

COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH



REPORT ON LAUNCH OF DIRECTORY OF FEMALE SENIOR MEMBERS IN CSIR

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INTRODUCTION

The Directory of Female Senior Members in CSIR was an initiative of the Deputy Director General of the CSIR (DDG), Prof. (Mrs) RoseEmma Mamaa Entsuah- Mensah (FGA). This initiative commenced in 2010 with a workshop held for all senior female members of the CSIR to explore ways of improving their output and create a platform for networking, and followed up with a circulation of a template designed by the authors of the Directory for completion by the senior members within CSIR. Upon completion of the Directory, it was understood that such an important document which would support the visibility and networking of female seniors members deserved to be properly launched.

As such, an adhoc committee was set up to plan and execute the launching of the Directory. This report briefly describes the activities of the committee, the launching of the Directory, and key speeches given at the launch.

THE COMMITTEE

The convenor and chairperson of the committee was Dr. (Mrs) Mary Obodai, Director of CSIR – Food Research Institute. Other members of the committee were Mrs. Grace Obeng-Koranteng, Mrs. Lucy Dzandu, Dr. Margaret Owusu and Mrs. Deborah Louisa Narh Mensah (the Secretary). All meetings held at the DDG's office were chaired by the DDG (Figure 1).

The maiden meeting was held on 2nd November, 2016. At this meeting, the committee decided to propose that the launch be held on 13th December, 2016 instead of the initial set date of 9th December, 2016 due to the pending national elections, which was to be held on 7th December 2016 to ensure that invited guests as well as senior members could attend the launch. Tasks to be performed by each member was also agreed on and a Whatsapp platform for virtual meetings and correspondence was also created. The theme for the launch was deliberated on the Whatsapp platform. Other correspondence was also done via email.

A second meeting held between 2 members of the committee and the DDG to discuss and finalize some suggestions made by the committee resulted in most of the suggestions being accepted by the DDG.

Letters to the invitees and Directors of the 13 Institutes of the CSIR were drafted by Mrs. Mensah and Dr. Obodai. The letters were printed and endorsed at the DDG's office for circulation.

The program for the launch (Appendix 1) was also finalised in consultation with the DDG.



Figure 1: Launch organizing committee members clad in the CSIR - RSA cloth on the day of the launch

LAUNCHING OF THE DIRECTORY

The Directory of Female Senior Members in CSIR, Ghana was successfully launched on Tuesday, 13th December at CSIR-STEPRI. The theme for the launch was ***“Enhancing Visibility of Females in Science, Technology, Engineering and Mathematics (STEM): Pursuing the CSIR Agenda.”***

Seated at the high table were, Dr. Victor Agyeman (the Director General of CSIR, DG), Prof Aba Andam, Prof Entsuah- Mensah (the DDG), Dr. George Owusu Essegbey (Director, CSIR - Science and Technology Policy Research Institute, CSIR – STEPRI) and Dr. (Mrs) Mary Obodai (Director, CSIR – Food Research Insititue, CSIR – FRI) (Figure 2). The program was chaired by the DG. Prof Andam was the Guest of Honor. The Master of Ceremony (MC) was Mrs. Matilda Ayim Akornor (Senior Research Scientist, Animal Research Institute) (Figure 2). Dr. Essegbey was rotating between the launch and a board meeting he was chairing at the same time.

The dignitaries and chairman were introduced by Mrs. Amy Atter (Research Scientist, CSIR – FRI) and Dr. Margaret Owusu (Senior Research Scientist, CSIR – FRI) respectively (Figures 3 and 4).



Figure 2: Dignitaries seated at the high table and the MC performing her task



Figure 3: Mrs Amy Atter introducing the dignitaries



Figure 4: Dr. Owusu introducing the chairman

ATTENDANCE

The program was attended by 65 registered participants, most of whom were females. Ministries represented included the Ministry of Trade and Industry, Ministry of Health, Ministry of Defence, Ministry of Youth and Sport and Ministry of Roads and Highways. The Ghanaian Women in Agricultural Research and Development (GhaWARD) was also well represented by the interim executives and members from CSIR institutes and the University of Ghana. CSIR institutes represented were CSIR – INSTI, CSIR – ARI, CSIR – WRI, CSIR – FRI, CSIR – STEPRI, CSIR – OPRI, CSIR – IIR, CSIR – BRRI (Figures 5 and 6; Appendix 2). There were 6 media men and women in attendance.



Figure 5: Cross section of participants showing the Director of Soil Research Institute in the grey suit and CSIR senior members clad in the CSIR – Research Staff Association cloth



Figure 6: Cross section of participant. On the front left is the Interim President of GhaWARD

SPEECHES DELIVERED

In his acceptance speech, the DG commended the DDG and the authors for working astutely to successfully develop and publish the Directory (Figure 7). He further said that he was very happy about the occasion because it was very relevant in promoting female scientists, who are essentially endangered species among scientists in Ghana. He gave statistics about the scientists in each Institute of the CSIR, giving the proportion of the scientist who are females. He said he is in favour of developing and implementing policies which would support and encourage females in CSIR. He admonished the female groups in the council to request for more relevant things which would enhance their work as scientist and senior members.

