

AN ACTION FIVE STRATEGY FOR BRIDGING THE GENDER GAP IN ACADEMIC RESEARCH ACTIVITIES IN AFRICAN UNIVERSITIES.

The Case of Nigeria

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ABSTRACT

Academic research and productivity remain major criteria for determining productivity among university academics. Faculty progress and success are measured by their research productions. In the search for gender equality in higher education, the gender gaps in academic research productions raise concerns. Not only are the gaps limiting the rise on the academic ladder, they also reflect negatively on efforts to promote gender equity. This paper reports on a study that offers a strategy for bridging gender gaps in research in African Universities. The Action Five Strategy seeks to bridge research gaps between male and female academics. Two separate studies were carried out in 1988 using a sample of 297 lecturers with a minimum of five (5) years lectureship experience from ten (10) Nigerian Universities, in one case and, five hundred and sixty three (563) lecturers from thirteen (13) Nigerian Universities, in the other. Evidences from these studies in addition to some other works reviewed show that female academics are grossly disadvantaged in terms of awareness and involvement in research and publications. This may be one of the explanations for the under representation of women in higher ranks in the academic ladder. Other studies reviewed investigated reasons for this significant disparity in research activities between male and female academics. Against this backdrop, this paper proposes a five-action strategy for bridging the gap between male and female academics in research productivity. This strategy, which hinges on information and research network for female academics, recognizes five levels for building capacities for productive research activities among female academics. These are the individual, professional, institutional, societal/national and continental levels.

KEY DESCRIPTORS: Academic Research, Action Five Strategy, Academic Productivity, Gender Gaps, Capacity Building Levels

INTRODUCTION

Universities all over the world have been recognized as critical centers for the development of the societies through the advancement and diffusion of knowledge. Thus,

research and teaching are considered the most central objectives of the university system. Academic staff is required to regularly carry out research and disseminate the result of such research as part of their major assignment, apart from teaching and examining the students. The present poor economic conditions of African nations and the resulting cut backs in social spending, has forced universities to capitalize on the skills and expertise contained in their academic staff by marketing them to the outside community to generate funds outside government grants. Universities have used "Contract Research" as a major means of generating funds to augment their dwindling funds and enhance their research facilities (Nnabuo & Uche, 2000, 1999; Campbell, 1997; Landry et al, 1996; Williams 1994; Astrom & Frykland, 1996).

The combination of research and teaching pose a problem, as academics have to cope with the heavy workload in teaching and supervision of students; time and energy demanding activities. Yet, university academics also often have additional responsibilities in their communities and institutions as administrations, members of committees, public educators, community mobilizers and even mentors. For female academics, who tend to have heavier additional roles, reproductive, the challenge becomes enormous and cumbersome (Uche, 1999; Campbell 1997 & Williams, 1994). This problem notwithstanding, the era of extraordinary growth in higher education has witnessed an exceptional increase in academic research and its emphasis. Universities still use publications as key evidence in deciding the promotion and upgrading of academics (Sessey, 1987; Uche, 1999). The slogan - "publish or perish has been most commonly used in the universities. Without a certain number of research publications published in local and foreign journals, magazines and books, academics cannot be advance to a higher level.

The study reported in this article revealed that the female compared to male academics perform below expectation in their level of research activities. This trend certainly slows down their professional development thereby creating gender inequality in academic advancement in the universities. For instance, other studies and available reports confirm the under-representation of women in academia in less developed countries such as Nigeria (Mbanefo & Anyakoha, 1999; Alele-Williams, 1993; FG/UNICEF, 1993). The analysis of results carried out by Mbanefo & Anyakoha (1999) reveals that female academics in the universities are occupy the lowest echelons in academia as lecturers, research scholars and assistant lecturers. It was also observed that fewer female compared to male academics were professors, associate professors and senior lecturers. This low representation of women in the professorial, also decision-making, ranks reduces their chances of their professional advancement into management positions such as vice chancellors (Onokala, 1998; Anyakoha, 1997).

RESEARCH EVIDENCE ON WOMEN'S RESEARCH PRODUCTIVITY

Study 1: This study, which was carried out by Uche in 1998 involved an investigation on research productivity among academics using a random sample of 297 aca-

demics with a minimum of five-year lectureship experience from 10 universities in Eastern Nigeria. A 17-item questionnaire on "Level of academic research activities in Nigerian universities questionnaire (LARANUQ)" was developed, validated and personally administered to the sampled academics in each university. The results of this study presented in Table 1 indicate that male academics significantly carry out more research than female academics.

