"Water and Sanitation Services Delivery in a Rapidly Changing Urban Environment"

College of Physicians and Surgeons, Accra
5th - 7th September, 2011

Prepared by:

RAPHA CONSULT
P. O. Box MD 1241, Madina Accra
WWW.RAPHAONLINE.ORG; INFO@RAPHAONLINE.ORG
Mob No.: +233 (0)20 8117978; +233 (0)26 8117978
Tel/Fax No.: +233 (0)303 403349;
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<td>COM</td>
<td>Community Ownership and Management</td>
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<td>Coalition of NGOs in Water and Sanitation</td>
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ACKNOWLEDGEMENTS

The 3rd Ghana Water Forum was organised under the auspices of the Ministry of Water Resources, Works and Housing. The Organising Committee for the forum was responsible for the selection of the theme and for planning the plenary and parallel sessions and side events. The members of the Organising Committee were as follows:

- Dr. Sumani Alhassan – Director for Water, MWRWH
- Mr. Minta A. Aboagye – Former Director for Water, MWRWH
- Mr. Harold Clottey – Chairman (Water Directorate, MWRWH)
- Ms. Patricia Buah – Coordinator (Water Directorate, MWRWH)
- Mr. Harold Esseku – Process Consultant (Rapha Consult)
- Dr. Frederick Amu-Mensah - Chair, Paper Review C’tee (Water Research Institute)
- Mr. Attah Arhin – Chair, Sponsorship & Procurement Sub-Committee (Water Directorate, MWRWH)
- Ms. Bertha Darteh – Chair, Technical Sub-Committee (SWITCH)
- Mr. Stanley Martey – Chair, Publicity Sub-Committee (Ghana Water Company Limited)
- Mrs. Adwoa Dako (Water Resources Commission)
- Mrs. Theodora Adomako-Adjei (Community Water and Sanitation Agency)
- Mr. Michael Agyeman (Ghana Water Company Limited)
- Mrs. Vida Nyenku (Environmental Health and Sanitation Directorate, MLGRD)
- Dr. Benjamin Gyampoh (International Water Management Institute)
- Mr. Samuel Appenteng (Association of Ghana Industries)
- Mr. Kwame Frempah-Yeboah (CIDA)
- Mr. Samuel Amoako-Mensah (UNICEF)
- Ms. Lamisi Dabire (Triple-S)
- Mr. Abu Wumbei (RCN)
- Mr. Alexander Obuobisa-Darko (WASHCost)
- Mr. Emmanuel Addai (Water and Sanitation Monitoring Platform)
- Mr. Oduro Donkor (CONIWAS)
- Mr. Peter Serinye (Watsan Journalists Network)
- Mr. Karim Janfaru Saeed (Vestergaard Frandsen West Africa Ltd.)
- Mr. Abraham Otabil (Public Relations, MWRWH)
- Ms. Suzzy Abaidoo (Water Directorate, MWRWH)
- Mr. Albert Ekufu (Water Directorate, MWRWH)
- Mr. Kwabena Asare Gyasi-Duku (Water Directorate, MWRWH)
- Mr. Enoch Ofosu (Water Directorate, MWRWH)
• Mrs. Louisa Wosey-Kumah (Water Directorate, MWRWH)
• Ms. Anita Effah (Water Directorate, MWRWH)

The rapporteurs for the conference were as follows:
• Mr. Emmanuel Addai
• Mr. Abdulai Nashiru
• Ms. Adwoa Paintsil
• Mr. Emmanuel Adisenu
• Mr. Mensah Owusu
• Mr. Samuel Antonio
• Mr. Enoch Ofosu
• Mr. Harold Esseku
• Mr. Benjamin Lartey
• Ms. Basilia Nanbigne
• Ms. Sylvia Agyeibea Akuffo
• Mr. Augustine Adams
• Mr. Mawuli Lumor
• Mr. Patrick Apoya

The Scientific Committee which reviewed papers presented at the forum comprised of:
• Dr. Frederick Amu-Mensah – Chairman
• Ing. Dr. Kwabena Britwum Nyarko
• Ing. Dr. Edward Sabi
• Ing. Joseph Kenneth Buckson
• Dr. Patrick Moriarty

The Moderator for the opening and closing ceremonies was Mr. Patrick Apoya of Sky Fox Consult.

The collation and preparation of the conference report was carried out by Harold Esseku, Process Consultant for the Third Ghana Water Forum.

The major sponsors of the 3rd Ghana Water Forum include the following:
• European Union
• UNICEF
• Coca-Cola Equatorial Africa Limited
• Guinness Ghana Breweries Limited
• World Vision Ghana
• PolyTank
• Newmont Ghana Gold Limited
• GWCL

Supporting sponsors include the following:
• WaterAid
• CHF International
• IRC (International Water and Sanitation Centre)
• IWMI
• Plan Ghana

Partner Institutions include the following:
• Association of Ghana Industries
• Environmental Health and Sanitation Directorate
• Community Water and Sanitation Agency
• Water Resources Commission
EXECUTIVE SUMMARY

Preamble and Overview
The Third Ghana Water Forum was organised by the Water Directorate of the Ministry of Water Resources, Works and Housing from 5th – 7th September, 2011 at the Ghana College of Physicians and Surgeons, Accra. The forum focused on issues on water and sanitation in urban areas in Ghana and was under the theme: “Water and Sanitation Services Delivery in a Rapidly Changing Urban Environment”.

The forum brought together participants from government institutions, the private sector, NGOs, development partners, academia, District Assemblies and international organisations who are into water and sanitation.

Three side events were organised as part of the forum, and each side event has a separate communiqué. The side events were:

- Ministerial and Development Partners Roundtable (M&DPR)
- Business Roundtable
- Children and Youth Forum (CYF).

Dr. Iyabode Olusanmi, the Country Representative of, spoke on behalf of the Development Partners. She recapped progress made by the sector in the last year and gave three specific issues on Ghana’s rapidly growing cities as follows:

- The proposed establishment of the Ghana Urban Water Company Limited and commended the Government on the setting up of a Transitional Steering Committee to guide the process;
- The continued extremely poor state of Ghana’s urban sanitation flies in the face of the middle income status of the country; and
- Peri-urban fringes are fast growing and can be overlooked under the current institutional arrangements.

