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**REPORT ON SENSITISATION WORKSHOP ON  
BANDWIDTH MANAGEMENT AND  
OPTIMISATION FOR COUNCIL FOR SCIENTIFIC  
AND INDUSTRIAL RESEARCH (CSIR) HELD IN  
CSIR-INSTI, ACCRA FROM 3RD – 5TH  
NOVEMBER 2009**

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**RAPHAEL KWAME KAVI**

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## **ACKNOWLEDGEMENT**

I wish to express my sincere gratitude to the International Network for the Availability of Scientific Publications (INASP) and Council for Scientific and Industrial Research (CSIR) for the opportunity to participant in this sensitisation workshop on bandwidth management and optimisation. Finally, I am also grateful to the Director of CSIR-Food Institute for nominating me to attend this workshop.

## **EXECUTIVE SUMMARY**

The report is on the sensitisation workshop on bandwidth management and optimisation for Council for Scientific and Industrial Research that was organized by INASP in collaboration with the CSIR, Accra, Ghana from 3<sup>rd</sup> – 5<sup>th</sup> November 2009, at the CSIR-INSTI, Accra, Ghana. The workshop was to build the capacity of CSIR IT managers and professionals in the effective management and optimisation of bandwidth, in order to improve bandwidth management for research and educational purposes. Overall, Twenty-four (24) participants attended the training workshop.

Effective bandwidth management and optimisation is recognised as the easiest way in which institutions can improve their access to networked information resources yet this is rarely the case in both research and educational institutions in both developed and developing countries. The sensitisation workshop was useful and very successful since it has equipped one`s knowledge and skills in the area of bandwidth management and optimisation.

## INTRODUCTION

International Network for the Availability of Scientific Publications (INASP) and many of their partners have been interested in the issues of bandwidth management and optimization for a number of years. The role that the Internet now plays in access to, production and dissemination of information means that anyone with an interest in the accessibility of information on a global scale needs to be aware of the role of bandwidth.

Bandwidth in this sense is really just a way of describing the capacity of the Internet connectivity over a particular connection. The bandwidth of a connection to the Internet is really the capacity of that connection. The bigger the connection, the higher the bandwidth and in theory at least, the faster the Internet connection and so the faster and easier it is to access information, but of course, the higher the monthly charges for a subscriber. However, bandwidth management and optimization comes with some challenges, these are:-

- available bandwidth is limited and insufficient to meet demand
- existing capacity is usually running at maximum capacity
- the cost of bandwidth is extremely high
- expanding bandwidth capacity is limited due to finances, supply and technology

Bandwidth management and optimisation, in spite of the challenges is not managed well by institutions. Over 60% of institutions in Africa do not monitor or managed bandwidth at all ([www.attics.info](http://www.attics.info)).

In the light of the above-mentioned, International Network for the Availability of Scientific Publications (INASP) and the Council for the Scientific and Industrial Research (CSIR) decided to organise this sensitization workshop on bandwidth management and optimisation to build the capacity of its personnel to enable them adopt all the necessary measures in addressing these challenges of bandwidth management and optimisation. The key areas of capacity development to enable effective bandwidth management and optimisation are to:-

- Strengthened policy and management environments at institutional level
- Technical skills capacity building at all levels
- Improved ICT Leadership at institutional level

In all, twenty-four (24) participants draw from the Corporate CSIR and its Institutes attended the sensitisation workshop on bandwidth management and optimisation held in CSIR-INSTI, Accra, Ghana from the 3<sup>rd</sup> – 5<sup>th</sup> November 2009.

## **DAY 1: TUESDAY, 3<sup>RD</sup> NOVEMBER 2009**

### **1.0 WELCOME ADDRESS AND INTRODUCTION OF DIRECTOR GENERAL OF CSIR**

The sensitisation workshop commenced at 8:30 am with a short prayer that was offered by one of the participants. This was followed by a welcome address and an introduction of the Director General of the CSIR, Dr. A. B. Salifu by the Acting Deputy Director of CSIR-INSTI, Dr. R. Kofie to the participants and facilitators of the sensitisation workshop on bandwidth management and optimisation.

### **2.0 KEYNOTE ADDRESS BY THE DIRECTOR GENERAL OF CSIR**

The Director General of the CSIR, Dr. A. B. Salifu welcome all the participants and facilitators to the sensitisation workshop on bandwidth management and optimisation. In his keynote address, he emphasis the importance of the workshop to Corporate CSIR and its Institutes, noting the need to build capacities of the IT managers and other professionals in order to address various issues in bandwidth management and optimisation that confronted the CSIR in the advent of scare resources in the Council. He advised all the IT managers and professionals at the workshop to acquire all the necessary skills and knowledge to build their capacities to solve the various challenges in the bandwidth management and optimisation. Finally he wish all the participants and facilitators to the workshop a successful and fruitful deliberations.