Table 1 below reveals that the Spearman Correlation Coefficient is .1863 with a significant level of .04244. This indicates that a statistically significant relationship exists between the sex of academics and the number of academic research activities they carry out at 4.2% level. Since the standard level of significance at 5% level is higher than 4.2% level of significance, we conclude that there is a significant difference between the levels of research activities carried out by lecturers of different sexes. More male academics are distributed among the categories of academics that carry out more research activities. This in essence shows that male academics carry out more researches than their female counterparts.

Table 1: Level of Research Activities University Academics by Sex

SEX No. of Research activities	FEMALE 1	MALE 2	ROW TOTAL
1 None	3 33.3 7.3 1	6 66.7 2.4 2	9 32.4
2 1-5	16 16.8 39 5.5	79 83.2 31.3 27	95 32.4
3 5-10	12 17.4 29.3 4.1	57 82.6 22.6 19.5	69 23.5
4 10-15	4 6.2 9.8 1.4	61 93.8 24.2 20.8	65 22.2
5 15-20	2 7.7 4.9 0.7	24 92.3 9.5 8.2	26 8.9
6 20 & above	4 13.8 9.8 1.4	25 86.2 9.9 8.5	29 9.9
Column Total	41 14	252 86	293 100%

Source: Field Survey (1998)

Statistics	Value	T-value	Approx. Significant
Cramer's V	.16808		.14159
Spearman Correlation	.11863	2.03813	.04244

The combination of carrying out research and heavy workload in teaching and supervision of students take a lot of time and energy. Against the backdrop of their already exacting roles, female academics are often more over-tasked, compared to their male colleagues. The women have to cope with their duties as wives, mothers, homemakers as well as lecturers and researchers. Even as husbands, fathers and heads of households, male academics give off less time and energy than their female colleagues do. In fact, male academics often derive additional support from their female companions as wives, mothers and homemakers and even at work they often expect such support from their female colleagues or female junior workers. The burdens of female academics affect their level of research activities. This notwithstanding, the study also reveals that the number of females that fall in the categories of those who have carried out about 20 researches and above is almost the same with that of their male counterparts (9.8% to 9.90/o) as indicated in Table 1 above. This is attributed to their long stay in the university system and increased exposure to grant sources.

Study 2: Another study carried out by Uche (1998) determined the level of awareness and involvement in contract research by university lecturers. Five hundred and sixty three lecturers (563) from thirteen (13) universities were used for the study. The participants comprised 476 males and 87 female academics. See Table 2 below.

Table 2: Mean, S.D and Z-test of differences by Sex and Level of Awareness of Contract Research Activities

	Categories	N	X	SD	Z-cal	P
1	Male	476	2.610	0.563	-3.27475	0.00106*
2	Female	87	2.367	0.633		

Source: Field Survey 1998

*** = Significant**

On the level of awareness, as captured in Table 2 above, the male academics scored a mean of 2.618 while their female counterparts scored a mean of 2.379. This suggests that though female academics are quite aware of contract research the male are more aware than them. To determine the significance of the difference between these means the Z-test was carried out, which yielded a Z-ratio of -3.27475 and a corresponding p-value of 0.00106. This p-value is much lower than the 0.05 a-level of significance. Thus, the null hypothesis of no significant difference between the male and female academics on their level of awareness of contract research was rejected. This resulted in the conclusion that the male academics are more aware than their female counterparts.

Table 3: Mean, S.D and Z-test of differences by Sex and Level of Involvement in Contract Research Activities

	Level of Involvement	Male			Female			Z-cal.	P
		N	Mean	SD	N	Mean	SD		
1	Consulting with company	476	2.034	0.736	87	1.678	0.785	-3.90624	0.000094*
2	Contract with company	476	1.855	0.697	87	1.667	0.693	-2.31289	0.02073*
3	Collaborative research with company	476	1.769	0.774	87	1.402	0.655	-4.64227	0.0000034*
4	Negotiating licensing of university discoveries	476	1.197	0.484	87	1.184	0.445	-0.24586	0.80576
5	Economic development programme	476	1.735	0.718	87	1.908	0.718	2.23942	0.02513*
6	Industrial advisory board	476	1.456	0.655	87	1.345	0.657	-1.62928	0.10325
7	Industrial affiliates programme	476	1.571	0.592	87	1.471	0.713	-1.22636	0.22006
8	University/industry research	476	1.616	0.700	87	1.563	0.710	-0.63836	0.52324
9	Industrial parks	476	1.229	0.531	87	1.310	0.556	1.25162	0.21071
10	University based institutes	476	1.878	0.715	87	1.667	0.693	-2.5854	0.00973*
11	Joint ownership of facilities with university	476	1.450	0.645	87	1.391	0.635	-0.79093	0.42898
12	Research exchange program between university and industry	476	1.731	0.710	87	1.586	0.657	-1.85952	0.06295