The keynote address at the opening of the conference was delivered by the Minister for Water Resources, Works and Housing, Hon. A. S. K. Bagbin, on behalf of His Excellency, The President. He reiterated the commitment of government to work to achieve the MDGs and even go beyond the MDG target of 76% and reach the national target of 85% for water by 2015. He emphasized the commitment of government to the SWA Compact and the government strategy of providing 20,000 boreholes to rural communities. He also urged Assemblies in big cities to coordinate among themselves in accordance with the relevant laws to achieve urban goals in water and sanitation.
The theme address was delivered by Prof. Kwamena Ahwoi of GIMPA. He made key suggestions and recommendations which include the following:

- Ghana’s rapidly increasing urban population means we cannot continue the use of old systems for the provision of water and sanitation which have been largely ineffective;
- Water, sanitation and environmental hygiene should be holistically managed and controlled together;
- The need to decentralise the water and sanitation sector in such a way that it will be managed at the appropriate local level with the participation of the people;
- The possibility of production, transmission and distribution of water being done by different bodies or organisations as well as introducing the novelty of Independent Water Producers;
- The possibility of ‘regionalising’ urban water supply and management by clustering urban settlements around the water production and treatment sources;
- Water should be considered a ‘natural right’ and ensure that any options should have a ‘safety net’ to cater for the marginalised. A water fund should be set up to serve this safety net among others.
- The fiscal decentralisation principle of ‘the finances follows the functions’ must be applied in the sanitation sub-sector.

Statements

After three days of deliberations and discussions, participants came up with the following recommendations on urban water and sanitation services delivery in Ghana:

1. A National Water Fund should be set up for Monitoring and Evaluation as well as for capital expenditure in the sector and also to serve as a safety net for the poor and marginalized.
2. There should be a paradigm shift from waste disposal to waste re-use for wealth generation and the creation of an enabling environment for investments in waste re-use.
3. The Sector Strategic Development Plan (SSDP) should be well disseminated after its finalization through an effective communication strategy.
4. As a way forward for urban water services, management of urban water supply services should deepen decentralization to enhance efficiency. The separation of the key functions of production, transmission and distribution to be handled by different entities could also be considered.
5. The concept of Independent Water Producers (IWPs) should be considered in the new scheme of things for the sector, and the Private Sector should be involved in these processes.

6. Self-supply of water facilities should be recognized and mainstreamed into service delivery options to accelerate coverage and promote sustainability.

7. Guidelines should be developed to define a clear role for the private sector in the management of urban water services.

8. Partnerships for collaboration between the private sector and the public sector and also among private sector players should be strengthened.

9. The sector should identify and implement a uniform monitoring and evaluation system as a matter of urgency.

10. Funding for Post-Construction support for small towns should be provided.

11. Clear cut funding should be targeted for sector stakeholders to enable households provide their own sanitation. Local authorities should also carry out their mandate to ensure building codes are enforced with respect to provision of toilet facilities.

12. Sanitation technologies which have resource recovery mechanisms especially for agriculture and energy should be adopted and implemented.

13. Rainwater harvesting should be encouraged in the construction of new buildings with an incentive scheme.

14. Extensive surveillance and stringent measures should be put in place to monitor surface water, groundwater and drinking water quality nationwide.

15. National frameworks should be developed to guide Public-Private Partnerships as well as Community-Utility Partnerships.

16. A mechanism to encourage and utilize knowledge generated within the sector should be created to minimize waste of resources and improve efficiency.

**Conclusion**

The conference therefore concluded that water, sanitation and hygiene services in general should be integrated. Sector stakeholders and institutions including the private sector should play their defined and interlinked roles. Decentralised institutions should also be strengthened and the necessary resources made available for them to undertake their roles effectively.

*Accra, Ghana, September 7, 2011*
1 INTRODUCTION

1.1 Background

The Ghana Water Forum (GWF) is the major programme on the Ghana Water Sector Calendar. The GWF is organised by stakeholders in the Water Sector in Ghana, under the auspices of the Ministry of Water Resources, Works and Housing. The concept for organising an annual Water Forum in Ghana was mooted at the last annual Joint GOG/Development Partners Conference held at Akosombo in September 2008. At this conference, it was agreed that the annual conference should be expanded to include a broader range of stakeholders to meet and deliberate on issues affecting the sub-sector and to chart a path for the water sector to achieve sustainable water and sanitation delivery in Ghana. The expanded conference serves as a learning and sharing platform for the sector.

1.2 Theme for the Third Ghana Water Forum (GWF-3)

Water supply coverage in Ghana has seen an improvement since the launch of the Millennium Development Goals in the year 2000. Rural coverage has increased by around 20% over the period, but coverage for urban water has remained fairly stagnant according to supplier-based information available from the Community Water and Sanitation Agency (CWSA) and the Ghana Water Company Limited (GWCL) for rural and urban water supply respectively.

Due to the perceived inadequacies of rural water supply attributable to the apparent lack of capacity and resources in rural areas, there has been concentration of efforts in the rural sub-sector. Indeed the Donors Conference, which became the Joint GOG/Development Partners Conference, was initially focused on rural communities and small towns. The recognition both locally and internationally that urban areas in developing countries are facing severe water and sanitation challenges led to the selection of the theme for the Third Ghana Water Forum (GWF-3) which was, *Water and Sanitation Services Delivery in a Rapidly Changing Urban Environment*. 
1.3 **Objectives of the Third Ghana Water Forum**

The main objectives of the Third Ghana Water Forum (GWF-3) included the following:

- Creating a platform for all the relevant sector stakeholders in Ghana including the political leadership, sector institutions, decentralised structures, water sector professionals, NGOs and Development Partners to discuss and review strategies for sustainable urban and peri-urban water supply and sanitation services;
- Ensuring that gains made in the rural and small towns sub-sector are maintained and improved upon for the good of citizens living in these areas;
- Reviewing and analysing the National Water Policy, the Environmental Sanitation Policy and the Urban Policy (soon to be launched), to identify the key issues that need to be tackled to ensure urban water supply and sanitation policies and strategies are implemented effectively and efficiently;
- Reviewing the governance structure for urban settlements to ensure all stakeholders including municipal authorities, civil society and the citizenry at large all understand their roles and play them effectively especially with respect to water supply and sanitation;
- Taking stock of the status of the achievements of the MDGs in Ghana, reviewing key achievements and challenges and proposing strategies and actions for accelerating the achievement of the water and sanitation targets; and
- Formulating concrete policies, strategies and actions, taking into account the challenges and impact of climate change and variability and social inclusion to ensure the long-term sustainability of urban and peri-urban water supply and sanitation services.