### **3.0 POLICY DEVELOPMENT TO SUPPORT BANDWIDTH MANAGEMENT AND OPTIMISATION**

Bandwidth in the developing world is very expensive and one area of importance in confronting the challenges with bandwidth management and optimisation is through policy development. This session was facilitated by Mr. E. Afari-Kumah, Scientific Information Officer, CSIR-INSTI, Accra. The participants were introduced to the following policy issues: - developing appropriate policies for use in BMO, sample policy review and development, planning an effective policy development process, writing an effective policy, implementing policy, policy implications and applications in bandwidth management and optimisation, user authentication requirements and features to support effective policy, the role of a supportive policy environment within BMO and institutional success, and why policies often fail and characteristics of unsuccessful policy development.

### **4.0 INTERNET BANDWIDTH CHALLENGES**

During the sensitisation workshop for bandwidth management and optimisation, the participants were taken through Internet bandwidth challenges: strategies for optimizing and managing bandwidth in low bandwidth environments by Mr. E. Afari-Kumah and Mr. H. A. Obiri, Deputy Director of CSIR-IIR, Accra. The critical issues addressed during this session were: - the review of the challenges that research institutes / universities face in relation to Internet service provision

and access (bandwidth), review of the role of bandwidth management in these issues (now and in the future), review of the role that ICT staff and technicians have to play in this area and an examination of possible actions and best practice for ICT staff and technicians in confronting the challenges of bandwidth management and optimisation in research institutes and universities.

Participants were also taken through a step by step approach on the review of Internet connectivity requirement of the CSIR Secretariat and its Institutes and other non-CSIR Institutes participating in the AgSSIP Project, the design, procurement and implementation as well as commission of CSIR Wide Area Network to link CSIR Institutes and Institutions participating in AgSSIP, Procurement and installation of Internet connectivity and provision of Internet between Institutes, redesign and relaunching of CSIR Corporate Website as well as other Institutes participating in the AgSSIP and training of staff to manage, administer and maintain the system.

## **DAY 2: WEDNESDAY, 4<sup>TH</sup> NOVEMBER 2009**

### **5.0 BANDWIDTH MANAGEMENT ESSENTIALS**

Participants at the sensitisation workshop also deliberated on the issue of bandwidth management essentials: issues for executive, senior management and ICT staff of the research institutes and universities. The critical lessons addressed during this session were:- discussions of the challenges and solutions to bandwidth management and optimisation, comparison of technical and policy-based solutions and determination of which appropriate policy-based solution that can be used within each research institution and universities to overcome the challenges of bandwidth management and optimisation.

### **6.0 DEVELOPING APPROPRIATE POLICIES FOR USE IN BANDWIDTH MANAGEMENT AND OPTIMISATION**

The participants during the sensitisation workshop on bandwidth management and optimisation were introduced to various policies that had been developed for some research and educational institutions in both developed and developing countries to address the challenges of their bandwidth management and optimisation. These documents were to enable the participants appreciate the problems and also serve as a tool to assist them in drafting and formulating their policy after the end of the training workshop for their institutions to enable them manage their bandwidth challenges.

## **DAY 3: THURSDAY, 5<sup>TH</sup> NOVEMBER 2009**

### **7.0 BANDWIDTH MANAGEMENT AND OPTIMISATION AND FOLLOW UP ACTIVITIES**

After the completion of the sensitisation workshop on bandwidth management and optimisation, participants were expected to examine the importance of a supportive policy environment for successful Bandwidth management and optimisation, reviewed key policies and an appropriate policy development framework, reviewed Bandwidth management and optimisation supportive policies and also create an institutional level policy development action plan to address the challenges of bandwidth management and optimisation in their respective institutions.

All the participants were challenged to implement the skills and knowledge that they have acquired at their institutions in order to address the bandwidth management and optimisation problems ensure adequate use of the Internet and access to quality information for their research and educational purposes.

### **CONCLUSION**

Effective management and optimisation is recognized as the easiest way in which institutions can improve their access to networked information resources yet this is rarely the case in both research and educational institutions in both developed and developing countries. Thus there is the need for skills training to improve bandwidth management, in order to improve the quantity and quality of bandwidth for research and educational purposes. The sensitisation workshop was useful and very successful since it has equipped one`s skills and knowledge in the area of bandwidth management and optimisation.