Source: Field Survey (1998)

* = Significant

The result of the Z-test significant level on the level of involvement in each of the observed contract research activities is indicated in the Table 3 above. Generally, the result of mean scores indicates that male, compared to female academics are more involved in contract research activities. Female academics only exhibited higher involvement in economic development programme. (See mean of 1.908 for female and 1.735 for men in item 5 in Table 3). There are very significant differences between male and female academics in their level of involvement in contract research activities in the universities. Apart from economic development programmes men are generally more involved in most of the areas of contract research activities investigated. The combination of carrying out of research and heavy workload in teaching and supervision of students take a toll on time and energy. Female academics were said

to have found this more cumbersome than their male counterparts (Uche, 1999; Campbell 1997 & Williams, 1994). Moreover, the work on women as executives by Nnabuo (1994) supports the idea that women are discriminated against both at home and by colleagues. This situation tends to dampen their interest in contract research. This assertion was corroborated in this research, where many women complained that their male counterparts do not notify or involve them in any contract research that comes in because they are afraid they may not be committed sufficiently to the work. "This is a wrong assumption," reported one female respondent. Women have to cope with duties as wives, mothers, homemakers as well as lecturers and researchers. This will likely affect their awareness and involvement in contract research activities (Finkel & Olswang, 1996; Uche, 1999). Economic development programmes, which include family support programmes, better life for women and children and other programmes on women conferences favour them more.

Study 3: A third study, in the form of a desk review, had focused on examining the causes of gender gap in research activities among the university academics. Several scholars have carried out studies to investigate reasons for disparity in research activities among university lecturers and the consequent under-representation of women in higher academic ranks. These reasons range from late entry into higher educational system, child bearing/rearing, discrimination by male counterparts, negative self-image of females, societal/domestic norms to organizational structures and practices that are discriminatory (Johnsrud & Heck 1996; Growe & Montgomery, 1999). For instance, the Carnegie Commission on Higher Education (1973) carried out a study on problems facing academic women with children and suggested that "probably, the most serious handicap facing married women desirous of a teaching career in higher education, especially in research-oriented universities, is that in the very age range in which men are beginning to achieve a reputation through research and publication, most married women are likely to be bearing and rearing their children."

Perhaps, a model based on studies by Estler (1975) and Schmuck (1980) would better illustrate the situation of women academics in Nigerian universities. See Table 4 below. It throws light on the barriers and/or challenges women academic face in their workplace and beyond.

Table 4: Gender-Based Models

MODELS	EMPHASIS	CAUSE
Individual or Meritocracy	Psychological Orientation	Women are looked upon as the cause and not able
Organizational	Educational System	The organizational structures and practice of education which discriminated against women
Discrimination	Forms of discriminatory attitude from male colleges	Hoarding of information and men's unwillingness to involve women in certain types of research
Woman's Place or Social	Cultural, social norms and domestic responsibilities	Different socialization patterns for women and men.

Source: Estler (1975) and Schmuck (1980)

The first impediment, as shown in Table 4 above is the meritocracy model or individual perspective model, which focus on psychological orientation (Estler, 1975; Schmuck, 1980; Talerico & Burstyn, 1996). The model looks at women as the cause because of their personal traits, characteristics, abilities and/or qualities. Individual attitudes such as self-image and confidence as well as motivation and aspirations fall in this domain. The belief associated with this model is that women are not assertive enough, lack self-confidence, and do not aspire for line positions. They are also perceived unwilling to play the game or work the system. Once a woman gets the job as a lecturer, it is assumed, her efforts and the ambitions end there. She becomes very comfortable with teaching and examining the students, carrying out research becomes the job for men alone. By the time they wake from the slumber many years of their working experience have elapsed without commensurate academic advancement.

