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GENDER ISSUES IN GHANAIAN HIGHER EDUCATION

Dr. Cyril K. Daddieh

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Further information may be obtained from Publication Officer, Institute of Economic Affairs, P. O. Box 01936, Christiansborg, Accra, Ghana

Tel: 233-21-776641 / 7795 68/9
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PREFACE

The paper argues that Ghana has made significant strides in providing access to quality education at all levels of the education system since independence. However, as the demand for education skyrocketed and the Ghanaian economy went into a tailspin in the late 1970s and 1980s, Ghanaian governments struggled to sustain an adequate level of funding to permit continued access and maintain academic excellence. Thus, access, funding and quality became core issues for the various stakeholders to address. The education reforms of the 1980s attempted to tackle these and other problems plaguing the system. However, the gender dimension to these issues, especially as they relate to the tertiary sector, was not given sufficient attention. The paper highlights the constraints to women's access and achievements or performance in Ghanaian higher education, offers a critique of some of the remedies that have been proposed or tried, and identifies critical areas that deserve focused attention, such as sexual harassment, HIVAIDS on Ghanaian campuses, and gender streaming into disciplines that prepare women for traditional low-paid female professions.

Mrs. Jean Mensa
Administrator
Institute of Economic Affairs

Accra, November 2003

"We cook for them and they bring us the 'apo': Asymmetric Relations and Other Gender Issues in Ghanaian Higher Education."

Cyril K. Daddieh

> Cross-country studies show large social returns to investing in women's education and health. Improved education for women results in reduced fertility and mortality rates. Women who are healthier and more educated will be more productive members of the economy. Furthermore, improving the health and education of women produces long-term benefits by improving the health and productivity of their children.[1]

Introduction

Education has featured rather prominently among the brightest stars in the Ghanaian development firmament. Barely a decade after Independence in 1957, Ghana had already established herself as the bellwether African country, by vastly increasing her existing stock of educational facilities, and expanding access to schooling. Concerted government effort, complemented by private (for profit) and church-based (non-profit) initiatives, resulted in a proliferation of educational institutions, including Primary, Secondary, Commercial, and Technical schools, and Universities, which allowed a growing number of Ghanaian children to be educated. Even more impressively, the education that those institutions provided was of uniformly high quality. In particular, Ghanaian higher

[1]See The World Bank Group, "Ghana: Women's role in improved economic performance," *Findings*, No. 145 (October 1999), p. 4. The Bank's findings echo the insight of the late Dr. James Kwegyir Aggrey, eminent Ghanaian educator, who noted early in the 20th century that "If you educate a boy, you simply educate an individual, but if you educate a girl, you educate a family and a nation."

education gained worldwide acclaim for the academic excellence of its graduates, many of whom distinguished themselves in international civil service and professional careers all over the world. Unfortunately, because the educational system was heavily subsidized, and higher education in particular was totally dependent on Government funding, when Ghana was hit by a prolonged economic crisis starting in the mid-1970s, the gains it had made in education began to suffer serious erosion.

University education, particularly, was so severely affected that it was plagued, according to Dr. Mohammed Ibn Chambas, the former Minister of Education, by lack of equipment and essential instructional materials, low morale among staff, and falling academic standards due to inadequate funding.[2] It was, therefore, deemed necessary to undertake comprehensive reforms of the entire educational system, from Basic to Higher Education, during the 1980s. However, even with these reforms, when a critical analytical lens is trained on the issues of gender participation, equity, gender-sensitive classroom environments, gendered performance in higher education, and so on, Ghana's otherwise enviable record of achievement loses some of its luster. This chapter examines Ghana's record of educational achievement, highlights some of the unresolved challenges facing the education sector, including the continuing disparities in gender participation and achievement at the tertiary level, and reviews some of the remedies that have been proposed or tried.

Evidence of Achievement

Compared to most African and other Third World countries, Ghana has indeed made tremendous progress toward

[2] Interview with Dr. Mohammed Ibn Chambas, Minister of Education, in Accra, August 31, 2000.

the provision of quality education to an increasing number of students at all levels of its educational system.[3] According to Government statistics; 11,765 Primary schools, 5,597 Junior Secondary schools, 456 Senior Secondary schools, 22 Technical and 22 Vocational schools, 38 Teacher Training Colleges, 18 Special Education institutions, 7 Diploma and Specialist Training Colleges, 8 Polytechnics, and 5 Universities are currently in existence (see Table 1). Enrolment data indicate that approximately 2,027,000 pupils are attending Primary schools in the country. This figure reflects a relatively broad-based access to Primary education. By contrast, there is a precipitous decline in Junior and Senior Secondary School participation, with JSS taking fewer than 700,000 students, and approximately 190,000 students attending SSS.

Table 1 - Educational Institutions*

Institution	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
Primary Schools	10,623	11,712	12,010	12,320	12,134	11,435	11,765	-
Middle Schools	-	-	-	-	-	-	-	-
Junior Secondary Schools	5,136	5,263	5,252	5,374	5,459	5,394	5,597	-
Senior Secondary Schools	404	453	481	501	503	453	456	-
Technical Schools	20	20	21	22	23	23	21	22
Vocational Schools	-	-	-	-	-	21	22	22
Teacher Training Colleges	38	38	38	38	38	38	38	38
Special Education	17	17	17	17	17	18	18	18
Diploma& Specialist Training Colleges	7	7	7	7	7	-	-	-
Polytechnics	6	6	6	6	6	6	8	8
Universities	3	3	4	5	5	5	5	5

* Data now refer to number of schools.

[3] For some suggestive comparative indicators, see Mehrangiz Najafizadeh and Lewis A. Mennerick, "Professionals and Third World Public Well-Being: Social Change, Education, and Democratization," in Kenneth E. Bauzon (ed.), *Development and Democratization in the Third World: Myths, Hopes and Realities* (Washington: Crane Russack, 1992), pp. 242-48; see also The World Bank, *Education in Sub-Saharan Africa: Policies for Adjustment, Revitalization, and Expansion* (Washington, D.C.: The World Bank, 1988).

In 1993, as part of the ongoing education reforms, the government elevated Polytechnics to tertiary status and doubled their number to 8. Enrolment rose from 1,689 in 1993 to 9,942 in 1997/98, an increase of 489%. Meanwhile, universities, the principal component of tertiary education, were increased to five, with the addition of two relatively new universities – The University College of Education at Winneba (UCEW),[4] and the University of Development Studies (UDS), Tamale. Total enrolment in Universities rose by 125% from 11,857 in 1991/92 to 26,684 students in 1997/98. Even with these increases, "there is still a large pool of deserving students unable to gain admission into tertiary institutions."[5] This growing incongruity between qualification and admission has certainly contributed to the national acceptance of the concept of private universities. To date, some 14 mostly church-based private tertiary institutions at different stages of development have been approved by the government and are licensed to operate. Almost in anticipation of an emerging need, the 1992 Constitution gave the necessary legal cover to government endorsement of private tertiary education. Article 25 (2) of the Constitution insists that "Every person shall have the right, at his own expense, to establish and maintain a private school or schools at all levels and of such categories and in accordance with such conditions as may be provided by law."[6]

[4] The former Diploma Awarding Colleges, namely, the Specialist Training College, the Music Academy, the Advanced Teacher Training College, the Ashanti-Mampong Agricultural Teachers' College, Ajumako School of Ghana Languages, the Kumasi Technical Teachers' College, and the Akwa pim-Mampong School for the Blind have been transformed into a multicampus University College of Education at Winneba (UCEW). For an overview of the development of universities in Ghana, see the review article by the Registrar of the University of Ghana, G. F. Daniel, "The Universities in Ghana," *The Commonwealth Universities Year Book 1997-98*, Vol. 1 (1998), pp. 649-656.

[5] Republic of Ghana, *A Decade of Educational Reforms: Preparation for the Challenges of a New Millennium* (Accra: A Background Paper Prepared for the Ministry of Education by the Forum Technical Committee, November 1999), p. 25.

[6] Republic of Ghana, *Constitution of the Republic of Ghana, 1992* (Accra: Government Printer, Assembly Press, 1992), p. 37.

The Genesis: Popular Demand and National Commitment

Ghana's record of educational achievement and the forward-thinking about education that is reflected in certain provisions of the current Constitution are the result of the interplay of three mutually reinforcing factors: unwavering government commitment; unrelenting popular demand; and ongoing financial exigencies. Government commitment to education began in the waning years of colonialism following the end of the Second World War, and was driven largely by two new political realities – the nationalist challenge to colonial rule, and the need to fend off such a challenge by expanding social investments in the colony.

From the very beginning, Kwame Nkrumah captured the popular imagination and raised popular expectations, which in turn, translated into mass support, by presenting education as one of the anticipated benefits of Independence. Nkrumah and the CPP enjoyed a large following partly because they presented an expansive and attractive social agenda, including the right to education. Indeed, when the colonial government came to the belated realization that nationalist promises were seriously undermining its ability to govern the colony, it initiated its own plan of educational expansion, in a futile last ditch effort to counter the growing nationalist political awakening and Nkrumah's growing popularity. Political calculations aside, nationalist leaders also came under pressure to produce skilled manpower within a relatively short time to run a modern government and economy, to endow the emerging postcolonial state with administrative competence and policy efficacy, as well as to foster national unity.[7] There was further reinforce-

[7] For more on the mobilizational bases of education policy at this time, see Cyril K. Daddieh, "Education Adjustment Under Severe Recessionary Pressures: The Case of Ghana," in Kidane Mengisteab & Ikubolajeh Logan (eds.), *Beyond Economic Liberalism in Africa: Structural Adjustment and the Alternatives* (London: Zed Books Ltd., 1995), pp. 23-55.

ment from the abiding faith, buttressed by modernization theory, in the positive developmental impact of education.[8]

Furthermore, even at this early stage, the Ghanaian public displayed an insatiable appetite for more schooling because of its perceived power to produce desired results: security of employment, affluence, prestige, 'big man' status, and other benefits.[9] In short, over and above the political calculations, the pressure and penchant for increased educational investments by Ghanaian families can be explained by the popular association between schooling and upward social mobility for individuals and their associated hometowns. Not surprisingly, the nationalist government of Kwame Nkrumah made educational expansion a top priority of national development. In addition to extensive educational infrastructure development, the government instituted fee-free, compulsory primary education. It awarded generous scholarships to deserving and well-connected students to study at home and abroad; it pampered this "fortunate few" with book and living allowances, well-stocked school canteens, three sit-down meals per day, 4 o'clock tea and biscuits to boot, as well as room cleaning services.[10]

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[8] For more on the education-development nexus, see Wadi D. Haddad *et. al.* (eds.), *Education and Development: Evidence for New Priorities* (Washington, D.C.: World Bank Discussion Papers, 95, 1990). For insights into Africa's continued "banking on education," see Jennifer Seymour Whitaker, *How Can Africa Survive?* (New York: Council on Foreign Relations Press, 1988), especially chapter 6. For a radical critique, see Joel Samoff, John Metzler and Tahir Salie, "Education and Development: Deconstructing a Myth to Construct Reality," in Ann Seidman and Frederick Anang (eds.), *Twenty-First Century Africa: Towards a New Vision of Self-Sustainable Development* (Trenton, N.J.: Africa World Press, 1992), pp. 101-147.