1.4 **Thematic Areas of the Third Ghana Water Forum**

The thematic areas for the Third Ghana Water Forum included the following:

- Improving Access to Basic Sanitation in Ghana – The Enabling Environment
- Addressing the Urban/ Peri-Urban Sanitation Challenge
- Accelerating the Progress Towards the Achievement of the MDG on Sanitation
- Urban Water Supply- Effective Service Delivery
- Enhancing the Management and Utilisation of Water Resources
- Drinking Water Quality – A Focus on Some Critical Issues
• Innovations in Water Treatment and Service Delivery
• Economic Considerations on Some Key Issues in the Water Sector
• Water Supply in Ghana- A Review of Key Sustainability Factors

Discussion sessions on sector issues were also on the following:

• Urban Governance – Management of Sanitation and Water Supply: The Roles and Responsibilities of Key Stakeholders
• Sector Learning – Knowledge Management
• Governance Policy & Management in the WASH Sector in Ghana
• Can Self-Supply Deliver Safe Drinking Water?
• Sanitation and Wastewater Use: Treatment for Re-use
• Urban Water Management in Ghana: Options and Strategies

2 MAJOR FEATURES OF THE PROGRAMME

2.1 Opening Ceremony

The opening session of the forum was a high-level ceremony. The Minister for Water Resources, Works and Housing, his Deputy, and the Deputy Ministers for Women and Children’s Affairs and Food and Agriculture were present.

The welcome address was delivered by the Chief Director of the Ministry of Water Resources, Works and Housing. He welcomed participants to the forum and urged them to deliberate dispassionately and come out with useful recommendations.

Dr. Iyabode Olusanmi, the Country Representative of UNICEF, spoke on behalf of the Development Partners. She recapped progress made by the sector in the last year and gave three specific issues on Ghana’s rapidly growing cities as follows:

- The proposed establishment of the Ghana Urban Water Company and commended the government on the setting up of a Transitional Steering Committee to guide the process;
- The continued extremely poor state of Ghana’s urban sanitation flies in the face of the middle income status of the country; and
- Peri-urban fringes are fast growing and can be overlooked under the current institutional arrangements.

The theme address was delivered by Prof. Kwamena Ahwoi of GIMPA. He made key suggestions and recommendations which include the following:

- Ghana’s rapidly increasing urban population means we cannot continue to use of old systems for the provision of water and sanitation which have been largely ineffective;
- Water sanitation and environmental hygiene should be holistically managed and controlled together;
- The need to decentralise the water and sanitation sector in such a way that it will be managed at the appropriate local level with the participation of the people;
- The possibility of production, transmission and distribution of water being done by different bodies or organisations as well as introducing the novelty of Independent Water Producers;
• The possibility of ‘regionalising’ urban water supply and management by clustering urban settlements around the water production and treatment sources;
• Water should be considered a ‘natural right’ and ensure that any options should have a ‘safety net’ to cater for the marginalised. A water fund should be set up to serve this safety net among others.
• The fiscal decentralisation principle of ‘the finances follows the functions’ must be applied in the sanitation sub-sector.

The keynote address at the Opening of the Conference was delivered by the Minister for Water Resources, Works and Housing, Hon. A. S. K. Bagbin, on behalf of His Excellency, The President. He stated that, the theme is appropriate looking at the huge challenge in urban water service delivery. He reiterated the commitment of government to work to achieve the MDGs and even go beyond the MDG target of 76% and reach the national target of 85% for water by 2015. He emphasized the commitment of government to the SWA compact and the government strategy of providing 20,000 boreholes to rural communities. He also urged assemblies in big cities to coordinate among themselves in accordance with the relevant laws to achieve urban goals in water and sanitation.

Statements were also made by representatives of the Association of Ghana Industries (AGI) on behalf of the Business Community in Ghana, Children and Youth of Ghana, Ministry of Environment, Science and Technology, the Coalition of NGOs in Water and Sanitation (CONIWAS). Coca-Cola Equatorial Africa Limited and Guinness Ghana Breweries Limited launched the Safe Water for Africa Partnership which aims at providing investments to the sector to help achieve the MDGs for water and sanitation.

The chairperson for the opening ceremony was Nana Agyepong Debrah III, General Secretary of the Friends of Rivers and Water Bodies. He stated that the forum is to offer the platform for sector players to complement each other’s efforts to help solve the crisis in which water and sanitation service delivery, especially in the urban setting, finds itself. He said the available statistics on service provision especially for sanitation are not encouraging and called on all participants and stakeholders to work hard to ensure that the MDG targets are achieved.
2.2 Exhibition

An exhibition was mounted throughout the duration of the conference by sector institutions, government agencies, the business community, development partners and NGOs. The exhibitions showcased achievements, innovations and business opportunities available in the water and sanitation sector. The exhibition was opened by the Deputy Minister for Water Resources, Works and Housing, Dr Hannah Louisa Bissiw, on behalf of His Excellency, The President. The exhibitors at the forum included the following:

- Ghana Water Company Limited
- Community Water and Sanitation Agency
- Water Resources Commission
- UNICEF
- WaterAid
- PolyTank
- RCN
- Coca-Cola Equatorial Africa Limited
- Guinness Ghana Breweries Limited
- WaterHealth Ghana

2.3 Sector Updates

The Ghana Water Forum serves as a platform to review sector activities over the year. There were presentations by the three main sector agencies namely, the GWCL, WRC and CWSA on the status of their activities over the year under review. An update of actions and recommendations from the Second Ghana Water Forum and the outcomes from the Mole Conference organized by CONIWAS were also presented.

