual period as a result of the lack of water in their schools. They are also not happy with their inability to use the toilet especially during their menstrual cycle.

The fact that they have to search for water for a long time and for a long distance especially during the dry season has contributed to the going late to school of the girls. However, both the girls and the mothers believe that the late going to school has not negatively affected the performance of the girls in school.

Other aspects that need to be highlighted relate to puberty stage and the girls' relationship with their parents, especially their mothers. Most of the girls in primaries 5 and 6 and the JS classes recalled that their parents (mothers) did not prepare them for the onset of menarche. Though, many of them said they had seen their senior sisters using sanitary towels etc. at some times during a month, they never quite understood what it was all about, and they never were courageous enough to ask questions. So, for many of them, they were full of fear when menarche set in for them and they felt very fearful and not at ease with themselves for a long time. In fact some reported that they still feel uneasy

with themselves. This could be said to be true, because, quite a number of the girls were actually shy and a little timid in filling the in-school questionnaire. Though the level of shyness and timidity was seen to be lower in the JS girls than in the primary school girls, nonetheless, a pervading atmosphere of shyness, timidity and preference not to make the issue an open air discussion was present in the JSS1 and 2 girls. The first described scenario cuts across the rural, semi-urban and urban communities, but the situation was somewhat better in the urban sample. They felt more at ease and less timid – and that was with the JS level and the primaries 5 and 6 girls.

The above has implication for the psyche of the girls and by extension on their educational achievement. There are available studies indicating the correlation between an individual's level of anxiety and scholastic achievement. A girl who is filled with fear any time she remembers a natural process in her, or is filled with fear anytime a natural process is about coming on her (a monthly menstrual occurrence), is highly susceptible to poor study habits, poor self concept and low academic achievement.

Another aspect worth highlighting is the type of sanitary materials the girls use during their menstrual flow and the provider of the sanitary materials. In the rural and semi-urban communities, most of the girls reported the use of toilet roll, sanitary pad and cloth. They reported that their mothers do not often provide their sanitary material needs for them, and they often have to fend for themselves. The situation in terms of provider was not different in the urban community. This situation has the potential of having negative implication on the girls' education. The preoccupation with the thought of getting what to use can lead to loss of concentration in school and at study times and thereby cause poor performance in tests/exams. The possibility of the girls employing unwholesome means to obtain money to buy their sanitary needs cannot be ruled out.

No category of respondent (mothers and in-school girls) reported that lack of easy access to sanitary materials during the menstrual cycle has made the girls withdrawn from school. A few indicated that the situation has resulted into absence from school a few times.

STUDY OBJECTIVE 5 – *Extent To Which The Findings In Study Objectives 3 And 4 Vary Among The Different Social Classes And Between Rural And Urban Areas in Imo State*

RURAL/URBAN DIMENSION

Water

In terms of availability of water, there appears to be no great difference between the rural and urban communities. In each of the communities, the people have to source water on their own by digging wells either in their own compounds or within the neighbourhood through community effort in the case of

a few households who cannot fund the digging of wells individually in their own compounds. The digging of wells is a common feature in both the rural and urban communities, though the communal effort type found in the rural communities is not a feature in the urban community. In the rural community, pipe-borne water facilities were not seen to be in place, unlike what was found to be present in the urban setting. However, though the facilities are present in the urban community, the fact that the taps do not run makes the urban setting not too different from the rural setting that doesn't have the pipe facilities in place.

Environmental Sanitation and Hygiene

In terms of environmental sanitation and hygiene, the rural community appears more environmentally friendly and hygienic than the community. Gabbage heaps which were common sights in the urban community were not common sights in the rural setting. Though pit latrines were the common features in the rural community, but the toilets were kept clean and appear usable. This contrasts with the urban community where some households reported that they have the water closet facility but have the problem of regular water supply to cope with the flushing of the toilets. None of the schools visited in the urban community had water closet toilet types. They all operated the pit latrine facility and the toilets were on the average found clean. Two primary schools were found to be without toilet facility of any type. This is not good enough.

SOCIAL CLASS DIMENSION

The study did not make provision for disaggregation of data into socio-economic classes, so that aspects of study objective 5 cannot be commented upon. The only way out is to assume that it is the low-socio-economic class that is living in the rural area while the high social class is living in the urban community. This will be an invalid and non-empirical assumption to make.

STUDY OBJECTIVE 6 – *Suggestion of appropriate policy and programme intervention that may reduce or eliminate the impact of WES and hygiene on girls' education in Nigeria*

POLICY ISSUE

- No school must be built without toilet facilities, even if they have to be pit toilets.