In his welcome speech, the Director of CSIR – STEPRI apologised to the house for altering the venue from the auditorium of STEPRI to the current venue due to some unexpected occurrence (Figure 8). He said that despite the change of venue, he hoped the house would feel comfortable and enjoy the launch. He also emphasised his strong support for females in Science, Technology, Engineering and Mathematics (STEM).

The welcome speech was followed by a speech by the DDG. In her speech, she highlighted the history of the Directory, detailed the reasons why there are fewer females in STEM, and outlined possible approaches to change the trend (Figure 9; Appendix 3).

A brief speech was also given by the authors of the Directory. They mentioned the genesis of the idea, steps taken to achieve the goal and challenges encountered. They thanked the DG and the DDG for their support during the entire process (Figure 10; Appendix 4).

This speech was followed by a speech from Dr. Leticia Obeng which was read by Dr. Obodai on her behalf because she was unable to attend the launch due to some other engagement. She registered her delight about the launch of the directory and her strong support for

females in STEM. She further indicated her belief in female Scientists in CSIR, who she was convinced were ever ready to take up challenges (Figure 11; Appendix 5).

In her Keynote Address, the Guest of Honour, Prof Andam gave a biblical information about why women should consider themselves free to live completely and achieve their goals and aspirations (Figure 12; Appendix 6). She reiterated the importance of females in STEM and encouraged attendees to work steadfastly, surmount all challenges, strive to chock higher achievements and be the best they can be. She also entreated management to provide an enabling environment for females in STEM within the CSIR to thrive.



Figure 7: Dr. Victor Agyeman (DG) giving his chairman's acceptance speech



Figure 8: Dr. Essegbey giving his welcome speech



Figure 10: Mrs Lucy Dzandu (author) giving the authors' speech on the background of the Directory



Figure 9: Prof (Mrs) Entsua- Mensah (DDG) delivering her speech



Figure 11: Dr. (Mrs) Obodai reading a speech on behalf of Dr. Leticia Obeng



Figure 12: Prof Andam delivering her Keynote Address

UNVEILING AND DISTRIBUTION OF THE DIRECTORY

The Directories, which had been packaged beautifully and covered with Kente, were officially launched by the DG and Prof Andam (Figures 13 and 14). There were about four hundred copies of the Directory.

The Directories were then distributed by the Chairperson of the organizing committee, Dr. (Mrs) Obodai. She was assisted by Mrs. Ayim Akornor. Individuals or representatives of respective institutions were called to receive the nicely packaged Directory (Figures 15, 16 and 17; Appendix 7).

Beneficiaries of the Directory who were not present at the launch have had their copies sent to them through various means.

There are proposals to widen the net and distribute more copies of the Directory to other Senior High Schools (both Girls' and Mixed) in order to encourage more people to take keen interest in the sciences.



Figure 13: DG and Prof Andam unveiling the Directory



Figure 16: Presentation of Directory to DDG



Figure 14: The launched Directory



Figure 17: The representative of CSIR - ARI receiving the Directory on behalf of her Institute



Figure 15: Presentation of Directory to DG

CLOSING OF THE LAUNCH

The chairman gave his closing remarks, thanking the invited guests and attendees for gracing the occasion and for their cooperation in making the program a success. He further encouraged the females to keep working hard to ensure they attain great heights in their chosen profession.

The vote of thanks was given by Mrs. Deborah L. Narh Mensah (Research Scientist, CSIR – FRI) (Figure 18), after which a group photo was taken (Figure 19).



Figure 18: Mrs Mensah giving the vote of thanks



Figure 19: Group picture taken at the end of the Launch

MEDIA COVERAGE AND PHOTO DOCUMENTATION

Invited media houses included the Ghana New Agency (GNA), Joy News (A member of MultiMedia) and Adom FM.

The launch was published on page 25 in the 15th December 2016 edition of The Ghanaian Times newspaper (APPENDIX 8) and on page 7 of the Daily Graphic published on Friday, 23rd December, 2016. The launch was also captured in the news on Joy News and on Adom FM.

Official photos of the launch were taken by the Photographer at STEPRI. The photos have been compiled in a Photo Album which will be kept at the office of the DDG.

CHALLENGES FACED

The organization of the launch and the actual launch were largely successful. However, a few challenges were encountered. These included lack of sufficient funds. This issue was largely resolved by the DG, who kindly agreed that the Head Office would fund the snacks for occasion. Due to this logistics issue, female senior members from the Northern Sector were largely unable to attend the launch. They were greatly missed at the program.

Another challenge was on the day of the launch, during which the organizers had to liaise with staff of CSIR – STEPRI to find an alternative room for the launch. This was because although the auditorium had been already fully set up for the program, an unforeseen natural occurrence occurred which made the room unsuitable for use. The committee is very grateful to staff of CSIR – STEPRI for their unflinching support during the launch.

CONCLUSIONS AND RECOMMENDATIONS

The launch was successful despite the challenges. Feedback received during and after the launch shows that the Directory is a very relevant document. It has been suggested for the information in the directory to be uploaded on the website of CSIR. The committee recommends that this suggestion be carried through. The committee further suggests that the IT persons at the various institutes be tasked to tease out the information about the female senior members of their respective Institutes and make same information available on their respective websites. This approach will further enhance the visibility of the female senior members of the Institutes and would make it easier to update the information about the senior members.