2.4 Children and Youth Forum

The CYF was organised by the youth and children of Ghana under the auspices of the United Nations Children’s Fund (UNICEF). The main purpose of the CYF was to create an awareness in the future leaders of the nation, with respect to the importance of water and sanitation services delivery in general and the challenges faced by the people in urban communities and the role they can play. The children presented a communiqué at the closing ceremony which gave their position on water and sanitation issues.
especially as it affects children in the country. The recommendations in the communiqué are as follows:

1. We believe it is crucial to provide regular supply of potable water to our communities. It is also necessary to ensure that regular checks are done on water pipes running through our communities to prevent too much loss and contamination should these pipes be broken.
2. Well-structured measures should be put up to curb sanitation-related problems, especially in urban areas. Such measures include:
   a. Punishing people who openly defecate
   b. Increasing the number of sanitation officers and supervisors in the communities
   c. Using the media (especially the radio) to educate people on very simple ways of water purification
3. We should also encourage recycling of waste materials such that electric power can be generated from waste for use in our homes.
4. To address the problem of climate change, more incinerators should be built so that smoke from the rubbish burnt in them will not cause environmental hazards.

2.5 Ministerial and Development Partners Roundtable

The Ministerial and Development Partners Roundtable (M&DPR) was one of the major side events of the forum. The M&DPR was chaired by the Minister for Water Resources, Works and Housing. Ministers and senior officials of four Ministries namely, the Ministry of Water Resources, Works and Housing, Ministry of Finance and Economic Planning, Ministry of Local Government and Rural Development and the Ministry of Women and Children’s Affairs were represented at the M&DPR. Country Representatives of about ten Development Partners were represented. The Coalition of NGOs in Water and Sanitation were also present. After deliberations, the roundtable came up with the following recommendations for urgent action:

- Given the fast pace of urbanization, and the need to meet the growing demand for water for consumption, industry and commerce, there is the need for more drastic reforms in urban water delivery currently under the jurisdiction of GWCL. Reform options for consideration may include efforts to break the monopoly of GWCL such as “Regionalisation”, separating the roles of Water Production and Distribution or complete Decentralisation up to municipal levels.
- A more concrete role for communities in the management and delivery of urban water within the GWCL supply areas can substantially improve governance and
increase access to Water and Sanitation Services, especially to the poor and in peri-urban areas.

- A deliberate strategy/approach for peri-urban and pro-poor service delivery is required to address the unique characteristics of peri-urban and low-income areas. While the approach should ensure a lead role for Local Governments with clear logistical support from government, a measure of responsibility needs to be identified for communities in the delivery of services.

- In line with priorities for sanitation identified by MDG Accelerated Framework (MAF), the Ministry of Finance and Economic Planning should fulfill government’s part of the commitments of the Ghana Compact in the 2012 budget, and subsequent budgets up to 2015.

- Cabinet should as a matter of urgency approve the Strategic Environmental Sanitation Investment Plan (SESIP) as a matter of urgency towards financing priority actions on sanitation.

- Development Partners and Government should further meet to explore additional funding mechanisms to address the priorities of the MAF.

- Budgetary allocation for sanitation is dwindling, hence the call for Ministry of Finance and Economic Planning to urgently consider increasing funding to this sub-sector. A cross-sectoral and multi-stakeholder approach is required to deliver on the sanitation targets – or at least bring the country back on track to achieving the sanitation targets.

- Capacity of the two lead Ministries needs to be strengthened to deliver sector commitments. For the two Directorates, this is even more urgent in the short-term and a long-term well-tailored capacity strengthening programme should be developed.

- Effective public oversight for achievement of the MDG targets is critical hence the urgency required to complete appointments of head of GWCL as has been done for CWSA and WRC.

- Strengthen regulatory bodies to be able to hold service providers accountable.

- A comprehensive plan needs to be developed with clear budget lines for implementing the Ghana SWA Compact which represents a worthwhile example to other countries. Demonstration of commitment in budgetary allocations – current and in the future, will re-deepen confidence of citizens in relevant Government Ministries.

- With the SSDP almost finalised, and having moved towards the end of the road map for the implementation of SWAp, it is essential for the scope and core deliverables to be clarified in order to enhance implementation. Key areas to be
considered should include urban sanitation while recognizing institutional mandates for operationalising the plans.

- Further discussions should be held between the Ministry of Water resources, Works and Housing, Development Partners and the Ministry of Finance and Economic Planning to discuss realistic financing modalities.

- The Water Directorate and the Environmental Health and Sanitation Directorate, that are expected to coordinate the implementation of SWAp, need strengthening to be able to deliver upon their mandate. Donor projects and funding aligned with SWAp arrangement will have tremendous impact in the sector. Of particular concern is the continued use of project staff in the Water Directorate and the slow progress towards mainstreaming them within the Civil Service.

- A detailed and comprehensive analysis of the 2011 budget should be carried out before the end of the year to establish the extent of achievement (including government’s contribution) with regard to the fulfillment of the Ghana Compact. This will not only inform the Ministry of Finance and Economic Planning on budgetary allocations for the WASH sector during 2012, but will also be shared with the international community, given the high level of interest and enthusiasm in the Ghana Compact within the international community.

- It is critical for a sector re-think and consideration for the creation of two Ministries – one responsible for water and the other, responsible for urban and housing planning. The rationale is to both give visibility to the sector and improve focused planning and implementation of commitments regarding basic urban sanitation.

### 2.6 Business Roundtable

The Business Roundtable brought together the business community in Ghana under the chairmanship of the Association of Ghana Industries (AGI), to deliberate on how to promote private sector innovation in urban water and sanitation services delivery in Ghana. Presentations were made on the Water Sector Strategic Development Plan and the role the Private Utility Service Providers Association (PRUSPA) play in the management of small towns’ water supply systems. The Community Water and Sanitation Agency and the Triple-S Project presented the role the private sector can play in ensuring the sustainability of services provided. Deliberations focused principally on urban water services and the role the private sector can play.

The following recommendations were made based on discussions:
1. Development of guidelines to define the role of private sector in management functions in areas such as, revenue mobilisation and improvement of efficiency vis-a-vis the whole value chain – production, transmission, distribution. These guidelines should build on the PPP Policy and PSP Framework that are already in the pipeline.