- If pit toilets are to be used in schools, they should be the modern type called VIP toilets (Ventilated improved pit-toilet).
- No school should be without an organized water source even if it has to be a well. The well must be deep, fixed with a pumping machine and with tanks to serve as reservoirs from which the school pupils can take water for their use.
- No school should be without big dustbins for gabbage disposal and these must be emptied by a paid staff regularly and promptly.
- Gabbage heaps in urban communities must be cleared regularly and promptly by government officials.
- No community should be without organized sources of water
- No water source should be more than 500metres to the people using it.
- Government at all levels should mount awareness campaigns on the ills of poor/advantages of proper waste disposal; use/drinking of clean water; the advantages of good hygiene and the relationship between WES and hygienic on health on one hand, and health and education on another hand.

INTERVENTION PROGRAMMES

- Opinion leaders, community leaders, teachers, headteachers, heads of civil groups should get involved in campaigns on the advantages of WES and hygiene. These stakeholders are to first be sensitized through

workshops/seminars conducted at the grassroots holds, in the vernacular of the area and by resource-persons drawn from the communities.

- IEC materials on the advantages of good WES and hygiene should be developed in the languages of the locales, and the materials should be widely distributed.
- Conventional methods like the use of gingles on radio and television, drama, playlets, songs etc, as well as non-conventional methods like the use of town criers, folk lores, moon light story-telling etc should be employed at appropriate levels, communities and times to disseminate information on WES and good hygiene vis-à-vis girls education.
- Funding agencies should be approached and be encouraged to fund:
 - The digging of bore holes and deep wells in communities and schools
 - The building of model schools in different communities
 - The provision of tanks and other water reservation facilities
 - The building of VIP toilets in schools and also in communities as public toilets
 - The production of IEC materials
 - The training of community personnel who will disseminate information on the benefits of good WES and hygiene and their implications on girls' education as well as enforcement personnel.

- NGOS and other civil groups to continue on research and advocacy.

5.4 Summary of Findings From FGDs

The analysis of the opinion expressed by the FGD participants was done.

Table 5 gives the Summary of the Findings.

TABLE 5: Summary of Findings From FGDs

WATER	Rural N = 20	S/Urban N = 20	Urban N = 30
1.) Source of water			
• Well	20 – 100%	20 – 100%	15 – 50%
• Stream	20 – 100%	20 – 100%	0 – 0%
• Rain	20 – 100%	20 – 100%	30 – 100%
• Pipe borne water	0 – 0%	3 – 15%	8 – 26.7%
2.) Distance to Water Source			
• Less than 1km	15 – 75%	16 – 80.0%	28 – 93.3%
• About 1km (During dry season)	10 – 50.0%	10 – 50.0%	5 – 16.7%
• Over 1km	5 – 25.0%	7 – 35.0%	3 – 10.0%
3.) Availability of water in school			
• Readily available	1 – 5.0%	1 – 5.0%	5 – 16.0%
• Sometimes available	3 – 15.0%	1 – 5.0%	4 – 13.0%
• Not available	16 – 80.0%	18 – 90.0%	3 – 10.0%
4.) Quality of the water			
• Clean & drinkable	2 – 10.0%	0 – 0.0%	2 – 6.7%
• Not drinkable	2 – 10.0%	2 – 10.0%	7 – 23.3%
• Not applicable, since no water in school	16 – 80.0%	18 – 90%	21 – 70.0%
5.) Effect of water on girls' education			
• Lateness to school	10 – 50.0%	12 – 60.0%	12 – 40.0%
• Absence from school	3 – 10.0%	3 – 15.0%	8 – 20.0%
• Low performance in tests/ exams	15 – 75.0%	12 – 60.0%	10 – 33.3%
• Withdrawal from school	1 – 5.0%	1 – 5%	2 – 6.7%
6.) Effect of Sanitation & hygiene on girls education			
	10 – 50.0%	12 – 60%	12 – 40.0%

• Lateness to school	3 – 15.0%	3 – 15%	8 – 20.0%
• Absence from school	15 – 75.0%	12 – 60%	10 – 33.3%
• Low performance	1 – 5%	1 – 5%	2 – 6.7%
• Withdrawal from school			

TABLE 5: Summary of Findings From FGDs contd

	Rural			S/Urban			Urban		
7.) Water related disease suffered by children and intensity of outbreak									
• Diarrhoea	11		0	9	5		10		
• Dysentery	1		2	9	5		8	5	
• Cholera	1	10	2	9	5		9	6	3
• Typhoid	15	3	0	11			25	3	1
• Guinea worm		1	20			20	-		20
8.) Effect of the disease on children's education									
• Lateness to school	3 – 15%			2 – 10%			5 – 16.7%		
• Absence from school	15 – 75%			17 – 85%			23 – 73.7%		
• Low performance	8 – 40%			10 – 50%			12 – 40.0%		
• Withdrawal from school	1 – 5%			1 – 5%			2 – 6.7		
9.) Effect of children's involvement in household activities on girls education									
• Lateness to school	16 – 80%			15 – 75%			19 – 63.3%		
• Absence from school	3 – 15%			5 – 25%			6 – 20%		
• Low performance	10 – 50%			8 – 40%			7 – 23.3%		
• Withdrawal from school	0 – 0%			1 – 5.0%			1 – 3.3%		
SANITATION & HYGIENE									
10.) Toilet facility available									
• Pit latrines	20 – 100%			20 – 100%			5 – 16.7%		
• Water-closet type	0 – 0%			3 – 15%			25 – 83.3%		
• Use of stream/ rivers	2 – 10%			2 – 10%			1 – 3.3%		
• Use of bush	5 – 25%			8 – 40%			2 – 6.7%		
11.) Method of refuse disposal									
• Burning	10 – 50%			13 – 65%			10 – 33.3%		
• Throwing into bush	18 – 90%			18 – 90%			5 – 16.7%		
• Throwing into river/ stream	2 – 10%			2 – 10%			10 – 33.3%		
• Government effort	2 – 10%			7 – 35%			25 – 83.3%		
12.) Assessment of toilet facility in the community									
				√			√		