ACKNOWLEDGEMENT

The committee thanks the DDG for setting up the committee, supporting our efforts and giving us very relevant inputs which saw to the success of the launch. The committee also thanks the DG for his unflinching support, encouragement and advice given. All other persons who played diverse roles in ensuring the success of the launch are hereby duly acknowledged.

We are most grateful!

APPENDICES

APPENDIX 1 - PROGRAMME

PROGRAMME

Launch of Directory of Female Senior Members in CSIR, Ghana

Theme: *“Enhancing Visibility of Females in Science, Technology, Engineering and Mathematics (STEM): Pursuing the CSIR Agenda.”*

Date: 13th December, 2016

Time: 10:00 am prompt

Venue: CSIR-STEPRI Auditorium

Item	Activity	Person
1	Arrival, registration and seating of participants	
2	Opening prayer	Dr. Mary Obodai
3	Introduction of dignitaries	Mrs. Amy Atter
4	Introduction of Chairman	Dr. Margaret Owusu
5	Chairman’s response	
6	Welcome address	Dr. George Owusu Essegbey
7	Purpose of the Directory	Prof. RoseEmma Mamaa Entsuah- Mensah
8	Statement by authors	Mrs. Lucy Dzandu
9	Statements from Ministries	
11	Keynote address	Prof Aba Andam
12	Launch of Directory	Dr. Victor Agyeman / Prof Aba Andam
13	Distribution of Directory	Prof. Entsua-Mensah / Dr. Obodai
14	Vote of thanks	Mrs. Deborah L. Narh Mensah
15	Closing prayer	Mrs. Grace Obeng Koranteng
16	Group photograph	Mr. Papa Toah Akonor
17	Media interviews	

APPENDIX 2 – PARTICIPANT LIST

List of registered participants



ENHANCING VISIBILITY OF FEMALES IN SCIENCE, TECHNOLOGY, ENGINEERING
AND MATHEMATICS (STEM): PURSUING THE CSIR AGENDA
ON TUESDAY 13TH DECEMBER, 2016 AT CSIR-STEPRI AUDITORIUM

Registration Form

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Media

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APPENDIX 3 – SPEECH BY DDG, CSIR

SPEECH DELIVERED AT THE LAUNCH OF THE DIRECTORY OF FEMALE SENIOR MEMBERS IN CSIR, GHANA

Prof. RoseEmma Mamaa Entsua-Mensah, DDG CSIR

Mr Chairman, Professor Aba Andam, Distinguished members of the high table, distinguished ladies and gentlemen, Directors of the Council for Scientific and Industrial Research, members of the Ghanaian Women in Agricultural Research and Development, Colleague Scientists, Senior High School students from Accra Girls Senior High and St Mary’s Senior High School and members of the media.

Six years ago a workshop was held for all senior female members of the CSIR to explore ways of improving their output and create a platform for networking. This proved to be extremely fruitful and I must say that apart from improving their work output the majority of them went to complete their Masters and PHD Programmes. Mr. Chair, CSIR is very proud of her female senior members and I especially so. Most of the women who have the Masters degree are on some PHD programme now. Luckily for us we also have a Director General who has 2 girls, a wife who is an accomplished scientist in her own right and who understands women or is learning to! We also have 2 female Directors, Dr. Stella Ennin and Dr. Mary Obodai as well as a very well qualified auditor coordinating the audit activities in CSIR, Mrs. Josephine Geraldo.

Why are women severely underrepresented in the sciences? It seems a combination of social, cultural and financial factors play a role in perpetuating this gender gap—spanning from early education through the higher levels of scientific research. A study by the *American Committee for the Weizmann Institute of Science* notes that there are several factors that affect women in science.

1. Inherent gender bias

There’s no getting around it: science and math are still generally considered “masculine” subjects. Deeply-rooted gender biases and stereotypes reinforce the idea that women should not pursue careers in the sciences

2. Discouragement at a young age

As students, girls often believe that science is not for them. Many times, they never have the chance to develop a love for science—too afraid of subjects like math, biology and physics.

3. The confidence gap

From a young age, girls are also told science is difficult, and that it’s unwise to pursue such a competitive field. Females at all levels—from elementary school to professionals—often lack the confidence that their male counterparts possess. Throughout their academic

careers, they tend to question their abilities and personal value—whether it’s taking advanced courses, leading a lab, or asking for a better salary.

4. A lack of role models

It can be difficult to be the only female in the math or science class. Many times, a woman’s decision to pursue a degree in the sciences depends on whether anyone encourages her to do so—and especially if that person is a woman

5. Fewer women in graduate school

To get to the higher levels of academia, women especially need this encouragement from their professors and advisor

6. The “leaky pipeline”

The biggest bottleneck in academia occurs in the postdoctoral years, after women receive their PhDs and before they reach tenure—a period often referred to as the “leaky pipeline.” This drop off of female scientists can be caused by a number of factors. One is the need to spend these postdoc years in another city or country, where scientists can work in advanced labs and take part in the most cutting-edge research. Many women are reluctant to relocate their spouses and children at this stage

7. Family life vs. research

Another factor in the “leaky pipeline” can be trying to balance a career with motherhood. Many women feel as though they can’t have kids before they achieve tenure, and if they already have families, there isn’t enough time or money to do both without some form of support (like childcare or research grants)

8. Less funding even at the higher levels

Finally, even when women reach the top levels of scientific study, female scientists worldwide receive less support for their research. In a survey across 130 countries and a variety of cultures, the female scientists received less funding, lab space, office support and grants for equipment and travel.