[9] For more on education and the Ghana's status system, see Robert Price, "Politics and Culture in Contemporary Ghana: The Big Man Small Boy Syndrome," *Journal of Modern African Studies*, Vol. 1, No. 2 (Summer 1974), pp. 173-204; and R. E. McKown and David J. Finlay, "Ghana's Status Systems: Reflections on University and Society," *Journal of Asian and African Studies*, Vol. 11 (July-October 1974), pp. 166-179.

[10] This has been confirmed in interviews with several alumni who enjoyed those privileges and speak nostalgically about those "good old days." One such interview was conducted with Dr. Kofi Blay, a sociologist at Delaware State University, May 1990.

While subsequent post-independence governments have generally maintained a posture of commitment to broadening educational access, they have simply not been able to sustain over the long haul the kind of indulgence seen in the early years of independence. The "good old days" when educational financing was not a major concern, partly because the coffers were far from depleted and even though the pressure for education was increasing the demand was still manageable, appear to have been long gone. Indeed, since the mid-1970s Ghanaian governments have struggled to meet the financial obligations imposed by the very large increases in educational enrolments at all levels. One unfortunate result is that since the early 1980s Ghanaian students have clashed repeatedly with governments over funding, the overall direction of and rationale for education, over whether higher education in particular is "a right" or "a privilege."[11] Confrontations between students and school administrators entrusted with the daunting task of running educational institutions with burgeoning enrolments and vastly diminished financial resources have also multiplied. Such clashes often resulted in the destruction of already inadequate physical assets and material, school closures, and even the cancellation of the academic year altogether. Again, these difficulties have contributed to the erosion of the quantitative and qualitative gains Ghana had made in the first two decades after independence.

Still, it is remarkable that despite persistent and growing financial difficulties, the national commitment to education remains apparently undiminished. Witness how in spite of the

[11] In a recent survey conducted by the author, over 98% of faculty felt that Government has a responsibility to increase funding to higher education and nearly 86% felt that Government has not given tertiary education the high priority in deserves. For an insider's account of state-university relations, see Akilagpa Sawyerr, "Relations Between Government and Universities in Ghana: A Case Study," in Guy Neave and F. A. van Vught (eds.), *Government and Higher Education Relations Across Three Continents: The Winds of* Change (Oxford: Pergamon, 1994), pp. 25-53. For a recent row over tuition and related issues, see Albert K. Salia, "...But SRC rejects any such mover," *Daily Graphic*. See website at http://www.graphic.com.gh/dgraphic/topstories/a23.htlm

unrelenting economic crisis of the Ghanaian state, the framers of the 1992 Constitution enumerated certain educational rights for all citizens and imposed related legal obligations on Ghanaian governments. Article 25 (1) of the Constitution stipulates that *"All persons shall have the right to equal educational opportunities and facilities and with a view to achieving the full realization of that right*—(a) basic education shall be free, compulsory and available to all; (b) secondary education in its different forms, including technical and vocational education, *shall be made generally available and accessible to all by every appropriate means,* and in particular, *by the progressive introduction of free education;* (c) higher education shall be made equally accessible to all, on the basis of capacity, by every appropriate means, and in particular, by progressive introduction of free education; ...(e) *the development of a system of schools with adequate facilities at all levels shall be actively pursued."*[12]

Although Article 25 (1) promises to empower Ghanaian families and students seeking access to education to legally challenge the government to provide just such access, the implementation clauses of the Constitution appear to mitigate the legal obligations of the State. Far from imposing a Constitutional mandate on governments, the Constitution is flexible; it hedges its bet. At the very least, it tends to equivocate and thereby provide plenty of wriggle room for Ghanaian governments to minimize their obligations. This interpretation can be surmised from the provisions of the headliner, "The Directive Principles of State Policy" (Chapter Six, Article 38) which reveal that:

> (1) The State shall provide educational facilities at all levels and in all Regions of Ghana, and shall, *to the greatest extent feasible,* make those facilities available to all citizens. (2) The Government shall ...draw up a programme for implementation within the following ten years, for the provision of free, compulsory and universal basic education. (3) The State shall, *subject*

[12] Republic of Ghana, *Constitution of the Republic of Ghana, 1992,* p. 27. Emphasis added.

> *to the availability of resources,* provide—(a) equal and balanced access to secondary and other appropriate pre-university education, equal access to university or equivalent education, *with emphasis on science and technology.*[13]

Although the Constitution provides Ghanaian governments a measure of flexibility or shields them against potential lawsuits, like their predecessors, governments of the Fourth Republic have reaffirmed the traditional Ghanaian faith in education. Each in its own way has tried to demonstrate that it takes its obligations to the educational system seriously. One illustration of government commitment to education is the *Ghana Vision 2020,* an influential document that articulated the former NDC government's vision and strategic plan to move the country to middle-income status by the year 2020. According to *Vision 2020,* the overarching goal of the government's educational policy was "to ensure that all citizens, regardless of gender or social status, are functionally literate and productive, at the minimum. ... the education system will have primary responsibility for providing the means for the population to acquire the necessary skills to cope successfully in an increasingly competitive global economy."[14]

In furtherance of that goal, a certain number of strategic objectives were to be pursued by the Ministry of Education. At the systemic level, emphasis was placed on several efforts, including the following:

- To decentralize and sustain management of the education sector.
- To improve management efficiency in the education sector.
- To improve access to science and technology education

[13] *Ibid.,* p. 40. Emphasis added.

[14] For more on *Ghana Vision 2020,* see "Education Policies," p. 2. See website at http://www.ghana.edu.gh/present/policies.html

as well as training;

- To improve access, participation and equity in education at all levels.[15]

With regard to higher education, the plan highlighted the two priority areas for the government: responsiveness to the developmental needs of the nation, and sustainable funding sources. According to the document, the government sought:

- To make tertiary education institutions responsive to national development needs;
- To widen sources of funding for tertiary education and to encourage cost-sharing;
- To de-emphasize government financing in non-academic areas, e.g. residential accommodation;
- To make universities more financially independent of government resources;
- To progressively pursue alternate sources of funding.[16]

Similarly, the New Patriotic Party (NPP) Government of President John Agyekum Kufuor was quick to register its commitment to education shortly after coming into office. It was unfurled in the form of a banner headline in the *Daily Graphic*, "C173b Released to 5 State Varsities." According to the newspaper, an additional amount of C6.3 billion had been earmarked for expansion and rehabilitation of Senior Secondary Schools throughout the country. The paper reported that Professor Christopher Ameyaw-Akumfi, the Minister of Education, had indicated at the press conference that the Government placed a high priority on the educational sector, "since it is the

[15] *Ibid.*, p. 3.
[16] *Ibid.*, pp. 5-6.

bedrock of national development", and was determined *"to make education a right, not a privilege."*[17] He reiterated his government's directive to second-cycle and tertiary institutions to hold the line on fees for the 2001/2002 year at the previous year's level. Professor Ameyaw-Akumfi insisted that Government had honoured its obligation by making available to both second-cycle and tertiary institutions in the country a total of 85 billion cedis to meet their needs. He acknowledged the contributions of religious bodies and Parent-Teacher Associations (PTAs) towards raising the standards of education in the country.[18]

The State of Gender Participation

To sum up, the foregoing overviews suggest a broad national commitment to education, and a genuine political will to provide improved access to all Ghanaian citizens. The available data support the view that the country has made reasonable progress in this quest. However, as indicated earlier, the data also reveal significant disparities in educational availability and access (see Table 2). While the base of the

Table 2 - Educational Institutions by Region 1996/97

(Number)

Institutions	Total	Regions									
		Western	Central	Greater Accra	Eastern	Volta	Ashanti	Brong Ahafo	Northern	Upper West	Upper East
Primary Schools	11,765	1,320	1,178	726	1,903	1,444	1,785	1,409	1,203	359	438
Junior Secondary Schools	5,597	640	726	435	908	700	899	638	266	213	172
Senior Secondary Schools	456	42	47	35	73	66	78	51	31	14	19
Technical	21	2	2	4	5	3	1		1	1	2
Vocational	21	-	4	2	1	4	3	2	1	4	-
Teacher Training	38	3	3	2	6	7	7	3	3	2	2
Special Education	18	2	1	3	4	1	2	1	1	2	1
Polytechnics	8	1	1	1	1	1	1	1	1	-	-
Universities	5	-	2	1	-	-	1	-	1	-	-

Source: Ghana Education Service

[17] See Boahene Asamoah, "C173b Released to 5 state varsities," *Daily Graphic*. See website at http://www.graphic.com.gh/dgraphic/news/g26.htlm

[18] *Ibid.*

Ghanaian educational system is sufficiently broad to permit expanded access to significant numbers of school-age children, access is considerably narrowed at higher levels of the educational ladder, with serious implications for female participation in particular. Indeed, the growing gender gap in enrolment and retention remains one of the more vexing issues facing the Ghanaian education system. While the ratio of girls to boys is negligible at the Primary levels, fewer girls remain in school long enough to reach the level of higher education.