2. Formation of partnerships for collaboration. These partnerships will not just be between the Public and Private Sectors, but also among Private Sector Players. This will allow the building of synergy with the aim of scaling up project interventions in water and sanitation.

Building upon the second recommendation, the following actions were taken to provide an impetus for the next steps:

1. A team comprising various players in the private sector, as well as government agencies, was formed to follow up on recommendations from the roundtable and other private sector initiatives for the water sector.

2. The team will be coordinated by the AGI and should meet quarterly on key issues. This team will be made up of Triple-S, Coca-Cola Equatorial Africa Limited, AGI, PRUSPA, the Business Community, companies with specific interest in water; sector agencies – GWCL, CWSA, WRC, PURC and private sector operators.

3. The first meeting for this team was scheduled for 6th October, 2011. This meeting will establish protocols and clearly define functions and identify specific opportunities for collaboration among members. Temporary facilitators have been identified to support with the coordination of this group.

2.7 Thematic Sessions

This involved presentations and discussions in plenary and parallel sessions and served as the main focal event to raise topical issues relating to the thematic areas and to seek national consensus to address them. Papers presented during the thematic sessions were from the call for papers made by the Organising Committee. The details of the presentations and abstracts of papers are available at www.ghanawaterforum.org.
3 OUTCOMES OF THEMATIC SESSIONS FROM PARALLEL GROUPS

This section outlines the key issues and opportunities for progress and challenges identified during the parallel sessions on the second day of the forum.

3.1 Wealth from Waste

3.1.1 Key Issues

• The current focus of waste management in Ghana focuses too much on collection and disposal, rather than exploring options for re-use.

• Waste management projects in the past have generally been designed with the provision of subsidies for beneficiaries, rather than identifying target markets. This has generally not been successful, since access to improved sanitation remains low while people remain poor and suffer from waste-related health hazards.

3.1.2 Opportunities for Progress

• There are a number of waste-based businesses that can be promoted. Wastewater may be used safely for urban agriculture when farmers are given the needed orientation to prevent crop pollution.

• Faecal sludge can be composted and turned into organic fertilizers for sale, a practice which can also boost agriculture and minimize sludge disposal challenges.

• Waste disposal issues, including reuse and resource recovery, have adequately been highlighted in the Environmental Sanitation Policy.

• There is an emerging private sector interest in waste for wealth, and there are practical examples of positive waste for wealth interventions in Ghana. There is also adequate research documentation with recommendations for effective operations and marketing strategies.

• Existence of Agriculture Extension Service Units in every MMDA can facilitate promotion of waste reuse for agricultural purposes.
3.1.3 Challenges

- There is a prevalent negative mindset about re-use of waste and this requires change.
- Research findings on waste re-use have not been adequately disseminated to make an impact on the sector. There is therefore inadequate education and sensitization of the public on the benefits that can be obtained from waste.

3.1.4 Recommendations

- There is need for a paradigm shift from waste disposal to waste re-use for wealth generation.
- There is need to apply the appropriate marketing strategies to promote waste re-use and waste-related products.
- Research findings on waste re-use options should be adequately disseminated. An enabling environment for investing in waste re-use should be created.
- Financial institutions should be sensitized to support the waste re-use sector.

3.2 Governance

3.2.1 Key Issues

- Water supply in Ghana is currently inadequate, as only 63% of Ghanaians have access to potable water. This situation has forced a number of households to install their own water supply facilities as a coping strategy. There is evidence of the existence of many households practicing self-supply in both urban and rural areas. Current M&E systems however, do not capture self-supply and hence the exclusion from current coverage figures. Self-supply needs to be recognised as an emerging issue so households will adopt safe practices associated with it in their quest to improve their water supply.
- Sector M&E systems are not harmonized and this affects sector information gathering and information management. The WASH sector is currently characterized by fragmented projects with little coordination.
- The MDG targets for sanitation seem impossible to achieve, based on the current trends. It is necessary to adopt new innovative and dynamic strategies if any meaningful impacts are to be made by 2015.
• Most of the commitments spelt out in the Sanitation and Water for All compact that was developed and launched in 2010 have not yet been fulfilled.

• Capacity development for the Water Directorate and the Environmental Health and Sanitation Directorate and sector funding remain key issues requiring attention.

• The way forward for urban water management is critical with the expiration of the Management Contract with Messrs. Aqua-Vitens Rand Limited. There is the need for government to chart a clear road-map with the involvement of all stakeholders.

3.2.2 Opportunities for Progress

• The practice of self-supply is already widespread in both urban and rural areas. People even feel proud to own their water supply systems so its promotion and consolidation may not be difficult. Rainfall patterns, groundwater resources and the existing capacity of the private sector in the provision of services may facilitate the promotion of self-supply.

• There is ongoing work on a sector wide M&E plan and the development of a Sector Strategic Development Plan. These are expected to result in a harmonized and well coordinated systems for effective sector M&E.

• The MDG Accelerated Framework (MAF) presents a marketable tool to solicit funds to accelerate sanitation services delivery, as the various components have costs attached to them and potential bottlenecks have been identified.

• The MWRWH is currently developing a scheme of service for the Water Directorate to properly mainstream its activities in the Ministry and to improve its coordination capacity.

• Ghana has the required human resource to effectively manage its water production, transmission and customer management.

• There are a number of models for urban water supply management yet to be tested in Ghana. These include:
  
  o Separation of the functions into production, transmission, distribution and customer service to be managed by different entities.
  
  o Different companies may be engaged to manage urban water supply based on viable delineation of supply areas.
  
  o Public-Private Partnership arrangements.
3.2.3 Challenges

- The National Water Policy is not clear on self-supply and there may be the need for a review since there are no guidelines for self-supply. Contamination of water sources for self-supply may result due to the lack of guidelines.

- There should be a review of the staffing situation in the Environmental Health and Sanitation Directorate and the Water Directorate to ensure permanent staff with the required expertise are in place.

- Political interference in urban water supply affects the selection of the right human resources and decision-making by the management of the utility and thus has a negative impact on productivity.

3.2.4 Recommendations

- Self-supply should be mainstreamed in water services delivery so that the practice could be given the needed recognition and attention.

- The sector M&E plan and the SSDP that are currently being developed should incorporate self-supply.