The Organizational Perspective and Discrimination models focus on the educational system. This explains how organizational structures and practices in education discriminate against women. Findings by Smoulders (1998) point to the fact that the internal structure of the university and the day-to-day practices lead to differences in career patterns and activities related to gender. The women interviewed also complained of lack of co-operation from their male counterparts. They said men do not like to involve them in contract research because of the money involved, and also because they feel women are unfit to go through the rigors of the research process. This confirms the researchers field experience noted earlier. Apart from the lack of encouragement and co-operation, Grove & Montgomery (1999) also stress the lack of formal and informal social networks, or not being a member of the "club" as men, results in the lack of recognition that often lead to advancement. Research activities as well as administration involve hard work; long hours and lots of in-house politics, which is stress-provoking, especially when childcare and home responsibilities are added. The attitude of women towards each other, lack of role models and mentors due to the fact that there are not many women who have reached the top in academia are also barriers militating against their motivation to do research which earns them career advancement (Cullen & Luna 1993; Williams, 1990; Grove & Montgomery, 1999; Nnabuo, 1996).

The social or cultural perspective (model) emphasizes those norms and expectations that encourage discriminatory practices. There are certain jobs and activities women are not expected to get involved in, either because of their presumed inability or because men feel they should not just be there. In addition, women's domestic and community responsibilities get in the way. Women academics are also more likely to take care of their children, husband, family and home as well as attend network meetings and fellowships. (At times the list of activities is endless). Some women have to cope with duties as wives, mothers, homemakers as well as lecturers and researchers. This will tend to affect their capabilities and involvement in contract research activities and other types of research (Finkel & Olswang, 1996).

The analysis above reveals looming gender gaps in research activities and for that matter productivity and career advancement. The desk review and empirical studies agree that women lag behind men in their involvement in academic research, a situation attributed to both overt and covert factors. The analysis also suggests that women academics have not been able to strike a balance in their multiple roles. As a result, their research activities, a key measure for academic advances suffers. To overcome this situation, systematic efforts needs to be made to support women academics. In the next section, a proposed strategy for bridging the gap, the Action Five Strategy is presented and discussed.

THE ACTION FIVE STRATEGY FOR BRIDGING THE GENDER GAP

It has become obvious that there are more males in academia than females. The study also found more females, compared to males at the lower professional levels. The previous studies considered so far also reveal that the reasons for this is that male academics are more involved in research activities, which is one of the major criteria for academic advancement in the university system. Consequently, Action 5 evolves ways and strategies for bridging this gap between male and female academics and for furthering the enhancement and participation of women in African universities.

The proposed actions are those actions that can counteract the beliefs and perspectives that women are not able as indicated in Table 4: gender-based models; actions capable of encouraging co-operation between and among women in academia; actions set to stop those conditions and practices in institutions that are discriminatory against women; actions that will bring change in those societal norms and practices that do not allow women to compete favorably with their male colleagues; actions that will improve research and information network for dissemination and implementation of research findings on women affairs, for the exposure of women, their development and empowerment; and actions that lead to journals emerging out of sensitized ideas and opinions from conferences on women issues. Thus, Action 5 is based on a model of information/research network for female research productivity as conceptualized by the researchers.

Information/Research Network for Female Research Productivity

Any action or intention to bridge the gap between female and male academics, especially in the areas of research activities should start from the woman herself and end with her. The model in Figure 1 below, tries to counteract the model in Table 4, which depicts women academics as less capable, less competitive or less productive than men. The model describes women academics as very effective, capable and productive in support of how other scholars see them (Porat, 1991; Ryder, 1994; Hensel, 1991). Thus, what the woman needs is the encouragement from all angles and the right connection in her field. Information/Research Network can be used to inform the women academics of the current issues, available research projects, and possible

sponsors and how to go about it. It will also help them disseminate the finding of the research to the appropriate users through the journals and other media. Through the network, the women send and receive information from professional colleagues, mentor, their institution and other institutions, public and private sectors and from the entire research world. See Figure 1 below.