As Table 3 reveals, less than half (46%) of girls were enrolled in Primary 1-6 in 1996/97. Female student enrolment remained relatively steady in Junior Secondary School (JSS), with roughly 44% of girls enrolled in JSS 1-3. However, female participation declined significantly to roughly 39% in the Senior Secondary School (SSS) level. In other words, less than four-in-ten females were enrolled in SSS. By far the greatest

Table 3a - Enrollment in Primary Schools

(Number)

CLASS/GRADE	SEX	1992/93	1993/94	1994/95	1995/96	1996/97
Primary 1	M	219,171	227,643	223,025	203,544	220,590
	F	197,013	204,586	201,910	182,648	198,862
	T	416,184	432,229	424,935	386,192	419,452
Primary 2	M	196,536	202,573	202,997	179,477	186,679
	F	174,103	179,974	179,909	159,438	164,846
	T	370,39	382,547	382,906	338,915	351,525
Primary 3	M	189,328	197,061	196,407	178,082	180,914
	F	163,441	172,023	172,317	154,069	157,920
	T	352,769	369,084	368,724	332,151	338,834
Primary 4	M	180,225	187,609	189,163	171,370	175,659
	F	150,149	158,144	162,562	146,819	149,802
	T	330,374	345,753	351,725	318,189	325,461
Primary 5	M	165,847	174,391	175,869	162,038	164,606
	F	134,842	142,939	147,744	135,874	138,666
	T	300,689	317,330	323,613	297,912	303,272
Primary 6	M	155,678	163,423	168,325	156,795	159,147
	F	120,955	128,269	134,416	125,559	129,317
	T	276,633	291,692	302,743	282,354	288,464
Grand Total	M	1,106,785	1,152,700	1,155,786	1,051,306	1,087,595
	%	54.1	53.9	53.6	53.8	53.7
(Primary 1-6)	F	940,503	985,935	998,860	904,407	939,413
	%	45.9	46.1	46.1	46.4	46.3
	T	2,047,288	2,138,635	2,154,646	1,955,713	2,027,008

Source: Ghana Education Service

Table 3b - Enrolment in Junior Secondary Schools

(Number)

Form/Grade	Sex	1993/94	1994/95	1995/96	1996/97
J.S.S.1	M	142,153	144,683	141,587	144,313
	F	109,471	114,028	111,644	115,859
	T	251,624	258,711	253,231	260,172
J.S.S.2	M	130,671	131,643	128,371	131,389
	F	96,250	99,556	97,952	101,898
	T	226,921	231,199	226,323	233,287
J.S.S.3	M	116,900	116,840	114,897	116,061
	F	80,737	83,808	83,190	85,948
	T	197,637	200,648	198,087	202,009
Total	M	389,724	393,166	384,855	391,763
	%	57.6	57	57	56.3
(J.S.S. 1,2 &3)	F	286,458	297,392	292,786	303,705
	%	42.4	43.1	43.2	43.7
	T	676,182	690,558	677,641	695,468

Source: Ghana Education Service

Table 3C - Enrolment in Senior Secondary Schools

(Number)

Form/Grade	Sex	1992/93	1993/94	1994/95	1995/96	1996/97
S.S.S.1	M	40,199	47,325	44,625	39,064	41,784
	F	21,256	27,410	27,051	24,908	27,474
	T	61,455	74,735	71,676	63,972	69,258
S.S.S.2	M	34,888	38,977	43,521	39,574	37,978
	F	17,798	20,311	25,136	23,509	23,964
	T	52,686	59,288	68,657	63,083	61,942
S.S.S.3	M	28,992	32,582	34,358	37,364	36,119
	F	14,057	16,835	18,016	21,060	21,589
	T	43,049	49,417	52,374	58,424	57,708
Total	M	104,079	118,884	122,504	116,002	115,881
	%	66.2	65	63.6	62.5	61.3
(S.S.S. 1,2&3)	F	53,111	64,556	70,203	69,477	73,027
	%	34	35	36.4	37.5	38.7
	T	157,190	183,440	192,707	185,479	188,908

Source: Ghana Education Service

disparities between male and female enrolments occur at the tertiary level, where fewer than three-in-ten (24.5%) students in the public universities are women (see Table 4). Although data for female participation in the fledgling private universities are not available, the picture there is not likely to be much better, especially given the much greater financial costs and logistics involved in getting access.

Table 4 - Enrolment in the Universities

(Number)

University	Sex	1993/94	1994/95	1995/96	1996/97	1997/98
University of Ghana	M	4,123	5,288	5,288	5,853	6,383
	F	1,540	1,668	1,668	2,644	2,223
	T	5,663	6,956	6,956	8,497	8,606
	M	3,389	3,897	3,734	4,791	5,496
University of Science & Tech.	F	811	993	887	1,288	1,380
	T	4,200	4,890	4,621	6,079	6,876
	M	2,383	3,197	3,197	3,904	5,341
University of Cape Coast	F	807	1,076	1,076	1,438	1,923
	T	3,190	4,273	4,273	5,342	7,264
	M	1,368	1,246	1,246	2,223	2,597
University College of Edu.	F	472	501	501	732	957
	T	1,840	1,747	1,747	2,955	3,554
	M	39	124	124	222	332
University of Develop. studies	F	-	10	10	33	52
	T	39	134	134	255	384
	M	11,302	13,752	13,589	16, 993	20,149
	%	75.7	76.4	76.6	73.5	75.5
TOTAL	F	3,630	4,248	4,142	6,135	6,535
	%	24.3	23.6	23.4	26.5	24.5
	T	14,932	18,000	17,731	23,128	26,684

Source: The Universities

Gender Streaming

Once women get access, how do female experiences compare with those of men in terms of choice of course of study, campus and classroom environmental challenges, and

financial burdens? The available data suggest that gender segregation by academic discipline is quite pervasive. For instance, in virtually all areas of study in the Polytechnics, men outnumber women by wide margins. This is illustrated by data in Table 5. In a number of important areas, such as refrigeration and plumbing, women are either nonexistent or had only token representation, as in the cases of automobile, electrical, electronic, agricultural and mechanical engineering; building construction/technology; general/chemical/metallurgy engineering; carpentry and joinery; welding and fabrication; furniture design and wood processing. It is equally revealing that the only areas of study in the Polytechnics in which women outnumber men are the traditional female professions of Fashion & Design & Modeling; Cooking; Secretarial & Management Studies; Hotel, Catering & Institutional Management.

Table 5 - Enrolment in the Polytechnics

(Number)

Department	Sex	1994/95		1995 96		1996/97		1997/98	
		Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Total	M	2,862	2,709	4,419	2,873	9,605	8,035	6,567	3,807
	F	253	223	455	255	1,965	2,217	1,093	500
	T	3,115	2,932	4,874	3,128	11,570	10,252	7,660	4,307
Accountancy	M	766	538	1,309	991	5,869	5,361	1,668	1,427
	F	113	197	283	239	1,553	2,107	387	377
	T	879	735	1,592	1,230	7,422	7,548	2,055	1,804
Marketing	M	275	71	347	-	595	-	1,017	-
	F	73	18	95	-	238	-	290	-
	T	348	89	442	-	833	-	1,307	-
Purchasing & Supply	M	267	-	188	-	474	-	554	-
	F	64	-	45	-	124	-	160	-
	T	331	-	233	-	598	-	714	-
Automobile Engineering	M	174	271	321	94	133	252	269	226
	F	-	1	2	-	-	2	-	6
	T	174	272	232	94	133	254	269	232
Electrical & Electronic Engineering	M	346	711	718	740	690	728	929	683
	F	1	3	19	5	24	19	199	27
	T	347	714	737	745	714	747	1,128	710
Mechanical Engineering	M	337	254	782	544	833	760	792	319
	F	-	-	3	3	7	4	10	5
	T	337	254	785	547	840	764	802	324
Building Construction Tech & Civil	M	405	695	483	343	852	706	1,079	951
	F	2	1	3	3	15	25	30	85
	T	407	696	486	346	867	731	1,109	1,036
Agriculture Engineering	M	17	31	208	10	81	160	128	142
	F	-	-	4	1	1	2	2	6
	T	17	31	212	11	82	162	130	148
Gen Chemical Metalurgy Engineering	M	17	138	63	151	78	28	131	59
	F	-	3	1	4	3	-	15	-
	T	17	141	64	155	81	28	146	59
Total	M	330	607	801	466	427	766	629	972
	F	175	680	356	587	393	704	679	1,063
	T	505	1,287	1,157	1,053	820	1,470	1,308	2,035
Carpentry & Joinery	M	-	248	136	200	-	162	-	275
	F	-	-	1	-	-	5	-	-
	T	-	248	137	200	-	200	-	275
Fashion & Design & Modelling	M	-	-	-	-	-	-	146	17
	F	-	-	-	-	-	-	234	307
	T	-	-	-	-	-	-	-	-
Painting & Decorating	M	-	116	112	68	-	135	-	110
	F	-	8	21	18	-	49	-	18
	T	-	124	133	86	-	184	-	128
Welding & Fabrication	M	-	115	126	67	-	142	-	82
	F	-	-	5	2	-	3	-	-
	T	-	115	131	69	-	145	-	62
Plumbing	M	-	59	-	40	-	-	-	25
	F	-	-	1	-	-	-	-	-
	T	-	59	-	41	-	-	-	25
Dispensing Technician	M	183	-	244	-	125	182	129	184
	F	38	-	88	-	47	42	52	47
	T	221	-	332	-	172	224	181	231
Cookry	M	-	26	-	-	-	-	-	-
	F	-	195	-	-	-	-	-	-
	T	-	221	-	-	-	-	-	-
Refrigeration	M	36	-	-	-	-	-	-	49
	F	-	-	-	-	-	-	-	-
	T	36	-	-	-	-	-	-	49
Secretaryship & Management Studies	M	111	43	183	71	302	145	354	250
	F	137	477	241	566	346	605	393	691
	T	248	520	424	637	648	750	747	941
Total	M	89	726	213	286	125	373	715	502
	F	94	395	366	364	257	666	343	853
	T	183	1,121	579	650	382	1,039	1,028	1,355
Motor Vehicle	M	-	116	112	68	-	-	-	150
	F	-	8	21	18	-	-	-	1
	T	-	124	133	86	-	-	-	151
Ordinary Technician Diploma	M	45	-	-	-	-	-	-	-
	F	-	-	-	-	-	-	-	-
	T	45	-	-	-	-	-	-	-
Hotel, Catering & Institutional Management	M	11	11	24	17	41	76	35	36
	F	94	211	342	297	257	603	281	663
	T	105	222	366	314	298	679	316	699
Statistics, Maths & Computer Science	M	-	-	-	-	-	-	450	-
	F	-	-	-	-	-	-	32	-