- Government must show clear leadership and commitment to the SWAp process and in the implementation of the SWA Compact and the MDG Accelerated Framework.

- There is need for a communication strategy as well as a manual for the implementation of the SSDP.

- Urban water supply should be re-organized with the separation of the functions into production, transmission, distribution and customer service managed by different companies or different companies may be engaged to manage urban water supply based on viable delineation of supply areas or both.

- There should be a clear working position for urban water supply, such that there is clarity on whether water should be seen as a public good, social good, commercial good, etc.

- Management contracts for the various options for urban water should have measurable indicators to ensure sustainability.
3.3 Sanitation

3.3.1 Key Issues

- People in low-income communities in urban centres need to be motivated to construct household toilets to accelerate sanitation coverage.

- There is the need to look at socio-cultural barriers to the use of toilets to accelerate latrine adoption, use and scale-up.

- Complexity around the definitions of improved and unimproved toilets requires national action to define as it will have an impact on the national sanitation coverage. This should include a consensus on the types of shared facilities which can be categorized as improved or unimproved.

- A clear policy should be developed on the provision of toilets in multiple-ownership households and in compound houses. The issues of unavailability of space and use of facility by only a landlord or only adults should be resolved.

- Squatting for the various technological options is preferred for public toilets for hygienic reasons while sitting is preferred for household toilets for comfort. This should be noted in adopting the various technological options for toilets.

- There is inadequate emphasis on the 4Rs namely, Reduction, Reuse, Recycling and Recovery. A study presented indicated that about 54% of households are prepared to separate solid waste.

- Ghana needs to develop a specific stewardship policy for the nation that will drive industry in particular to implement measures that better conserve water and return wastewater to the environment in a manner that is environmentally friendly.

3.3.2 Opportunities for Progress

- The Environmental Sanitation Policy has cost recovery in the delivery of services as a key component. This should be pursued to ensure that adequate funds are available for the sector.

- The Community-Led Total Sanitation (CLTS) approach demystifies latrine technologies and encourages ownership and use of latrines and instills the ‘can-do’ mentality in communities.
• Deepening and building on current momentum on CLTS to accelerate uptake, e.g., designate and use CLTS coordinators and champions at all levels and establish league table for districts.

• A number of innovative sanitation technologies (biogas, biofil, etc) have emerged and need government’s (Ministries and research institutes) attention.

• Performance Indicators under the District Development Fund (DDF) should include the extensive promotion of household facilities and/or the coverage for sanitation in different districts.

3.3.3 Challenges

• Landlords refuse to construct toilets especially when they do not reside in the houses. Tenants have little bargaining power, since accommodation is in high demand and they could be asked to move out of the houses if they put pressure on landlords to provide toilet facilities.

• Local government authorities seem to lack the capacity to enforce the laws on the provision of toilet facilities or the ability to sanction those who do not have toilet facilities in their houses, as required by law.

• In most low-income high-density areas, there is lack of space to put toilet facilities in houses.

• MMDAs seem to have a low priority for sanitation and there is generally weak enforcement of sanitation laws, and penalties, when applied, are not prohibitive.

• There is a low level of public education on sanitation issues and there is the need to have a clear communication strategy to ensure behavioural change.

3.3.4 Recommendations

• There is a general perception that water closets should be the technological option for household toilets. The perception on dry sanitation options is generally very poor. A thorough education on the sanitation ladder, with the merits and de-merits of all available options, should become common public knowledge.

• Government should commit funds to the funding of the Strategic Environmental Sanitation Investment Plan (SESIP).
• A results-based monitoring and evaluation system should be developed, accepted and utilized for the sector. Effective coordination mechanisms among sector stakeholders should be a priority.

• The Community-Led Total Sanitation approach and its urban variants should be aggressively adopted as a means of increasing access to safe sanitation.

• Landlords, as well as tenants, should be motivated to construct household toilets. Credit schemes for sanitation improvement should be available at the local level.

• Stakeholders in the sector should aggressively promote household toilets, as opposed to public toilets.

• All latrine and wastewater treatment technologies should be developed in a manner that close the nutrient loop.

• There should be more emphasis on the 4Rs, namely Reduction, Reuse, Recycling and Recovery in waste management.

• The Environmental Sanitation Assessment Audit tool should be adopted in carrying out sanitation assessments for urban and peri-urban areas.

3.4 Water Supply and Water Resources

3.4.1 Key Issues

• Personnel engaged to work for the utility at various levels should have qualifications which enable them to progress in the organization. There should also be a strategy in place for transfer of knowledge from existing staff to new staff.

• The Water Directorate should have a clear mechanism in place for coordination among sector agencies, utility providers, the sector ministry, NGOs and any other stakeholders working in the sector. This should include a definition of peri-urban areas and who is responsible for water supply services in these areas.

• The current equipment (treatment and pipelines) of GWCL are several years old in most cases and this reduces their efficiency and results in leakages on pipelines.

• The opportunities for rainwater harvesting exist in the country but very little effort has been put in place to harness its potential to augment the traditional sources of water.
• Drying up of raw water sources, leading to temporary or permanent shut down of treatment facilities, has been attributed to Climate Change and man-made activities. Mining activities in particular threaten water treatment in affected areas and increases the cost of producing water.

• Water storage raises the risk of contamination of otherwise safe water, if storage containers are not cleaned, maintained and used in an appropriate manner.

• There are possible computer applications for managing utility systems to aid in planning, operating and managing the facilities more efficiently.

• Diesel-driven small towns’ water supply systems have relatively more expensive operational costs compared with that of electricity-driven small towns’ water systems. Urban water systems are more efficient than small town water systems in terms of both energy and unit production costs, basically as a result of ‘economies of scale’.

• Scaling up pro-poor interventions country wide requires financing and cost reflective tariffs to extend services to the un-served and under-served.

3.4.2 Opportunities for Progress

• Physical plans which have been developed can be updated and harmonized into master utility plans especially for water supply in urban areas.

• Research indicates that the ‘poor’ are ready and willing to pay for improved water supply and sanitation services when they are satisfied with the services provided.

• Rainwater harvesting is a hugely untapped water resource. Communities can be supported to utilize this resource in areas where surface water is not available. There have been a number of projects that have undertaken capacity assessments for the development of rainwater harvesting. The private sector has been manufacturing components for rainwater harvesting.