So how do we address these challenges? As a society, we must make a concerted effort to break down biases about women scientists, ensure young girls have the freedom and confidence to pursue careers in science, support students through every academic stage, and encourage research and universities to increase the number of female research scientists and professors. In a speech I delivered at an African Women In Agriculture Research and Development (AWARD) function in 2014 on work life balance, which is on YouTube, I shared some of my experiences. This is for all senior members, scientists and administrators.

I have learnt that excellence can only be achieved with hard work, passion and determination if one wants to be a successful female scientist or administrator.

I have learnt that it is important to keep up with current trends in your profession, subject yourself to peer review and to read widely.

I have learnt that not everyone will like you, both men and women so you have to learn to deal with it, but stay humble with all the successes you chalk up.

I have learnt to think outside the box and try to look at the total picture. I have learnt to try and listen to others and treat people with respect as everyone has something to say. You will discover that discipline, self-confidence, diligence, and working with passion are key. When you are passionate about your work you will naturally work hard at it.

In speaking about AWARD I would like here to welcome members of the Ghana Chapter of AWARD, GHAWARD. I urge all CSIR female Agricultural Scientists to join GHAWARD. Over the years AWARD has trained a lot of female agricultural scientists and mentored them. They have helped us to start a mentoring programme in the CSIR for both male and female scientists. AWARD has come up with a country chapter policy that is meant to provide direction to AWARD in its engagement with alumni and the larger African Research and Development constituencies within individual countries. Nigeria, Zambia, Ethiopia, Tanzania and Mozambique have all opened chapters and Ghana will inaugurate her chapter early next year. Thank you for coming GHAWARD. Ladies and Gentlemen our young girls need role models and I have no doubt in my mind that this Directory will provide them with the role models they need. I thank the hard working authors, Mrs. Lucy Dzandu and Mrs Grace Obeng and the team led by Dr. Mary Obodai who put this launch together. May the good Lord continue to grant the CSIR with good quality Senior Female Members who will be role models and enhance the visibility of women in Science, Technology, Engineering and Mathematics. Thank you.

APPENDIX 4 – STATEMENT ON PRODUCTION OF THE DIRECTORY

BRIEF STATEMENT ON PRODUCTION OF THE DIRECTORY

The Chairman, Distinguished Ladies and Gentlemen, All Protocol observed, I am honoured to be given the opportunity to make a brief statement on the production of this directory. The authors are first and foremost grateful to the Director-General of the CSIR (Dr. Victor Agyeman) for his support. They also thank the Deputy Director-General (Prof. Mrs. Entsua-Mensah), for assigning them with the task, and ensuring that it **came** out as a very good document. As stated earlier on, one of the objectives of compiling this directory was to develop a single document containing information on female senior members in the CSIR for quick reference, and **also to encourage young women.**

The authors, in their bid to accomplish this, designed a template, to be completed by all female senior members in the CSIR. The major challenge encountered was with the responses from female senior members. These did not come as quickly as expected. The authors had to send e-mails, and follow them up with phone calls, to remind some female senior members to submit their profiles. They also had to do a lot of contacts to seek clarification on certain aspects of the information submitted. Some of the photographs attached **are** also not very sharp! We are very sorry for the quality of some of the pictures. Next time, there will be one photographer to take all the pictures. In the end however, everything was successful.

There are plans underway to develop another Directory, this time, comprising both male and female senior members in the CSIR. The authors fervently hope that updates will be readily provided when the time comes. They express their sincere appreciation to all the female scientists who provided them with their briefs; and also, to all and sundry for the support and encouragement received during the compilation of this Directory.

Thank you.

APPENDIX 5 – SPEECH OF DR. LETITIA OBENG

SPEECH READ ON BEHALF OF DR. LETITIA OBENG

Launch of the Directory of the Female Research Scientists of the CSIR

Madam Chairman, Dear Colleagues,

I thank you for making me a part of this event.

I have always believed the Ghanaian woman to have been created with special genes which make her intellectually energetic and capable of accepting challenges and solving problems - however difficult.

Many years ago, back in colonial history, in spite of complicated cultural and ridiculous inhibitions, our Gold Coast earlier generation of women accepted challenges and responsibilities which, at the time, they were considered incompetent to handle. Through them, we had our pioneer peers and role-models who blazed dignified paths for us to follow.

And so we had, though few, in the high echelons of our education system, the Ms. Papafios, Asares, Asihenes, Addisons, Ekubans, Boafos and many others who encouraged us into higher education; the Dr. Ofori-Attas, Clerks, and amazing midwives who were capable medical specialists; the Ms. Jaggas and our formidable legal practitioners, our inspiring specialist Ms. Ekubans and our exceptionally able, social movers like Ms. Ofuatey-Cudjoe. They, long before we became independent Ghana, stood up to difficult challenges and left indelible marks for us to follow.