Source: The Polytechnics

The university data reveal similar patterns of disciplinary segregation or implicit "gender streaming." Overall, there is a heavy concentration of both male and female students in the Arts, Humanities, and Social Sciences in all the universities. For instance, more than six-in-ten (5,205 out of a total of 8,606) students enrolled at the University of Ghana-Legon in 1997/98 were in the faculties of Arts/Social Studies/Law. Less than two-in-ten (14%) were enrolled in the Natural Sciences. Less than 19% (225 out of 1,205) of students in the Natural Sciences were women. By contrast, nearly eight-in-ten (80% or 82 of the 103) students enrolled in Home Science were women, as indicated in Table 6. Similarly, for the same year, the data from the Kwame Nkrumah University of Science and Technology (KNUST) show that only 8% (92 out of 1,144) of the Engineering students were women. While female participation remained unchanged from the preceding year, male enrollment actually went up by slightly more than 15% (140 students). Similarly, in the Sciences, females accounted for roughly 15% (218) of the 1,414 students.

Table 6 - Enrolment at University of Ghana by Faculty, Sex and Level of Study

		1992/93					1993/94					1994/95			
Faculty	Sex	Total	Certificate	Diploma	Undergraduate	Post-graduate	Total	Certificate	Diploma	Undergraduate	Post-graduate	Total	Certificate	Diploma	Undergraduate
All Faculties	M	4,047	-	504	3,221	322	4,124	323	219	3,314	267	5,288	-	565	4,291
	F	1,316	-	190	1,027	99	1,540	110	95	1,246	89	1,668	-	214	1,308
	T	5,363	-	694	4,248	421	5,664	433	314	4,560	356	6,956	-	779	5,599
Administration	M	421	-	91	278	52	541	58	45	390	48	560	-	132	316
	F	100	-	25	55	20	157	12	9	113	23	145	-	32	76
	T	521	-	116	333	72	698	70	54	503	71	705	-	164	394
Agriculture/ Home Science	M	318	-	78	193	47	232	46	40	144	2	297	-	100	142
	F	86	-	25	52	9	87	14	14	58	1	119	-	35	77
	T	404	-	103	245	56	319	60	54	202	3	416	-	135	219
Arts/Social Studies/ Law	M	2,428	-	316	1,942	170	2,645	208	121	2,167	149	3,027	-	311	2,556
	F	866	-	137	669	60	1,016	54	70	814	48	1,067	-	145	874
	T	3,294	-	453	2,611	230	3,661	262	191	2,981	197	4,094	-	456	3,430
Medical Sciences	M	321	-	19	302	-	327	11	13	302	-	338	-	22	305
	F	107	-	3	104	-	116	-	2	114	-	111	-	2	108
	T	428	-	22	406	-	443	11	15	416	-	449	-	24	413
Natural Sciences	M	476	-	-	423	53	361	-	-	293	68	980	-	-	884
	F	94	-	-	84	10	118	-	-	101	17	192	-	-	173
	T	570	-	-	507	63	479	-	-	394	85	1,172	-	-	1,057
Other*	M	83	-	-	83	-	18	-	-	18	-	88	-	-	88
	F	63	-	-	63	-	46	-	-	46	-	34	-	-	34
	T	146	-	-	146	-	64	-	-	64	-	120	-	-	120

Source: University of Ghana

+ Differences in the total of all Faculties and the sum of the Breakdowns Due to Enrolment of Occational Students, Special Admissions and Students from University of California

* Others include special admission students

Table 6 (Contd.) - Enrolment at University of Ghana by Faculty, Sex and Level of Study

Faculty	Sex	1995/96					1996/97					1997/98			
		Total	Certificate	Diploma	Undergraduate	Post-graduate	Total	Certificate	Diploma	Undergraduate	Post-graduate	Total	Certificate	Diploma	Undergraduate
All Faculties	M	5,288	-	565	4,291	432	5,288	-	551	4,864	438	6,383	72	701	4,824
	F	1,668	-	214	1,342	12	1,668	-	239	1,342	137	2,223	19	297	1,709
	T	6,956	-	779	5,633	544	6,956	-	790	6,206	575	8,606	91	998	6,533
Administration	M	560	-	132	318	110	560	-	96	436	161	924	-	173	516
	F	145	-	32	76	37	145	-	19	204	75	284	-	59	129
	T	705	-	164	394	147	705	-	115	640	236	1,208	-	232	645
Agriculture/ Home Science	M	297	-	100	142	55	297	-	69	179	49	392	-	102	207
	F	119	-	35	77	7	119	-	42	76	8	53	-	3	39
	T	416	-	135	219	62	416	-	111	255	48	445	-	105	246
Arts/Social Studies/ Law	M	3,027	-	311	2,556	160	3,027	-	359	2,629	164	3,745	72	393	2,910
	F	1,067	-	145	874	48	1,067	-	176	1,642	36	1,460	19	187	1,177
	T	4,094	-	456	3,430	208	4,094	-	535	4,271	200	5,205	91	580	4,087
Medical Sciences	M	338	-	22	305	11	338	-	27	271	15	321	-	24	283
	F	111	-	2	108	1	111	-	2	106	5	119	-	4	105
	T	449	-	24	413	12	449	-	29	377	20	440	-	28	388
Natural Sciences	M	960	-	-	864	96	960	-	-	1,345	58	960	-	-	896
	F	192	-	-	173	19	192	-	-	240	13	225	-	-	221
	T	1,172	-	-	1,057	115	1,172	-	-	1,585	71	1,205	-	-	1,117
Home Science	M	-	-	-	-	-	-	-	-	-	-	21	-	9	12
	F	-	-	-	-	-	-	-	-	-	-	82	-	44	38
	T	-	-	-	-	-	-	-	-	-	-	103	-	53	50
Other	M	86	-	-	86	-	86	-	-	-	-	-	-	-	-
	F	34	-	-	34	-	64	-	-	-	-	-	-	-	-
	T	120	-	-	120	-	120	-	-	-	-	-	-	-	-

University of Ghana

+ Differences in the total of all Faculties and the sum of the Breakdowns Due to Enrolment of Occational Students, Special Admissions and Students from University of California

* Others include special admission students

While this represented a modest increase of about 12%, male student enrolment increase was twice as high. Surprisingly, male students were also over-represented in Agriculture, Environmental & Developmental Studies, and Renewable Natural Resources. These are areas where one would have expected females to make a much stronger showing because of the traditional image of women as custodians of land and forests (see Table 7).[19] Similar patterns of uneven gender participation in the disciplines are revealed by the data from University of Cape Coast, where for the academic year 1997/98 roughly 16% of the students enrolled in the Natural Sciences were women (138 of the 876 students). Women accounted for roughly 16% of stu-

[19] See Ali A. Mazrui, "The Economic Woman in Africa," *Finance & Development*, Vol. 29, No. 2 (June 1992).

Table 7 - Enrolment at University of Science and Technology by Faculty, Sex and Level of Study

		1992/93				1993/94				1994/95			
Faculty	sex	Total	Diploma	Under-graduate	Post-graduate	Total	Diploma	Under-graduate	Post-graduate	Total	Diploma	Under-graduate	Post-graduate
All Faculties	M	3,390	314	2,790	286	3,389	219	2,890	280	3,897	324	3,110	463
	F	764	81	655	31	811	47	718	46	993	83	833	77
	T	4,157	395	3,445	317	4,200	266	3,608	326	4,890	407	3,943	540
Agriculture	M	278	63	194	21	268	56	190	22	317	77	206	34
	F	38	5	29	4	38	4	31	3	36	2	30	4
	T	316	68	223	25	306	60	221	25	353	79	236	38
College of Art	M	289	22	233	34	286	11	228	47	352	20	255	77
	F	138	8	122	8	128	10	108	10	182	19	140	23
	T	427	30	355	42	414	21	336	57	534	39	395	100
Social Sciences	M	524	55	440	29	479	28	429	22	556	35	471	50
	F	210	34	175	1	215	12	197	6	283	27	245	11
	T	734	89	615	30	694	40	626	28	839	62	716	61
Environmental & Dev. Studies	M	324	-	264	60	325	-	272	53	371	-	294	77
	F	66	-	61	5	69	-	61	8	67	-	52	15
	T	390	-	325	65	394	-	333	61	438	-	346	92
Renewable Natural Resources	M	152	29	92	31	175	25	111	39	205	38	115	52
	F	16	1	15	-	22	2	17	3	31	4	24	3
	T	168	30	107	31	197	27	128	42	236	42	139	55
Engineering	M	711	70	625	16	757	77	664	16	817	97	689	31
	F	42	-	42	-	60	-	59	1	76	-	74	2
	T	753	70	667	16	817	77	723	17	893	97	763	33
Medical Sciences	M	189	-	176	13	185	-	177	8	214	-	199	15
	F	56	-	52	4	59	-	58	1	72	-	71	1
	T	245	-	228	17	244	-	235	9	286	-	270	16
Sciences	M	619	75	489	55	605	22	527	56	714	57	560	97
	F	120	33	80	7	133	19	101	13	152	31	105	16
	T	739	108	569	62	738	41	628	69	866	88	665	113
Pharmacy	M	193	-	178	15	191	-	180	11	209	-	190	19
	F	78	-	76	2	78	-	77	1	83	-	81	2
	T	217	-	254	17	269	-	257	12	292	-	271	21
IMME*	M	111	-	99	12	118	-	112	6	142	-	131	11
	F	3	-	3	-	9	-	9	-	11	-	11	-
	T	114	-	102	12	127	-	121	6	153	-	142	11