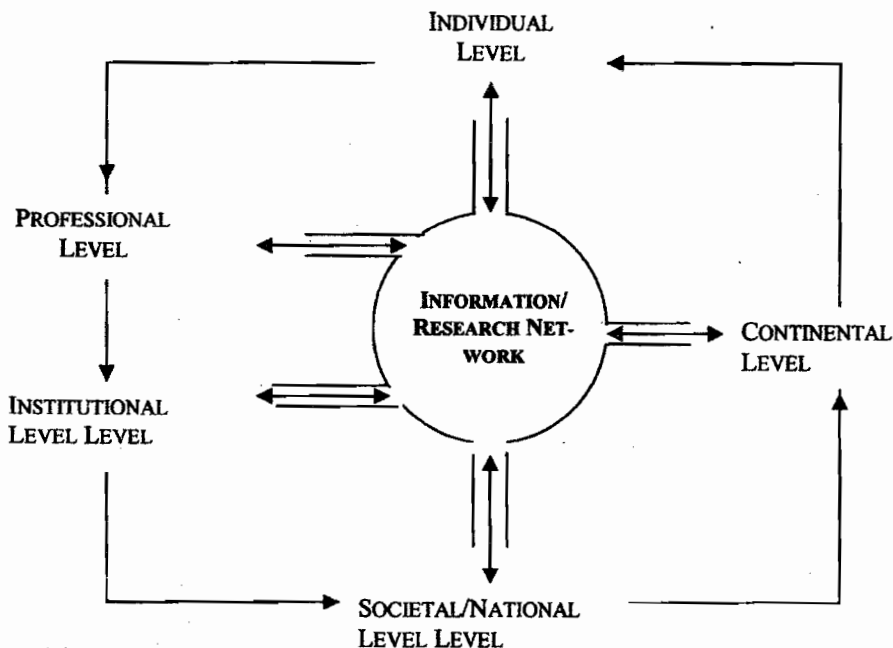


Fig. 1: Action Model on Information Network for Female Research Productivity

Individual Level:

The first step in bridging the gender gap in research activities among academics is for women themselves to develop a positive attitude and interest towards their profession and the criteria for advancement by using some career-enhancing techniques (see Figure 1 above). According to Crampton and Mishra (1999) and Wesson (1998), these techniques include availing themselves to mentors, utilizing sponsors, role models and networking, which allow women a means for getting advice, moral support and contacts for information and providing constructive ways of dealing with frustration, sharing feelings about their work and providing encouragement. Morrison et al. (1992) have suggested the following four “core components of success”:

- **Be able.** Women should make sure that they know what the position entails. They should develop good reading and writing skills plus any skill that will help them to compete against everyone else at a particular level. Never stop learning, whether it is formally, in the classroom or informally, on the job. Put in extra time and effort on every job.
- **Be seen as able.** No one should allow her abilities to be discouraged or ignored. Display competences in jobs (research activities) that are visible and valued, especially for job that form stepping-stones to the top.
- **Know what you want.** Be willing to balance, prioritise, sacrifice, and relax.
- **Help others to help.** Find people who can help even if they are in unrelated jobs (fields). Women need to get a plan, a strategy. Let others know what it is, so they can contribute to it, not create it.

Therefore, Action 5 at this level proposes the need for women to improve their psychological orientation right by adopting a positive self-image, self-confidence, self-motivation and aspirations. The attitude of 'I don't have time' should be replaced with the attitude of hard work towards, being courageous and ambitious for greater heights.

Professional Level

Female academics that develop positive attitudes and readiness to work for advancement require opportunity, encouragement and assistance from professional colleagues' especially fellow women academics. See the network in Figure 1 above). There should be provision of encouragement, opportunities and other incentives for women to participate in research activities and compete favorably with their male counterparts. These come through mentoring. Mentoring is one answer to the barriers and obstacles women academics and administrators deal with in their profession (Grove & Montgomery, 1999). Although researchers have not come to any consensus over a functional or scientific definition of a mentor, Ehrich (1994) traces the generic meaning to Homer's epic story, which defines mentor as a father figure who sponsors and guides a younger individual, who is known as a protégé/mentee. Older and senior female scholars should act as wise and trusted advisers and counselors to the younger and new female entrants. Mentoring can meet the needs of both women and institutions, and it can also assist in attracting and retaining women and minority professionals in the academic environment. The mentees (those women being mentored) benefit because someone cares enough to support them, advise them and help interpret inside information. They have somebody to look up to, somebody to challenge their desire. The advantages of mentoring are felt not only by the mentees and their organizations, but also by the mentors themselves. They experience the fulfillment of passing along hard-earned wisdom, influencing the next generation of upper

management, and receiving appreciation from younger colleague academics (Cullen & Luna, 1993; Hagevik, 1998; Whitaker & Lane, 1990).

Institutional Level

If women develop the right attitude, receive co-operation from professional colleagues and fellow women, but meet with adverse effects of some institutional structures and programmes still existing in educational system, the gender gap will still exist. Thus, there should be support programmes that have potentials to help junior female academics to develop interest in research activities in order to meet the requirements for improved job performance and promotion. See Figure 1. The university and other funding agents would need to create awareness of the need for more women academics to get involved regularly in research activities by sponsoring support programmes. One way is to sponsor the organization of annual conferences on the challenges of and problems militating against academic mobility for women the universities (institutional level). Others may include directly providing for their involvement in research activities and projects that are sponsored by international funding agencies and non-governmental organizations (NGOs), especially in the case of the paucity of local or internal funding sources.