Fifty years ago when what is now your organization, the CSIR was initiated, it is safe to say that at the time, nobody would have taken a bet on even a few women becoming research scientists. But, like I said, I have always believed in the special qualities of the Ghanaian woman and I am glad to see its fruits.

Within a short period of establishment, even as the organization itself was finding its feet, women research scientists took their place in Research Institutes and made their contribution to the budding national research effort. I recall and pay tribute to pioneer female research scientists: Martinson, a serious dedicated and inspiring scientist, Kordylas and Andah, clearly blazing inroads to unexplored areas of food research; Janet Ofori, a serious and conscientious scientist that I can vouch for - all of them - pioneer women in science whose contributions should be etched into the history of the CSIR.

And so, it is with a much excitement that I have studied the current Directory of the Female Research Scientists in the CSIR. I believe it fortunate that the CSIR established a Directorship in your dynamic and capable Colleague, Prof Mamaa Entsua-Mensah, who in addition to asserting her own ability as a research scientist, generously dispenses innovative ideas and actions to encourage research colleagues and officers, even as she dispenses her contribution to upgrade the organization.

Against this background, it has been a great pleasure and an eye opener for me as

I have studied the Directory of the Female Research Scientists of the CSIR. What a treasure the CSIR has amassed!

What has impressed me most is first, the large number of Female Research Scientists that the CSIR has, but also, the impressive collective capabilities and experiences of the group. This needs to be underscored as a major contribution to the crucial service that the CSIR renders the country through its comprehensive program for the management of the country's many natural resources by its 13 Research Institutes.

I said earlier that I have always seen the Ghanaian woman to be intellectually energetic and willing to accept challenges and solve problems, however difficult.

I have looked at the research history presented by each of you and I am suitably impressed by the extent and range of your capabilities and the really wide experience that you have collectively chalked up and contributed to the CSIR.

I know for a fact that you will continue to be intellectually energetic as long as you stay curious about our world and are willing to accept whatever challenge it throws your way. Science and technology, provide us with a wide range of tools to investigate what challenges us. And, working tenaciously towards the solution of a problem posed, invigorates our minds and lives. And so, a humble advice is: never refuse accepting a challenge. Whether ordinary or difficult; applying your thoughts and expertise to them will always keep you invigorated and fulfilled.

In 2010, I was fortunate to be invited to participate in your Female Research Scientists Workshop. You may remember that, as part of my presentation, I invited you Female Research Scientists to accept a challenge that I proposed. Considering the impact of malaria on health in our country, I stated that mosquitoes bite us everywhere, even in the bedroom, where they squat on walls and zoom down to bite us before we get under the protective cover of mosquito nets. I had therefore at the time, invited the CSIR Female Research Scientists to accept, as a challenge, the formulation of a wall paint, effectively dosed with a mosquito-killing agent that we can use to kill mosquitoes when they perch comfortably on the walls of our kitchens, living rooms and our bedrooms. I have been most pleasantly gratified that the challenge was accepted by one of you.

Ms. Tagbor, conscious of her responsibility as a scientist contributing to the improvement of the quality of the country's buildings has been diligently working with her colleagues to develop such a paint, using ingredients that will not pose any danger to human health. She is not there yet but, the fact that she even accepted the challenge, for me, is worthy of recognition, praise and appreciation and I thank her.

I repeat that I believed the Ghanaian woman to be intellectually energetic. How else could we be who we are – in our homes, with our families, in our community, and as scientists at

work! It is at a great endowment which contributes to our desire and ability to put our intellect to use to investigate, search and strive to understand the intricacies of our world. .

Science is an exciting pastime! Never stop feeling challenged!

I very much value my long-standing link with the CSIR of Ghana and I feel proud of her Female Research Scientists and their continuing contribution to a worthy national program.

I congratulate you all, the Female Research Scientists of the CSIR; I congratulate your Colleague Deputy Director General, and, through you, I congratulate your Director General and the entire national research institution. May you continue to be diligent research scientists!

Thank you.

Dr. Letitia E. Obeng

December 7, 2016

Accra.

APPENDIX 6 – KEYNOTE ADDRESS BY PROF ABA ANDAM

KEYNOTE ADDRESS: LAUNCH OF DIRECTORY OF FEMALE SENIOR MEMBERS IN CSIR, GHANA

Prof Aba Andam

Theme: ***“Enhancing Visibility of Females in Science, Technology, Engineering and Mathematics (STEM): Pursuing the CSIR Agenda.”***

Mr. Chairman, Directors of the Council for Scientific and Industrial Research, members of the Ghanaian Women in Agricultural Research and Development, Senior Members of the CSIR, members of the press, ladies and gentlemen.

Being a woman, I am highly honoured to be invited to give the Keynote Address at this August occasion: an occasion where we seek to enhance the visibility of females in Science, Technology, Engineering and Mathematics.

I am even more honoured because I believe this occasion is a major stride towards addressing some of the key challenges of women in STEM.