*The IMME is now seperated from the Engineering

Source: University of Science and Technology

Table 7 (Contd.) Enrolment at University of Science and Technology by Faculty, Sex and Level of Study

Faculty	Sex	1995/96				1996/97				1997/98				
		Total	Diploma	Under-graduate	Post-graduate	Total	Diploma	Under-graduate	Post-graduate	Total	Cert	Diploma	Under-graduate	Post-graduate
All Faculties	M	3,734	342	2,982	410	4,788	423	3,881	484	5,465	32	203	4,817	445
	F	887	86	738	63	1,283	141	1,029	113	1,358	21	66	1,223	69
	T	4,621	428	3,720	473	6,071	564	4,910	597	6,823	53	269	6,040	514
Agriculture	M	313	78	203	32	415	114	259	42	505	-	60	405	40
	F	42	2	36	4	56	5	47	4	85	-	2	79	4
	T	355	80	239	36	471	119	306	46	590	-	62	484	44
College of Art	M	358	21	265	72	397	28	297	72	477	-	15	416	46
	F	171	20	132	19	217	37	154	26	255	-	13	229	13
	T	529	41	397	91	614	65	451	98	732	-	28	645	59
Social Sciences	M	539	36	464	39	730	41	664	25	642	-	25	587	30
	F	261	26	227	8	377	39	321	17	280	-	21	252	7
	T	800	62	691	47	1,107	80	985	42	922	-	46	839	37
Environmental & Dev. Studies	M	368	-	294	74	466	-	347	119	518	-	-	432	86
	F	65	-	53	12	106	-	70	36	120	-	-	97	23
	T	433	-	347	86	572	-	417	155	638	-	-	529	109
Renewable Natural Resources	M	193	41	103	49	258	41	171	46	251	-	22	191	38
	F	31	4	24	3	44	8	26	10	62	-	3	51	8
	T	224	45	127	52	302	49	197	56	313	-	25	242	46
Engineering	M	863	108	731	24	912	99	778	35	1,052	-	36	978	38
	F	75		73	2	92	5	81	6	92	-	1	89	2
	T	938	108	804	26	1,004	104	859	41	1,144	-	37	1,067	40
Medical Sciences	M	213	-	197	16	240	-	230	10	346	32	-	297	17
	F	72	-	71	1	82	-	81	1	134	21	-	111	2
	T	285	-	268	17	322	-	311	11	480	53	-	408	19
Sciences	M	738	58	593	87	964	100	758	106	1,196	-	45	1,037	117
	F	157	34	111	12	193	52	132	9	218	-	27	184	7
	T	895	92	704	99	1,157	152	890	115	1,414	-	72	1,221	121
Pharmacy	M	149	-	132	17	226	-	211	15	255	-	-	244	11
	F	13	-	11	2	101	-	98	3	110	-	-	108	2
	T	162	-	143	19	327	-	309	18	365	-	-	352	13
IMME	M	-	-	-	-	180	-	166	14	255	-	-	230	25
	F	-	-	-	-	20	-	19	1	24	-	-	23	1
	T	-	-	-	-	200	-	185	15	279	-	-	253	26

*The IMME is now seperated from the Engineering

Source: University of Science and Technology

dents pursuing Agriculture (66 of the 511) but represented nearly 44% (898 out of 2,041) of students pursuing degrees in Education (see Table 8).

Table 8 - Enrolment at University of Cape Coast by faculty, Sex and Level of Study

(Number)

Faculty	Sex	1992/93				1993/94				1994/95			
		Total	Certificate	Diploma	Under-graduate	Post-graduate	Total	Certificate	Diploma	Under-graduate	Post-graduate	Total	Certificate	Diploma	Under-graduate	Post-graduate
All Faculties	M	2004	-	83	1621	300	2,383	-	95	1,926	362	3,234	-	165	2,674	395
	F	648	-	48	517	83	807	-	55	658	94	1,076	-	62	933	81
	T	2652	-	131	2138	383	3,190	-	150	2,584	456	4,310	-	227	3,607	476
Arts	M	240	-	14	163	63	285	-	16	194	75	382	-	16	343	23
	F	119	-	9	89	21	148	-	12	110	26	198	-	12	184	2
	T	359	-	23	252	84	433	-	28	304	101	580	-	28	527	25
Education	M	684	-	25	475	184	813	-	26	563	224	1,032	-	62	742	288
	F	250	-	20	186	44	311	-	25	232	54	414	-	33	309	72
	T	934	-	45	661	228	1,124	-	51	795	278	1,506	-	95	1,051	360
Natural Science	M	409	-	17	372	20	487	-	20	443	24	663	-	79	548	26
	F	70	-	6	60	4	88	-	5	77	6	117	-	13	101	-
	T	479	-	23	432	24	575	-	25	520	30	770	-	92	651	27
Social Sciences	M	535	-	22	487	26	636	-	26	579	31	887	-	-	844	43
	F	178	-	10	156	12	221	-	7	210	4	295	-	-	232	3
	T	713	-	32	643	38	857	-	33	789	35	1,182	-	-	1,136	46
Agriculture	M	136	-	5	124	7	162	-	7	147	8	220	-	8	197	15
	F	31	-	3	26	2	39	-	6	29	4	52	-	4	45	3
	T	167	-	8	150	9	201	-	13	176	12	272	-	12	242	18

Source: University of Cape Coast

Table 8 (Contd.) - Enrolment at University of Cape Coast by Faculty, Sex and Level of Study

(Number)

Faculty	Sex	1995/96					1996/97					1997/98				
		Total	Certificate	Diploma	Under-graduate	Post-graduate	Total	Certificate	Diploma	Under-graduate	Post-graduate	Total	Certificate	Diploma	Under-graduate	Post-graduate
All Faculties	M	3,234	-	165	2,674	395	3,234	-	98	3,299	269	5,341	-	96	4,644	601
	F	1,076	-	62	933	81	1,076	-	13	1,332	50	1,923	-	24	1,796	103
	T	4,310	-	227	3,607	476	4,310	-	111	4,631	319	7,264	-	120	6,440	704
Arts	M	382	-	16	343	23	382	-	-	335	38	439	-	-	375	64
	F	198	-	12	184	2	198	-	-	208	7	300	-	-	292	8
	T	580	-	28	527	25	580	-	-	543	45	739	-	-	667	72
Education	M	1,092	-	62	742	288	1,092	-	30	1,057	82	2,041	-	30	1,682	329
	F	414	-	33	309	72	414	-	3	613	28	898	-	12	819	67
	T	1,506	-	95	1,051	360	1,506	-	33	1,670	110	2,939	-	42	2,501	396
Natural Sciences	M	653	-	79	548	26	653	-	68	552	41	738	-	66	609	63
	F	117	-	13	103	1	117	-	10	101	1	138	-	12	123	3
	T	770	-	92	651	27	770	-	78	653	42	876	-	78	732	66
Social Sciences	M	887	-	-	844	43	887	-	-	1,035	65	1,678	-	-	1,596	82
	F	295	-	-	292	3	295	-	-	367	9	521	-	-	506	15
	T	1,182	-	-	1,136	46	1,182	-	-	1,402	74	2,199	-	-	2,102	97
Agriculture	M	220	-	8	197	15	220	-	-	320	43	445	-	-	382	63
	F	52	-	4	45	3	52	-	-	43	5	66	-	-	56	10
	T	272	-	12	242	18	272	-	-	363	48	511	-	-	438	73

Source: University of Cape Coast

The data presented above suggest that female participation in Ghanaian higher education has improved over time. However, female participation rates still lag a considerable distance behind male participation. In addition to the participation gap, there is significant gender segregation by discipline from Senior Secondary Schools and above. Female participation in the Sciences, Mathematics and Technology in both the Polytechnics and the Universities is considerably lower. Roughly five times more men than women are enrolled in undergraduate programmes in Science. The gender gap is even more pronounced at the postgraduate level, where female enrolment is negligible. In contrast to their under-representation or very low participation in Mathematics, Natural Sciences, Technical subjects and Agriculture, Ghanaian female students tend to be over-represented in disciplines such as Home Science, Social Science, and Business Studies, all of which prepare them for traditional female professions such as Catering, Secretarial work, Teaching, and Social Work, with important implications for postgraduate income disparities and social status.[20]

Explaining Differential Rates of Gender Participation

Thus far, we have identified the persistence of gender inequality in participation, an apparent female aversion to scientific and technical subjects or disciplines, and an over-concentration in traditional female subjects and programmes as pressing problems requiring some attention in Ghanaian higher education. To gain an enhanced understanding of the persistence of such disparities, it is necessary, first, to focus on a number of antecedent conditions and practices, and examine

[20] For additional insights related to vocational and technical education, see K. Someah-Addae, "The Educational System in Ghana as a Source of Gender Inequality in Vocational and Technical Education." A Thesis Presented to the Department of Vocational and Technical Education, Faculty of Education, University of Cape Coast. In Partial Fulfillment of the Requirements for the Master of Philosophy Degree (Vocational and Technical Education).

how they have impinged on the realities at the tertiary level. The evidence points to a strong link between pre-tertiary and tertiary gender disparities in both enrolment and subject preference. Second, the vastly different experiences of male and female students in the Ghanaian education system merit greater scrutiny than has been the case thus far. Third, the motivational bases of decision-making at the household level, which ultimately determine who receives sustained financial sponsorship to attend school and who is left behind, must be taken into account. Finally, we look into developments at the tertiary level itself. In short, the paper points to a mixture of attitudinal, socio-cultural, economic, and logistical factors as key contributors to this differential outcome. We take each of these in turn.