Floating academic journals that emerge from conferences on women issues may also be published by a central body at institutional and national levels to increase the interest and involvement of the women in carrying out research in their fields and other related areas. Female academics in particular need to be given more encouragement to participate actively in the areas of gender equality and women's contribution to national development. This in fact is the priority area that is receiving greater attention and better financial support by international funding agencies. Such tailoring in research endeavor to meet international priorities could be a potent alternative of generating funds for the universities beyond the traditional domestic and government grants (Nnabuo & Uche, 1998). Institutions could also create opportunities for career mobility through in-service programmes for women academics (Mbanefo & Anyakoha, 1999). Postgraduate studies and research assistantship should be encouraged for women already in academia but without doctorate degrees. Existing institutional policies and procedures relating to research and promotion should be reviewed and modified to ensure the professional wellbeing of all the academics. For instance, using publication counts and research activities (which favors established staff largely male) as determinants of academic staff mobility has been criticized and challenged over the years (Field et al, 1991; Furnham, 1990). Although it is not the position of this paper to challenge any policy, it is definitely the opinion that women should be given opportunities to grow in ways that do not unduly dismiss and even penalize their uniqueness. There should be crèches for babies and other facilities to help nursing mothers who may need to work late as research programme is going on. Women should be made team leaders, committee chairpersons (Enrich, 1994), rather than just organizing entertainment for these programmes (Johnsrud & Heck 1996). This will challenge them, ginger their interest and ability as well as instill confidence in them and provide assurance of the import in their fields of practice. More women should

be raised to occupy higher positions to develop a significant female presence in the senior cadre.

Social/National Level

The society still holds high expectations and responsibilities for women. There are still some stereotypical work meant for women and the particular one for men. For example, women are not expected to work late in the night or take jobs that are highly demanding or require long distance traveling. Research activities are demanding and require commitment. The society also needs a kind of enlightenment and awareness on the new roles and changing challenges for the women in order to give its own co-operation (See Figure 1). As the mass literacy campaign work on women's development and empowerment are going on, government should also point out these issues. The women on their part need to explain to their families, communities and other groups where they belong the demands of their profession and need to be given opportunity and co-operation to face its challenges and to make her own contribution to the national development. Co-operation from husbands and children can never be taken for granted, they should ever be cherished. Any cultural and social norms that encourage discriminatory practices should be de-emphasized (Nnabuo, 1996; Tallerico & Bursty, 1996).

Continental Level

Africa is a continent plagued with a general problem of advert poverty and underdevelopment. Action 5 Strategy recommends a forum where African women academics can communicate with each other to discuss ways of solving their common problems and the need to encourage more women to go into academics and research in particular (figure 1). The Association of African Universities (AAU) is a good starting point (Tapeh, 1985). There may be an academic women's wing of the association. This will help in sourcing for funds from public organizations and the private sector. There is need for the establishment of African Continental Research Networks for female in academia. Since this is in the continental level, all the African universities with offices in major cities in the continent and headquarter in Ghana or Johannesburg (South Africa) should be involved. Some of the Non-Governmental Organizations (NGOs) already established for related areas can be used to this effect. This is mainly for the following reasons: to project their increased interest and involvement in research activities; to promote co-operation among female scholars in different areas of research; to improve information management; to enhance documentation and for proper dissemination; to organize annual conferences on the challenges and problems militating against academic mobility for women and other matters affecting women development and empowerment in higher educational systems all over the continent.

CONCLUSIONS AND RECOMMENDATIONS

Apart from being late entrants into academia, there are other barriers that affect women academics and their participation in research activities. Consequently, they lag behind in this aspect resulting in slower academic advancement compared to male academics. This paper has proposed strategic actions that can be evolved to bridge this obvious gap, starting from the woman herself (individual level), professional assistance (mentorship), institutional level, social/ national level and continental level (information/ research network to keep female scholars informed of researches to be carried out, available sponsorship and to disseminate research findings to those who need them). Thus, the following have been recommended: Provision of encouragement, opportunities and other incentives for women to participate in research activities, encouragement by government, institution, male colleague, and senior female academics, opportunity for career mobility through in service program and post graduate work for women academics, only gender fair appraisal and promotion processes should be practiced, and floating of journals published at reduced price for articles that emerge from conferences on women issues.

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