In their paper entitled “Girls and Women in Science, Technology, Engineering, and Mathematics: STEMing the Tide and Broadening Participation in STEM Careers”, published in 2014, Nilanjana Dasgupta and Jane G. Stout noted that

1. Women are outnumbered by their male peers
2. Women have few same-sex role models and mentors in STEM.

In order to address these challenges the authors suggested the following;

1. Because women are often tokens or solos in their academic departments, they need other venues to network, learn, and share peers’ experiences. STEM institutions should support programs that help foster a sense of belonging among women in STEM, and encourage female in STEM to attend diversity conferences and professional society meetings in order to promote opportunities for peer networking.
2. Due to the fact that access to role models and mentors influences successful professional development, it is prudent to provide role models and mentorship for women. This can be achieved by fostering programmes or activities which allow women in STEM to meet each other, identify potential role models and possibly connect to these role models for their professional development.

I would like to note that another key challenge of the relatively few women in STEM in Ghana is the fact that their capabilities and achievements are barely visible and/or recognised. Professional development, visibility and networking are crucial in improving the abilities of scientists and other professionals in STEM to hone their skills and form linkages

which will enable them efficiently collaborate with peers and other partners. This is very important as it is becoming increasingly eminent that Innovation cannot happen in isolation.

The Council for Scientific and Industrial Research (CSIR) is the foremost national science and technology institution in Ghana which is made up of 13 Research Institutes spread along the length and breadth of Ghana. The CSIR is mandated to pursue, among others, the implementation of government policies on scientific research and development, coordinate R&D activities in the CSIR and other S&T institutions nationwide and assist the government in the formulation of S&T policies for national development. As such, the CSIR is a cardinal point from where challenges in the STEM environment in Ghana can be tackled. I applaud the CSIR for recognising this fact and taking this important step.

This program is one of the programs which will foster a sense of belonging among women in STEM, is an opportunity for peer networking, and a venue at which relatively younger or new women in STEM in Ghana can identify possible role models.

I have my copy of the Directory of Female Senior Members in CSIR, Ghana, and I know it has a wealth of information. The Directory which is being launched today, provides information on the female senior members in CSIR with specific reference to their Institutes, educational background, fields of specialization, significant research already undertaken, current research being undertaken, membership of professional associations and their contact details. I am certain this is a wealth of information which would enhance the visibility of the females in the CSIR among themselves and with the many collaborating partners of the CSIR.

I strongly encourage all of us to make good use of this program. Do take a minute or two to network at the end of this program.

Remember to refer to the Directory for the areas of specialization of the scientists. In the Men's world, the best deals are made out-of-office. We can also borrow from that. It starts with this Directory which details the hobbies of the female senior members in CSIR. Refer to the Directory and connect with the senior members for out-of-office activities as well.

I understand the Directory will be distributed to some Girl's Senior High Schools, universities and other tertiary institutions. I hope it encourages more young ladies to take up careers in STEM. I also hope collaborating partners would also identify more opportunities to harness the knowledge and skills of the Senior Members, especially Scientists in the CSIR to solve issues in our country and elsewhere.

Thank you for the invitation. Thank you all for your attention.

APPENDIX 7 – RECIPIENTS OF THE DIRECTORY

Some recipients of the Directory

Name of Institution	Number of Copies
1. CSIR – Forestry Research Institute of Ghana (FORIG)	20
2. CSIR – Food Research Institute (FRI)	20
3. CSIR – Water Research Institute (WRI)	20
4. CSIR – Animal Research Institute (ARI)	20
5. CSIR – Crops Research Institute (CRI)	20
6. CSIR – INSTI	10
7. CSIR – BRRRI	10
8. CSIR – STEPRI	10
9. CSIR – SARI	10
10. CSIR – Head Office	10
11. CSIR – PGRRI	10
12. CSIR – IIR	10
13. CSIR – SRI	5
14. CSIR – OPRI	5
15. Accra Girls’ SHS	5
16. St Mary’s Girls’ SHS	5
17. Ministry of Food and Agriculture	5
18. Ministry of Education	5
19. Ministry of Women Affairs	5
20. Ghana Academy of Arts and Sciences	5
21. WIARD	5
22. GHAWARD	3
23. University of Ghana, Legon, Balme Library	3
24. University of Cape Coast Library	3
25. Kwame Nkrumah University of Science and Technology Library	3
26. University of Mines and Technology (UMAT) Library	3
27. University of Development Studies Library	3

- | | | |
|-----|---|--------|
| 28. | University of Education, Winneba Library | 3 |
| 29. | Ghana Atomic Energy Commission (GAEC) Library | 3 |
| 30. | Cocoa Research Institute of Ghana Library | 3 |
| 31. | All CSIR Institute Directors | 1 each |
| 32. | All guests present at the launch | 1 each |

News

CSIR assists women to embrace science

By Claude Nyarko Adams

AS PART of efforts to enhance female interest in Science, Technology, Engineering and Mathematics (STEM) in the country, the Council for Science and Industrial Research (CSIR) has established a directory of female senior members.