Societal/Parental Attitudes and Cultural Forces

Female participation in education across the board faces a host of entrenched cultural practices and attitudes. These include stereotypic notions about the proper role and place of women in society, the perceived threat posed by education to such a role - or the perceived corrupting influences of education on proper gender relations - as well as the prevalence of the 'male-as-breadwinner' ideology. Particularly in rural as well as in low-income urban communities, negative parental attitudes and cultural practices have tended to devalue female educational achievements, and thereby undermined their educational participation. Such communities generally place a much higher premium on the reproductive and traditional roles of women, and pay less attention to nurturing their educational and career aspirations. Female education is considered a waste of money, a commodity already in very short supply, especially in many rural communities.

These cultural forces, attitudes and orientations have had profoundly negative impacts on female enrolment and retention. A useful synthesis of available evidence from focus group discussions organized by the Federation of African Women Educationalists (FAWE) in seven districts in northern Ghana, the region with the lowest enrolment and retention rates

for girls, has been compiled by Ekua Tekyiwa Amua-Sekyi.[21] One pervasive set of attitudinal orientations identified by Amua-Sekyi is that:

> The woman is expected to be provided for by her husband. Since education is a gateway to highly paid jobs in the formal sector, it is more important for boys to have formal education. If a woman has a career, it is only to support her husband and her family. *A woman must be submissive to her husband.... the more educated the woman is, the less submissive, arrogant, sophisticated and discontented she will be with her lot in life. A woman with high educational and career aspirations who actively pursues it, is considered aggressive and unlikely to find a husband.*[22]

Ironically, both fathers and mothers sometimes share stereotypic ideas about gender roles and the unimportance of education for women. A father is convinced that "The boy is the bread winner, therefore he must be given the best opportunities right from the beginning, including the best education. This will enable him to perform his manly duties properly in future."[23] A mother echoes his sentiments when she insists that it is futile to educate a girl because "No matter how much education you give a girl, she will one day end up in someone's kitchen and all her needs will be catered for."[24] As Amua-Sekyi has argued:

> These attitudes negatively affect aspirations of both parents and girls. Parents tend to have low aspirations for their daughters. Female students tend to

[21] The analysis in this section relies heavily on evidence compiled by Ekua Tekyiwa Amua-Sekyi, "Ghana: Education for Girls." Paper presented at the Women's Center at Eastern Washington University, May 1998, pp. 1-9.
[22] *Ibid.*, p. 3. Emphasis added.
[23] G. Quaisie, *Female Education in Maths and Science in Africa.* Ghana Country Report. Executive Summary. Unpublished. Cited in Amua-Sekyi, "Ghana: Education for Girls," p. 3.
[24] G. Quaisie, *Female Education in Maths and Science in Africa.* Cited in Amua-Sekyi, "Ghana: Education for Girls," p. 3. Since studies show that educated mothers will usually opt for education for their daughters, we have to presume that the view that the woman's place is in the kitchen is held by a woman who was herself deprived of education.

> incline towards traditionally female dominated areas of specialization, for example nursing, catering, home economics, hairdressing, teaching, etc. In conformity with societal expectations, and probably as a survival strategy, some women appear happy at the bottom of the ladder and appear to be happy to serve.[25]

In certain traditional homes, formal education is considered bad for girls because it is presumed to have corrosive effects on traditional values. In some Muslim communities education is considered satanic, presumably because it teaches western culture which is perceived to turn children or young people on to drug abuse, illicit sexual practices, and encourage teenage pregnancy.[26] As Amua-Sekyi contends, "A parent who believes that secular education teaches vices, is not likely to send his/her daughter to school where the teachers are predominantly male."[27] Ironically, these same attitudes may be shared by local teachers, thus ensuring that they would devote much less attention, or give less encouragement, to girls in their classrooms.

Factors Affecting Household Decision Making

Although governments can improve female participation by increasing the number of available educational facilities in the country, or by providing increased funding to education as well as by establishing merit-based scholarships and loans for the indigent students, especially during periods of relative economic prosperity, decisions regarding which members can benefit from existing educational opportunities generally occur at the extended household level. In the Ghanaian

[25] Amua-Sekyi, "Ghana: Education for Girls," p. 3.
[26] S. K. Atakpa, *Factors Affecting Female Participation in Education in Relation to the Northern Scholarship Scheme* (Accra: Ministry of Education, 1996). Cited in Amua-Sekyi, "Ghana: Education for Girls," p. 3.
[27] Amua-Sekyi, "Ghana: Education for Girls," p. 3.

context, such decisions often hinge on sources and levels of household income or level of poverty, household expenditures, the gender sensitivity of the decision maker, and the perceived opportunity-costs associated with schooling.

High Cost of Female Education

The costs associated with education often exceed the financial capacity of most poor households. Even where education is relatively free, as in Ghana, parents are charged a variety of fees: registration, school uniforms, sports apparel, textbooks, school supplies, and transportation. Here, the gender dimension of educational costs becomes an important consideration. The cost associated with schooling is generally higher for girls than for boys. For example, uniforms for girls cost more, and girls are less likely to go to school in torn uniform. Also, most rural families face greater transportation costs for girls, apparently for safety reasons. The high cost of female education means that girls are often the first to be sacrificed when households face financial difficulties. This means that in rural communities many more girls than boys drop out of school. Moreover, the poverty of households often makes girls vulnerable to the advances of so-called "sugar daddies" and even male teachers. The resultant pregnancies exacerbate the rate of female dropouts, because girls are almost invariably expelled from school, but not the real culprits — the boys who got them pregnant in the first place.[28] For households already struggling to make ends meet, pregnancies not only impose

[28] Even when older men or "sugar daddies," including teachers, are responsible for the pregnancy, they invariably go unpunished. A recent case in Mozambique where six girls, aged 14-17 years, were expelled from school for having babies caused such an outrage that the country's Prime Minister was compelled to intervene. School administrators said they had expelled them "to set an example to other girls and avoid more teenage pregnancies." The expulsion order was rescinded and the girls went back to school. One girl asked pointedly, "why schoolboys who become fathers are never punished." See Jose Tembe, "Mozambique's mothers back in school," *BBC News*, Tuesday 19 March 2002.

additional burdens, but are also a visible manifestation of wasted investments. Thus, pregnancies provide the perfect pretext for some households to prefer sending boys rather than girls to school.

School versus Farm and Market Conundrum

In addition, for most rural households, the opportunity cost of school attendance is the labour service that is foregone in the form of field work, household chores, marketplace activities, and so on. For families living on the margins, control of or access to child labour is often a critical component of their survival or suffer-manage strategies.[29] Such households, especially female-headed ones, require greater inducements to send their girl-child in particular to school. But even where the girl-child is fortunate enough to be enrolled in school, fairly constant withdrawal from class to perform some household task, or long absences from class for one household reason or another may be enough to discourage completion of studies or passing competitive national examinations. The crux of the matter is that:

> Child labor at home is indispensable to the survival of some households. Though boys perform a larger share of family labor, for example herding cattle and plowing fields, girls do more home and market place work than boys. Girls cook, clean, and may stay out of school to look after siblings. After a series of such absences from school, the girl has difficulty catching up with the rest of the class and in due course, gives up school completely.[30]

[29] For an overview of such strategies at the height of Ghana's economic crisis, see Naomi Chazan, *An Anatomy of Ghanaian Politics: Managing Political Recession, 1969-1982* (Boulder, CO: Westview Press, 1983) and Deborah Pellow and Naomi Chazan, *Ghana: Coping with Uncertainty* (Boulder, CO: Westview Press, 1986).

[30] Amua-Sekyi, "Ghana: Education for Girls," p. 3. For the experience of Tanzanian girls, see Lucas Liganga, "Equal enrolment is just a start," *Africa Recovery*, Reprint Edition (May 2002), p. 27. Liganga reports that "Girls attend school on a less regular basis than boys due to heavy household workloads, traditional practices biased against girls' education, and environments in schools that are unfriendly to girls' participation ..."

Girls whose mothers or guardians may be engaged in petty commodity trading may fare no better than girls from farming or rural households. A mother who feels she is succeeding at commerce is less likely to encourage her girl-child to continue to pursue formal education. She would want to get her girl-child started in business earlier rather than later, because she could earn a better living than the income that education could provide. Again, as Amua-Sekyi contends:

> A parent who cannot afford school uniforms, who feels she needs her daughter to take care of younger siblings or who feels the child will learn how to make more money than she would probably make after years of formal education, would withdraw her at the earliest opportunity. To those parents, sending a girl to school represents an opportunity cost. It is quite clear that parents' negative perception of the value of education is a strong reason for the low enrolment and retention of girls in schools in the rural areas.[31]

To summarize, in poor households, the opportunity costs of attending school are higher for girls than for boys because girls perform more household chores than boys and also engage in farming, food vending, and marketing. The apparent lack of legislation and effective enforcement mechanisms for ensuring compulsory education mean parents can keep their children out of school whenever they want to. And more often than not, it is the girl-child who is kept at home. Moreover, limited availability of facilities to support those who might want to pursue their studies on a part-time basis, and the overall inflexibility of the educational system make it virtually impossible for those who drop out to re-enter the system. As The World Bank Group study has also concluded, "Girls' access to education is hindered by the high overall costs of education and parents' common perception that education for girls is not as important as education for boys. Other obstacles are girls' outside time constraints, which are difficult to overcome because of rigid school schedules and schools that are far away."[32]

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[31] *Ibid.*, p. 4.

[32] The World Bank Group, "Ghana: Women's role in improved economic performance," p. 4.

Educational Delivery and Infrastructure

In addition to the aforementioned factors, both the delivery system and the school environment act as powerful barriers to admission and retention of Ghanaian school children in general and girls' in particular. The experiences of two schools in Accra New Town, a densely populated, low-income suburb of Accra, are symptomatic of broader patterns. Experimental School was set up as a public Primary School in 1952 with 113 pupils. It now operates a shift system for 2,400 students, and suffers from overcrowding, shortage of textbooks and other instructional materials. Its resources are so stretched that only the theoretical aspects are taught for courses designed to provide practical training such as "cookery." The school has neither the time nor the resources to enable the students to engage in practical or experiential learning. A new classroom block has been under construction for ten years. Understandably, Mrs. Nyarko, the headmistress, is not too sanguine about the prospects of its completion any time soon, let alone the attachment to it of a Science and perhaps even a Computer lab.