• Community involvement in the design of water and sanitation interventions should be encouraged as it provides an appropriate model that meets the expectation of the community.

• Existing community-utility partnerships provides a base for communities and national institutions to work together and manage water and sanitation systems more efficiently.
3.4.3 Challenges

- Political interference in staffing and disciplinary action for workers has a negative impact on the services rendered as affected personnel become aggrieved.
- Water quality from tanker services require strict monitoring mechanisms for public health reasons.
- Rainwater harvesting has a high initial investment cost compared to a borehole.
- There is currently no policy in place for systematic replacement of handpumps which are close to the useful life.
- In community-utility partnerships, bulk water tariffs are currently not clearly defined and there are no specific regulatory mechanisms in place.
- Capital maintenance on water supply systems is not being undertaken in a systematic manner. Expenditure on capital maintenance is generally very low and non-existent in some instances.

3.4.4 Recommendations

- There should be a coordinated approach to planning service provision and this should go ahead of development. Planning and coordination between service providers and utility providers should be implemented nationally and not only talked about at every forum.
- Competent persons with the required qualifications should be engaged at all levels in the WASH sector. There should always be the potential for personnel to improve and upgrade themselves in their organizations.
- For successful rainwater harvesting mechanisms in areas already built-up, investment costs should be shared between households and the MMDAs. Citizens should be educated on proper rainwater harvesting methods and technologies and the benefits to be derived from having these systems.
- Extensive surveillance and stringent regulations should be developed to ensure water resources are not polluted by mining or any other economic activities.
- Water storage tanks on water supply system and especially at the household level should be periodically cleaned and disinfected for health reasons.
• Urban water management should be carved into smaller sections for public or private companies to manage specific regions or to handle specific components such as production, transmission and distribution.

• District Water and Sanitation Plans should incorporate all the cost elements, plan replacement of assets and proper operations and should be an integral part of the Medium-Term Development Plan of the MMDA.

• Government should adequately fund the Community Water and Sanitation Agency and MMDAs to be able to provide relevant post-construction support.

• The Ministry of Water Resources, Works and Housing should provide a framework to guide community-utility partnerships for water supply services.
4 SUMMARY OF PLENARY SESSIONS – DAY 3

4.1 Urban Governance: Management of Water Supply and Sanitation

The plenary session on “Urban Governance: Management of Water Supply and Sanitation” was facilitated by Dr. Ohene K. Sarfo of the Institute of Local Government Studies. The session deliberated on key issues raised in the theme address at the beginning of the forum by Prof. Kwamena Ahwoi. The session was focused on identifying key issues affecting the management system in place and the way forward for the management of water and sanitation services in urban settings. Short presentations were made by panellists who cut across the sector. Contributions were also made by participants. The key issues raised during the session include the following:

- A thorough analysis of systems in place from the past to present should be undertaken. The analysis should distil what has worked in the past and improve upon it, as well as analyse the failures and learning from them, so similar mistakes are not repeated going forward.

- The institutional arrangements for water should be reviewed critically. The management should be split up either regionally, along municipal lines or in economically viable groupings. The production, transmission and distribution services could also be separated.

- Socio-cultural issues must be brought to the fore in undertaking any analysis of the water and sanitation sector. Technical solutions tend to fail since the beneficiaries are not involved in the planning and implementation. There is the need to give local communities a voice if any water and sanitation interventions will be a total success and have the required impact.

- Local communities do not have a hold of their responsibilities and hence are not able to hold service providers accountable. The required social accountability measures should be institutionalised and not just made part of a few individual project interventions.

- The water sub-sector has been substantially more successful than the sanitation sub-sector. Lessons learnt can be shared to improve on urban sanitation services.
• Municipal planning services should be revived and improved upon. Planning should in all instances be done and the relevant infrastructure should be in place before housing developments take place. Utilities, especially water services and sanitary sites, and other relevant services such as schools, playgrounds and shopping centres should be in place in every area where housing is to be developed.

• There should be assessment of human capital in the water and sanitation sub-sectors. There should be opportunity for progress for personnel at the district levels to encourage them to aspire to improve on the work they do.

• A capacity assessment of the Water Directorate and the Environmental Health and Sanitation Directorate should be undertaken. Permanent personnel with adequate capacity should be engaged for the two directorates to make them more efficient and effective.

• Professionals with the required qualifications should be engaged for the WASH sector. A scheme should be put in place to provide the relevant on the job training and practical experiences to enhance their capacity. The right motivation and incentives should be in place to attract and maintain the right calibre of personnel as some private organisations have done.

• There should be clear linkages between the National Water Policy and the Environmental Sanitation Policy. Currently, the two seem to be independent stand-alone documents.

• The fragmentation of water, sanitation and hygiene must be resolved by government. The fragmentation, especially in urban settings, does not allow for maximisation of the benefits that can be obtained from interventions.

• MMDAs do not see themselves as service providers though they are mandated to do so. The MMDAs should be proactive and find innovative means of supporting communities with respect to WASH services.

4.2 Making Knowledge Management Effective in the WASH Sector

The plenary session on Knowledge Management was aimed at bringing together the various stakeholders undertaking various projects which impact on the management of knowledge in the sector. The key projects identified included the following:
WaterAid in Ghana has developed six frameworks on sustainability, which is the outcome of many years of study into sustainability issues in many countries. The Community Water and Sanitation Agency has been involved in many projects country-wide since its inception. Over the years, these experiences have led to the development of standards, guidelines and manuals which guide the delivery of services in the rural and small towns’ sub-sector.

Programmes like the Ghana Water Forum, National Environmental Sanitation Conference (NESCON) and the Mole Conference series organized by CONIWAS bring together sector stakeholders annually to discuss pertinent issues. The National Level Learning Alliance Platform (NLLAP) also brings sector practitioners together monthly to discuss pertinent issues affecting the sector.
5 CLOSING CEREMONY

The Closing Ceremony was chaired by Nana Agyepong Debrah III, General Secretary of the Friends of Rivers and Water Bodies, who also chaired the Opening Ceremony and was facilitated by Mr. Patrick Apoya. Representatives of Development Partners, the business community, children and youth of Ghana, as well as the representatives of the Ministers for Water Resources Works and Housing and Local Government and Rural Development were present.