Professor Rose Emma Mamaa Entsua-Mensah, Deputy Director General, CSIR, said this would facilitate proposition of policies to enable women to build a career in the field of sciences.

Speaking at the launch, Prof. Entsua-Mensah said that due to social, cultural, negative perception and financial challenges, interest in science among Ghanaian women continued to dwindle with the educated majority favouring the social sciences.

“Our culture has never been supportive of Ghanaian women pursuing career in the various fields in science. Although some have built a career out of it, a host of others are not confident in their abilities because it is perceived a male course”, she said.

The Deputy Director General

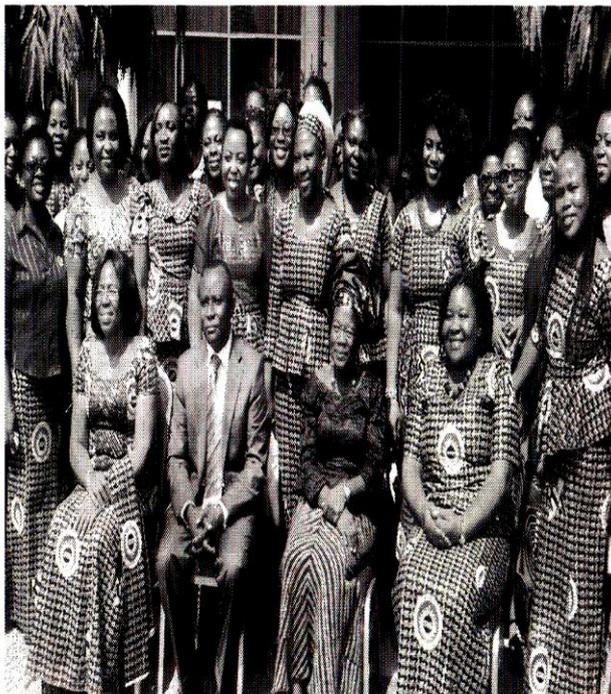
of CSIR said the situation was already on the worst path as a result of lack of role models, who would encourage young girls to take up the challenge.

Prof. Entsua-Mensah expressed optimism that the directory would offer support and guidance to females interested in pursuing science, mathematics and research as a career and would also ensure their overall development in the field.

Dr. Victor Agyeman, Director General, CSIR, commended the female senior members for undertaking the initiative to encourage females to surge further in the sciences.

He bemoaned the unfortunate situation at the various tertiary institutions where females constituted less than 20 per cent of the science and research departments, and urged for the implementation of favourable systems and structures to attract more females into that academic field.

To ensure more females take up the field, Dr. Agyeman proposed the formulation of a policy that would spell out a respectable quota for females during organisational recruitment.



Prof. Entsua-Mensah (seated, 1st from right) and Dr. Agyeman (seated, 2nd from left) and senior female members.

He noted that the coming of the directory was significant as the CSIR aimed to become more visible in its operations to dispel the growing perception that science was for males.

Dr. Agyeman reiterated management’s commitment to contin-

uously build the capacity of female staff to be able to occupy leadership positions to help the Council realise its vision.

Prof. Aba Bentil Andam, Physicist, Ghana Atomic Energy Commission, urged the members to redirect their attention on in-

vesting in their careers and maintain discipline to achieve their targeted goals.

She called on management of the Council to help female employees access finance to be able to further their education and build on their capacity.

Forestry Commission CSO move to prevent illegal logging

APPENDIX 9 – PUBLICATION IN THE DAILY GRAPHIC

Publication in the Daily Graphic – Friday, December, 23rd, 2016. Page 7, continued on Page 20

Our female scientists: *Onaapo!*

By Enmlil Ashon

SINGER Bob Marley had Ghana in mind when he wondered why "in the abundance of water the fool is thirsty". I was at the Council for Scientific and Industrial Research (CSIR) last week for the launch of a directory of the council's female researchers and as on previous visits, I wiped away a tear. I have said it and I don't exaggerate when I assert that there is no physical need in Ghana which solution cannot be found at the CSIR. Between the various institutes of this God-sent Council, there has been research into almost every area of need in this country.

Take the recently introduced insecticide wall paint that kills mosquitoes as they land on the walls of our bedrooms. Some companies have put the products on the Ghanaian market, but they are all made-in-there (imported). Fantastic product for use in the tropics.

However, the active ingredients in these paints, though not harmful, are synthetic. Therefore, for a product that will be environmentally sustainable, whose raw materials are readily available all the time, lower in price and non-toxic to humans, African countries need mosquito emulsion paints whose ingredients are sourced from nature.

Three years ago, the CSIR's Building and Road Research Institute (BRRI) developed construction materials from locally



• Prof. Aba Andam (middle) and Prof. Mamaa Entsua-Mensah (right) pose with a latter-day female researcher of CSIR at the launch

available raw materials and studies were conducted on insecticide emulsion paint formulated from locally available clays, pigments and conventional synthetic insecticide. Results of some efficacy studies have given the indication that the product has the potential of controlling mosquitoes.

The project so far has been funded by the BRRI which, like all other CSIR institutes, is cash-starved. As is now well known, government's budgetary allocations to CSIR and its Institutes are only enough to pay salaries. The actual

money for research comes from donors.