> In the meantime the classrooms bulge with pupils. The government recommends no more than 30 pupils per teacher. But at Experimental most classes have between 48 and 55 pupils. ... Many here cannot afford to send their children to private schools, meaning there are often more pupils than Experimental can take. The final limit comes when the last line of the register has been filled – each register can carry a maximum of 58 names.[33]

By contrast, Forster International, a nearby private school, faces a different order of problems. Class sizes are within government guidelines, so there has been no need to institute a shift-system. The combined Primary and JSS population of the school is just over 500, a more manageable situa-

[33] Sarah Simpson, "Schools struggle on," *West Africa* 3rd-9th March 2003, p. 18.

tion than at Experimental. The major problem at Forster is that, as a private institution, it is not entitled to government-supplied textbooks. Parents must be willing to buy them, and have not been too keen to add that burden to their already mounting education costs. Most of parents of the children who attend Forster are traders with limited disposable income. They pay substantially more to educate their children at Forster compared to Experimental. Forster's fees are anywhere from 130,000 cedis per child per term for nursery school to 230,000 cedis per term for JSS students. Based on three terms a year, they pay 690,000 cedis, or the equivalent of US$80, per annum for a JSS level student.[34] Their inability to invest in textbooks means that many students do not have access to the basic tools of education. This makes both teaching and learning challenging, to say the least. It certainly does not foster excitement for learning. In short, the proliferation of for-profit "international" or "preparatory" school offers no panacea for overcoming many of the difficulties raised above.

In any case, lack of textbooks and other instructional material is not the only thing that undermines the educational process and creates disincentives for all but the most committed parents and children to sustain their drive for education. The unwillingness of trained teachers to take up positions in rural or low-income urban areas and the tendency to abandon their posts even in midstream contributes to the widening gap in participation and performance between rural and urban areas and between poor and affluent neighborhood schools. The dearth of appropriately trained teachers prevents children from mastering basic literacy skills and scientific knowledge. For girls, this problem is exacerbated by general disinterest shown by most of their male teachers in their pursuit of science courses, or the pervasiveness of a culture of lack of nurturing of science aptitude in girls enrolled in co-educational schools.

[34] *Ibid.*, p. 18.

> The manner in which science-based subjects are taught makes them difficult and alienates students from these subjects. There is the preconception that science is for boys and the humanities for girls. Any aptitude shown by girls in the sciences is either not encouraged or is belittled. Science is considered to mean inventing things and the girl's intelligence is seen to be limited in this regard. There is also a lack of strong female role models in science-related professions and activities.[35]

It must be emphasized that Primary and Secondary schools are not the only ones plagued by overcrowding; lack of adequate physical facilities, including classrooms, dormitories or hostels, and laboratories; acute shortage of instructional materials such as textbooks, laboratory equipment and supplies; and shortage of qualified and committed instructors. The Polytechnics and Universities suffer similar deprivations. As Professor Ivan Addae-Mensah, the former Vice Chancellor of the University of Ghana, confessed at his inauguration in 1996, the physical infrastructure of the University of Ghana, Legon, which was built 30 to 50 years ago, had become overwhelmed and woefully inadequate to meet the demands of the rapidly growing number of school leavers who qualify each year to enter the University. The existing five Halls of Residence and their corresponding annexes were cannot accommodate all qualified students. Classroom and laboratory space is similarly limited. In most departments many students are forced to stand during lectures because there is not enough room for them all to sit. [36]

Both the deterioration in the existing stock of buildings and the lack of new infrastructural development or capital investment reflect the serious erosion in the level of government funding of tertiary institutions as a result of the

[35] Amua-Sekyi, "Ghana: Education for Girls," p. 6.

[36] Professor Ivan Addae-Mensah, "Vice-Chancellor's Address at his Induction," University of Ghana-Legon, 9th October, 1996, p. 2. See website at http://www.ug.edu.gh/vcspeech.htm

ongoing economic crisis and in the face of increased demand for higher education. At the institutional level, the strategy adopted to cope with the infrastructural challenges was to continue to raise entrance requirements every year, and thereby keep out about 40 percent of students otherwise qualified to receive University education. As Professor Addae-Mensah lamented, "A situation where applicants for the Humanities can only be sure of gaining admission if they have aggregate 7 or better, or aggregate 10 or better for Science, should be considered by all stakeholders as a serious crisis in our human resource development."[37] He was of the opinion that "parents and potential applicants to the University are under a lot of psychological stress because of the uncertainties about getting admission into Legon in spite of their excellent qualifications."[38]

Competitive National Examinations

Professor Addae-Mensah's candid confessions touch on another major barrier to girls' access to higher education in Ghana. The admission process continues to be based primarily on grades earned in highly competitive national examinations. Under-achievement in such highly competitive national examinations has been a major barrier to adequate female representation at Secondary and post-Secondary levels of education and in the areas of Science, Technology, and Mathematics. In Ghana female students perform far below their male counterparts in national examinations at the JSS and SSS levels. The result is that only a limited number of girls obtain qualifying grades to allow them to pursue higher education. It has been suggested that "as many as 70% to 80% of girls fail to get an aggregate of six at the Basic Education Certificate Examinations (BECE) or a pass mark of E at the Senior Secondary School Certificate Examination (SSSCE) respectively."[39]

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[37] *Ibid.*, p. 2.
[38] *Ibid.*, p. 3.
[39] Amua-Sekyi, "Ghana: Education for Girls," p. 5.

Female participation in Ghanaian higher education has also been hampered by the requirement of a passing grade in Mathematics as a basis for admission to Teacher Training Colleges, as well as science-related programmes in the Polytechnics and the Universities. Given the lackluster performance of girls in Science, Mathematics and Technology-related subjects in national examinations, the Mathematics requirement effectively acts as a deterrent to female admission. When the relative gap in academic performance between boys and girls is combined with the already reduced participation of girls in JSS and SSS - the most important way stations on the academic cross - it becomes self-evident why the enrolment and retention rates in Ghanaian higher education are so skewed in favor of male students. We concur with the assessment of Amua-Sekyi that "The low level of female participation in tertiary education can be traced to low levels of female participation on the academic ladder; low transition rate from one level to the next; poor examination results; a preference for part-time study, and the aversion to mathematics, which means many do not make the credit in Mathematics required for entry into most institutions of higher learning."[40]

Low Staff and Student Morale

Another vexing issue that has plagued Ghanaian higher education is the repeated disruption of academic programmes and instruction resulting from frequent, protracted disputes and sometimes violent clashes between students, faculty, junior staff workers and university administrators and between students, faculty and governments. As Professor Addae-Mensah again confessed with regard to University of Ghana, Legon, these disruptions have produced extremely low morale. He disclosed that many students are disillusioned because of the uncertain-

[40] *Ibid.*, pp. 5-6. It is intriguing that once admitted, the performance of girls in tertiary institutions is apparently comparable to that of boys even in science courses.

ties that surround their future; the Senior staff seem to have simply "Given Up." He warned that such a situation does not augur well for the quality of the products the University is turning out into the world of work. "Unless the situation is arrested, the consequences shall be very disastrous for the country, and in ten years time, the country may have to spend ten times what it will require to keep a Ghanaian lecturer's services, in hiring expatriate staff to keep our Universities operational."[41]

Such a situation poses other serious challenges to women as well. The strategy of limiting enrolments usually works to the disadvantage of women. As lack of student housing, inadequate facilities and overall funding shortfall, force university administrators to raise the bar on admission, female access in particular is seriously undermined. Whereas non-residential female students find it much more difficult to resort to "squatting" or "perching" or becoming "refugees,"[42] boys have turned this survival strategy into a virtual rite of passage at Ghanaian universities. Paradoxically, 'perching' puts pressure on existing facilities, which become even more degraded over time. In addition, overcrowded classrooms and lecture halls and the daily search for reasonably nutritious meals have spawned a rather retrogressive sexual division of labor in which many female students skip classes in order to prepare meals to be exchanged for notes or information (known on campus as the 'apo') prepared by their male counterparts who attended these lectures. In other words, while boys may queue long hours to get a seat or just to stand in crowded lecture halls, girls struggle in the "kitchen" to cook for their men. What an incredible "unequal exchange"! Furthermore, with respect to faculty morale, it is unlikely that a faculty that has "given up," to borrow the Vice-Chancellor's phrase, will devote much energy to nurturing female students in particular without asking

[41] Addae-Mensah, "Vice-Chancellor's Address," p. 3.

[42] This campus terminology refers to all those non-residential students who, instead of residing outside the campus as they are supposed to, are sharing cramped quarters with friends in campus housing.

to be paid in some other way.

Sexual Harassment and HIV/AIDS on University Campuses

This brings us to the important but neglected issues of sexual harassment and HIV/AIDS, which are likely to have serious implications for rates of female participation and retention. Newspapers across the continent are replete with accounts of sexual harassment on campuses. A scathing indictment appeared in the *Ghanaian Chronicle* of February 7, 2001. The newspaper reported an upsurge of sexual harassment "in our offices/working establishments, first and second cycle and also tertiary institutions."[43] It lamented that "Some tutors/lecturers in our second cycle and tertiary institutions promise students mouth-watering high marks, as to woo them sexually."[44] It went on to voice the opinion that:

> Those students who give in especially in the second cycle, forget that their SSCE papers will not be marked by these shameful tutors. With our ladies in the tertiary set-up who also give in, they graduate, as half-

[43] See "Bottom Tree: Sexual Harassment In Our Schools: Action Needed," *Ghanaian Chronicle* (Accra), February 7, 2001. The Kenyan experience has been recounted in "Why Violence And Rape Thrive In Schools," *The Nation* (Nairobi), May 1, 2000. The paper points out that "Sexual coercion does not just affect adults. As Mariam, Veronica and many others will testify, sexual harassment and violence towards girl students is well established at universities and even earlier – in primary schools." In its April 24, 2000 edition, *The Nation* (Nairobi) noted that "Students have to cope in an already hostile economic environment and increasingly institutions are making them pay for services that were once heavily subsidized by the State. Many girls find that they must compromise their morals and integrity by latching onto "sugar daddies" to take care of some of their living expenses." The paper also revealed that girls can sometimes be perpetrators and not just victims. "University male students also feel pressurized by their female peers to take on the burden of feeding, clothing and entertaining them. This breeds attitudes of contempt of one sex towards the other, especially if one party feels justified in demanding sexual favours in exchange for material support."