- Good (very clean)
- Fair (just clean)
- Poor (not clean)

√

TABLE 5: Summary of Findings From FGDs contd

	Rural	S/Urban	Urban
13.) Assessment of disposal facilities in the community <ul style="list-style-type: none"> • Good • Fair • Poor 	√	√	√
14.) Assessment of general cleanliness of the community <ul style="list-style-type: none"> • Good (very clean) • Fair (just clean) • Poor (not clean) 	√	√	√
15.) Discouraged girl from going to school as a result of state of sanitation and hygiene <ul style="list-style-type: none"> • Often • Sometimes • Never 	2 – 10% 4 – 20% 14 – 70%	3 – 15% 5 – 25% 12 – 60%	3 – 10% 7 – 23.3% 20 – 66.6%
16.) Withdrawn girl child from school as a result of state of sanitation and hygiene <ul style="list-style-type: none"> • Yes • No 	1 – 5% 19 – 95%	1 – 5% 19 – 95%	4 – 13.3% 26 – 86.7%

6.0 CONCLUSIONS

The availability of potable water in schools and in many households is acute. There is an urgent need to improve upon this in the State. The situation where schools do not have water supply during the school hours, and households are unnecessarily frugal in their use of water due to financial involvement, leaves much to be desired.

Toilet facilities in urban households need be improved upon, through provision of water to cope with the flushing required by the water closet type that is available in most urban households.


People should be sensitized to the health hazards of refuse burning, and government should promptly and regularly clear refuse heaps in the urban centre to make for good environmental sanitation and hygiene.

Girls need be helped to reduce the drudgery of household chores, so as to reduce their lateness to school, and their occasional absence from school, so as to thereby improve on their educational attainment.

PHOTOGRAPHS

7.2 Photographs

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HOUSE-HOLD MOTHER IN THE VILLAGE
IN ORSU LGA  IMO STATE

7.0

APPENDICES

7.1 Map of Imo State Showing the Local Government Areas.

' IN-SCHOOL GIRLS [CROSS-SECTION] AT CENTRAL PRIMARY
SCHOOL AMOKWE, ORSU LGA. IMO STATE.

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7.2 Photographs

ENVIRONMENTAL SANITATION WITHIN THE MARKET
IN ORSU LGA. IMOSATE

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PHOTOGRAPHS

1.0 EXECUTIVE SUMMARY

The study is essentially an assessment of the effect of water, environmental sanitation and hygiene on the education of girls in Imo Stat, as the pilot State for the South East Geopolitical Zone.

Using the Survey Method, three Local Government Areas, representing urban, semi-urban and rural settings with each drawn from different Senatorial Districts were purposefully selected. Five research instruments were administered on mothers, in-school girls, out-of-school girls, Focus Group Discussion participants and Key Informatants. Observations of the situation of water, environmental sanitation (WES) and hygiene in each research community was also made. Preliminary findings indicate that:

- Girls are going to school in Imo State, and there are more girls in school than boys.
- Water is not available in over 90% of the schools for the use of the students during the school hours.
- The water availability situation is better off in the rural and semi-urban communities than in the urban centre. Majority of households depend on well water. Many are unduly frugal with water usage in the urban centre

A TYPICAL DILAPIDATED PART OF THE COMMUNITY DISPENSARY ALREADY OVERTGROWN WITH WEEDS. ✓

A COMMUNITY SCHOOL IN IKEDURU LGA, WITH WALL CAVED IN AND ROOF WEDGED WITH POLES. A MUD BUILDING OF THE MID 50'S.



7.0

APPENDICES

7.1 Map of Imo State Showing the Local Government Areas.

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A TYPICAL HOME IN IKEDURU COMMUNITY WITH REFUSE DUMP AND CABBAGE IN THE ENVIRONMENT.

7.2 Photographs

IKEDURU COMMUNITY DISPENSARY LOCATED AT EDIAMA COMMUNITY AT IKEDURU LGA, SERIOUSLY THREATENED BY EROSION.