The main challenge the project faces is lack of funds to acquire some equipment needed to formulate a more durable product. The point I am making here is that but for financial constraint, it is probable that the first mosquito emulsion paint ever made in the world would have come from Ghana.

The BRRI team for the project is headed by DR (MRS) TRINITY AMA TAGBOR, a senior research scientist, who was unveiled at last week's launch of the directory on female scientists. About the

product itself, more to come later.

For now, I return to the directory launch in Accra. I missed the chance to meet Dr Leticia Obeng, the famous aquatic biologist, in person. Hard luck for me. But I was adequately compensated. I was in the company of some of the high and mighty in science.

Right there, by my side was a woman I had been trying to locate for two years. Her name is Prof. Aba Bentil Andam, a Particle Physicist. She is the Vice President (Science) of the Ghana Academy of Arts and Sciences. A researcher at the Ghana Atomic Energy Commission, she was one-time the chairperson (West Africa Region) of the Women in Science and Technology in Africa!

She stood to my left. On my right was Professor Rose Emma Mamaa Entsua-Mensah, Deputy Director of CSIR, Fellow of the Ghana Academy of Arts and Sciences, member of the Fisheries Commission of Ghana, member of Board of Trustees of the World Fish Council, and member of the Steering Committee of the African Women in Agricultural Research and Development. Mamaa, as she is affectionately called, was in 2013, honoured as Africa's Most Influential Woman in Agricultural Research, an award conferred by Creating Excellence in Organisations, a South Africa-based group. One of the few prophets who get honoured in their own country, Mamaa was, in 2012, conferred with the Award for Excellence in Scientific

• Continued on page 20

By Della Russel Ocloo, ACCRA

THE Food and Drugs Authority (FDA) has developed guidelines to regulate the collection of blood and blood components used for transfusion.

According to the FDA, the decision to regulate blood and its derivatives was in line with the Public Health Act of 2012, Act 851.

The law defined therapeutic products to include blood and blood products which must have standards regulating them to protect public health.

The authority is thus seeking to use the guidelines to progressively ensure protection of patients from unsuitable

blood and blood products.

Under the guidelines, the FDA would enforce quality standards through the inspection of blood establishments, monitoring of accidents and adverse clinical events should they arise.

Event

Speaking to the *Daily Graphic* on the sidelines of a blood donation exercise organised by the FDA in Accra, the Chief Executive Officer (CEO) of the FDA, Mr Hudu Mogtari, said the World Health Organisation (WHO) had issued a resolution requiring that blood be considered as a therapeutic agent for which reason its handling and preparations must be governed by certain standards and rules.

In this regard, he indicated that the

national blood service for the regulation of the processes used by the service in order that it puts in measures to ensure that end blood products were safe for use.

Under the MoU, the FDA would inspect all blood establishments (facilities) periodically to ensure quality standards.

"Blood in certain jurisdictions is prepared differently with component often separated for specific uses, hence the FDA would ensure that the methods used for collection and the environment in which it is prepared must be safe, while personnel involved in the process must have the requisite qualification and knowledge," Mr Mogtari said.

Risks

The Head of the Biological Unit of

transfusion.

the FDA, Dr Edwin Nkansah, said biological products such as blood and blood products were likely to come along with some inherent risk of infectious agents.

He said even though a zero risk was unattainable, the FDA could drive such risks to the lowest level achievable without unduly decreasing the availability of blood as a life-saving resource.

"The WHO has listed blood and its derivatives as parts of biological products which are essential medicines that must be of good quality and affordable", Dr Nkansah said.

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della.russel@graphic.com.gh

Our female scientists

• Continued from Page 7

Research.

I made the claim earlier that there is no physical need in Ghana for which there is no solution at CSIR. I stand by it. How come this country spent millions of cedis and yet failed so miserably in its attempt to feed the nation with and make money from guinea fowl when CSIR has tonnes of information on guinea fowl processing and marketing - the brainchild of female scientists at the Animal Research Institute.

For the traditional energy industry, CSIR's women will teach you a thing or two about ways of improving charcoal production in Ghana and energy efficiency of biomass cook stoves. Some of them will tell you how to re-engineer the popular Fante white kenkey known as 'nsiho' and there are others who will show you how, as a nation, we can add value to the cashew fruit through enriched breakfast cereal and cashew powder reconstituted as a fruit drink.

Leafing through the directory, I couldn't

believe that time was (even as recently as the 1960s) when female science students in secondary schools, especially those who picked prizes in Physics, Chemistry and Additional Mathematics, were labelled "witches". Yes, in Ghana! Today, female science students are sweeping entire awards at the Medical School! In this directory, you will come across one female scientist with three masters degrees!

The Mistress of Ceremony at the launch mentioned the difficulty encountered in literally squeezing biographical

information from the female scientists for use in the directory. If anybody was surprised, I wasn't. They were only behaving in the tradition of their "mothers". Even as the MC spoke, I looked in the direction of Prof. Mamea Entsua Mensah. I resisted the urge to disclose that for two years, I have, fruitlessly, been trying to get her to talk about herself!

Our hardworking creative female scientists. They don't come hanging on trees. In fact, "Onaapo".