[44] "Bottom Tree: Sexual Harassment In Our Schools."

> baked bread not braced up for the challenges ahead when they are employed. *And for those resilient ladies who flatly refuse the sexual demands of tutors/lecturers, some are greatly pressured or pursued till their resilience (sic) wears off, but those who remain 'die hards' and rebuff these advances are rewarded with scorn, given an environment eluded (sic) of peace necessary for academic work, treated with scorn, given low 'cooked' marks and grades to show them where power lies.*[45]

In my view, the paper correctly asserts that there is a link between sexual harassment and the possibility of HIV/AIDS transmission. As the disease spreads, it will put a strain on education budgets, which are likely to suffer further contraction as governments are forced to allocate the lion's share of national budgets to the health sector to cope with the epidemic. As the South African experience suggests, teaching staff and even healthcare workers may become heavily infected, resulting in high attrition and impaired performance. Loss of teachers and administrators would adversely affect the quality of planning, training and support. These consequences would erode or reverse recent gains in basic education. More importantly, it would place girls in an even greater caretaking role which, in turn, would make their enrolment and retention more precarious.

With respect to universities, recent "findings" by the World Bank suggest that the disease is already exacting a heavy price in terms of high operating costs, productivity losses (especially through high absenteeism), diversion of resources and income losses. The "findings" have revealed that the university in Africa is a high-risk institution for the transmission of HIV. "Sugar-daddy practices, sexual experimentation, prostitution on campus, unprotected sex, gender violence, multiple partners, and similar high-risk activities are all manifested to a greater or lesser degree."[46] Female students in particular and

[45] *Ibid.* Emphasis added.

[46] For more on this, see The World Bank Group, "Sub-Saharan Africa: HIV/AIDS on University Campuses," *Findings*, No. 188 (August 2001), p. 2.

others in subordinate positions (secretaries, junior staff, other female workers) are highly vulnerable because of their inability to negotiate for either no sex or for safer sexual practices, on account of their subordinate status and associated lack of empowerment. They experience "consensual rape", whereby "because of her lack of empowerment, the female partner consents under duress to intercourse in order to preserve a relationship, avoid a beating, ensure financial support, or repay favors. The ... prevailing climate on university campuses may encourage such violence, and thereby facilitate the spread of HIV/AIDS"[47]

In the case of Ghana, it has been suggested that HIV/AIDS now exists in all regions of the country. The estimated national infection rate of 4.8% is relatively low compared to many African countries, but it is approaching the critical threshold of 5.0%, the level at which infection tends to expand rapidly and exponentially. Tertiary education communities are particularly vulnerable to HIV/AIDS "due to their age group (which constitutes the peak period for HIV infection), close physical proximity, relative autonomy from adult or community supervision, and inclination towards sexual networking."[48] It has been suggested that "This vulnerability introduces a sizeable risk to the expected returns on investments made by families and government in the education of tertiary students. In spite of this risk, tertiary institutions have not yet established institutional policies or programmes for the management and prevention of HIV/AIDS."[49]

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[47] *Ibid.*, p. 2.

[48] See The World Bank document related to "Education Adjustment" under the project "Ghana-Education Sector Development," p. 5. See website at http://www.worldbank.org/pics/pid/gh50620.txt

[49] *Ibid.*, p. 5. To better understand the challenges posed by the disease to tertiary institutions and to identify potential risk-reducing interventions, IDA has reportedly joined with the National Council for Tertiary Education to commission an assessment of the current situation (HIV/AIDS in Tertiary Institutions in Ghana). I am not aware that the report has been issued.

Some Policy Interventions

Having addressed some of the major issues in Ghanaian education in general and in higher education in particular, we can now turn our attention to those solutions or policy interventions initiated by the governmen,t through the Ghana Education Service (GES). These are aimed at promoting increased access to and participation by women at all levels of the education system and in all academic disciplines, but most especially the Sciences. At a general level, the government hopes that the introduction of Free Compulsory Universal Basic Education (FCUBE) will ensure that all children receive the equivalent of Junior High School education. The government has been exhorting District Assemblies to devote a portion of the District Assemblies' Common Fund to establish scholarship schemes to assist needy parents to send their children to school.[50] However, even if successful, such general interventions are rather blunt instruments that can at best improve the situation of girls only marginally, especially given the array of factors that constrain their access and participation.

Girl-child Participation and Retention in SMT

Fortunately, there seems to be an appreciable awareness of the need for specific or targeted interventions. This is reflected in the move by the GES to initiate a programme known as the Science, Technology and Mathematics Education (STME) Clinics for girls in 1987. This programme was intended to increase and sustain girls' participation in Science, Technology and Mathematics. Initially, this programme brought together about 200 girls from all over the country for a two week period. Under the watchful eyes of female scientists, who served as role models, the girls engaged in hands-on or experiential learning. Since then, this annual STME programme has catered to about 2000 girls at the SSS level. STME activities run the gamut

[50] Amua-Sekyi, "Ghana: Education for Girls," p. 6.

from scientific talks, hands-on activities, group discussions, career guidance sessions and video shows.[51]

In 1997, the Programme was further refined by being decentralized to Regional and District levels. It was also expanded to cover the entire Basic and Junior Secondary education system. In August 1999, 2,172 girls participated in the clinics in all ten regions of the country. It is hoped that the discussions and interactions with women scientists and technologists will dispel the notion that scientific professions are not appropriate for women. An interesting feature of the programme is that participants in the Clinics become agents of diffusion to other JSS and SSS girls in their respective districts.[52]

The Girls' Education Unit (GEU) and District Girls' Education Officers

In an effort to strengthen girl-child education, in 1997 a Girls' Education Unit (GEU) was established under the auspices of the Ghana Education Service, to advocate policy and special programmes for enhancing the participation of girls. This Unit compiles research and recommendations on girls' education in Ghana and works closely with the Federation of African Women Educationalists (FAWE, Ghana Chapter), a non-governmental organization that supports girls and women to acquire education for development.[53]

The GEU has decentralized its programmes by requesting each District Education Office in the country to nominate a District Girls' Education Officer (DGEO), and each Regional Education Office to nominate a Regional Girls' Education Officer (RGEO). The task of the DGEOs is to promote and foster a community awareness of the need for girls' education, through advocacy, networking, community participation, basic PLA (Participatory Learning and Action) methodologies, and the collection of gender-segregated data. The DGEOs work in

[51] *Ibid.*, p. 6. See also Republic of Ghana, *A Decade of Educational Reforms*, p. 20.
[52] Amua-Sekyi, "Ghana: Education for Girls," p. 6.
[53] *Ibid.*, p. 6.

cooperation with the Science, Technology, Mathematics Education Organizers (STMEOs), and report to the RGEOs. Training of DGEOs and STMEOs is carried out by the Girls' Education Unit through workshops. At the national level, in October 1999, the GEU conducted a workshop on Gender Issues in Education for senior officials of the Ministry of Education (MOE) and the GES. The aim of the workshop was to strengthen the capacity of these officials in making and implementing gender sensitive policies and decisions. The GEU also publishes a newsletter, aptly called *Gender Matters,* that highlights its activities. To date, three issues of the newsletter have been produced and disseminated nationwide.[54]

Other Responses

The GEU has began the process of establishing a Female Education Scholarship Scheme for girls whose families cannot afford the direct and opportunity costs of education. The scholarship will provide needy girls with enrolment fees, uniforms, footwear, stationery and a stipend. A pilot programme designed to increase enrolment and retention of girls was also initiated in 1991 under the Primary Education Programme (PREP) with funding from USAID. This programme provided scholarships for girls from poorer families in areas with low female enrolment.[55]

The quality of teaching of SMT subjects is also being addressed through training workshops targeted at JSS teachers of SMT subjects. The GEU has conducted workshops which brought together JSS teachers, MOE/GES staff, university lecturers and principals to develop innovative training manuals for JSS teachers in science and science-related subjects. A nation-wide training of trainers workshop for JSS teachers from all districts was undertaken in the second half of 1999.[56]

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[54] See "Girls' Education," pp. 2-3. See website at http://www.ghana.edu.gh/present/girlsEducation.html

[55] Republic of Ghana, *A Decade of Educational Reforms,* p. 20.

[56] "Girls' Education," pp. 3-4.

Conclusions

Overall, despite significant gains and some innovative policy interventions, gender inequality, especially at the tertiary level, remains a nettlesome problem for the Ghanaian education system. The gap in enrolment, retention and academic achievement between boys and girls in Polytechnics and Universities remains largely unaltered. It may even have widened. Gender streaming of girls into traditional rather than scientific and technical subjects remains unresolved. Parental, teacher and societal attitudes, and cultural practices as well as oppressive school and classroom environments have hampered women's access and participation in Primary education.[57] With the building block for female participation in tertiary education undermined, it is not surprising that women are under-represented in polytechnics and universities, or are over-represented in disciplines that lead to careers that can be more readily combined with their domestic roles later in life. This Ghanaian case study demonstrates that with a national political will or commitment, buttressed by significant expenditure outlays and rational reforms, a country can make inroads into gender inequality in access, retention, and academic performance. The degree to which such progress can be sustained, however, depends on the health of national economies and adequate funding by governments and parents. Finally, unless the looming menace of HIV/AIDS is confronted openly and creatively, its impact on the female student population will be devastating. In short, policy interventions to redress gender inequalities and other problems facing higher education must be targeted or gender-specific, rather than general if they are to produce the intended benefits for girls and women.

[57] For an earlier expose on the undemocratic and hostile nature of African schools, see Cyril K. Daddieh, *Education and Democracy in Africa: Preliminary Thoughts on a Neglected Linkage* (Accra Ghana: Institute of Economic Affairs, Occasional Papers Number 10, 1997).

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