The communiqués of the different side events were presented namely, the Children and Youth Forum (CYF), Business Roundtable (BRT) and the Ministerial and Development Partners Roundtable (MDPRT). A draft final of the main Conference Communiqué was presented for comments. The communiqué was finalized after the forum after the receipt of comments, and it serves as the Executive Summary of the Conference Report.

Certificates of recognition were presented to all key sponsors of the Third Ghana Water Forum.

The Chief Director of the Ministry of Water Resources, Works and Housing represented the Minister for Water Resources, Works and Housing at the Closing Ceremony. He thanked all participants for their participation over the three days and was hopeful that recommendations will be implemented for the betterment of the sector.

The Chairman congratulated participants for the interactive manner deliberations had been undertaken. He stated that having participated through all the three days, he was of the opinion that the deliberations had been fruitful and several insights had come out of the discussions and the Ministry and its partners will see to the implementation of the conference recommendations.
## Annex 1 PROGRAMME FOR THIRD GHANA WATER FORUM

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<td>8:00 – 8:45</td>
<td>Registration of Participants</td>
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<td>2</td>
<td>8:45 – 9:00</td>
<td>Arrival of Invited Guests (Cultural Display)</td>
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<td>3</td>
<td>9:00 – 9:15</td>
<td>Opening</td>
<td>MC</td>
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<td>• Introduction of Dignitaries</td>
<td>Ms. Suzzy Abaidoo</td>
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<td>• Introduction of Chairperson</td>
<td>Chairman</td>
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<td>• Chairman’s Response</td>
<td>Hon. A. S. K. Bagbin M. P. Minister (MWRWH)</td>
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<td>• Welcome Address</td>
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<td>4</td>
<td>9:15 – 9:35</td>
<td>Statements</td>
<td>Mr. Samuel Appenteng</td>
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<td>• Children’s Statement</td>
<td>Mrs. Victoria Daaku</td>
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<td>• Assoc. of Ghana Industries</td>
<td>Dr. Iyabode Olusanmi</td>
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<td>• CONIWAS</td>
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<td>5</td>
<td>9:35 – 10:00</td>
<td>Theme Address</td>
<td>Professor Kwamena Ahwoi</td>
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<td>6</td>
<td>10:00 – 10:15</td>
<td>Statements by Ministers</td>
<td>Hon. Sherry Aryeetey</td>
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<td>• Environment, Science &amp; Technology</td>
<td>Hon. Juliana Azumah-Mensah</td>
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<td>• Women &amp; Children’s Affairs</td>
<td>Hon. Samuel Ofosu-Ampofo</td>
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<td>• Local Government &amp; Rural Development</td>
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<td>7</td>
<td>10:15 – 10:20</td>
<td>Launch of Sanitation &amp; Water Times</td>
<td>Hon. A. S. K. Bagbin</td>
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<td>8</td>
<td>10:20 – 10:30</td>
<td>Statement by Safe Water for Africa Partnership</td>
<td>Hon. Yieleh-Chireh</td>
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<td>• Rep. of Coca-Cola Equatorial</td>
<td>Rep. of Guinness Ghana</td>
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<td>9</td>
<td>10:30 – 10:35</td>
<td>Cultural Interlude</td>
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<td>10</td>
<td>10:35 – 10:50</td>
<td>Keynote Address &amp; Conference Opening</td>
<td>H. E. The President</td>
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<td>11</td>
<td>10:50 – 10:55</td>
<td>Closing Remarks</td>
<td>Chairman</td>
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<td>12</td>
<td>10:55 – 11:00</td>
<td>Closing</td>
<td>Mr. Abraham Otabil</td>
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<td>• Vote of Thanks</td>
<td>Ms. Vida Nyenku</td>
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<td>• Closing Prayer</td>
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**MC: Patrick Apoya**
5.1 DAY 1 - Afternoon Session

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<td>Exhibition /Gallery Walk/High Level Press Interaction/Refreshments</td>
<td>Stanley Martey/Abu Wumbei</td>
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<td>12:00 – 13:30</td>
<td>Plenary Session– Status of the Water and Sanitation Sector</td>
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<td>• Update on Actions from GWF-2</td>
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<td>• Urban Water</td>
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<td>• Rural Water</td>
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<td>Moderator: Ms. Lamisi Dabire</td>
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<tr>
<td>13:30 – 14:30</td>
<td>LUNCH (strictly by invitation)</td>
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<td>14:30 – 16:00</td>
<td>Plenary Session– Status of the Water and Sanitation Sector cont’d</td>
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<td>• Water Resources</td>
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<td>• Sanitation</td>
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<td>• Report on Mole XXII Conference</td>
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<td>Plenary Discussion</td>
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<td>Moderator: Ms. Lamisi Dabire</td>
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<td>16:00 – 17:30</td>
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5.2 DAY 2 – Parallel Session

The sessions for the second day consist of the Business Roundtable and thematic sessions taking place in parallel. The details of the parallel sessions are as follows:
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<tr>
<th>TIME</th>
<th>PARALLEL SESSION I GOVERNANCE</th>
<th>PARALLEL SESSION II SANITATION</th>
<th>PARALLEL SESSION III WATER I</th>
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</table>
| 9:00-10:30  | **Mini-Symposium:** WEALTH FROM WASTE - A PARADIGM SHIFT IN SANITATION THINKING  
**Topic 1:** Transforming Sanitation and Health Through Wastewater Reuse – Ashley Murray  
**Topic 2:** Low Cost Options for Reducing Consumer Health Risks from Wastewater Irrigation – Philip Amoah  
**Topic 3:** Resource Recovery and Reuse from the Sanitation Engineering Perspective – Josiane Nikiema  
**Topic 4:** The Private Sector’s Role in Sustainable Sanitation Management in Ghana – Lukman Salifu  
**Topic 5:** Ghana’s Efforts in Improving on Environmental Sanitation: Challenges & Successes – Lenason Demedeme  
**Facilitator:** Liqa Rashid-Sally | **SUB-THEME: ADDRESSING THE URBAN/PERI-URBAN SANITATION CHALLENGE**  
**Topic 1:** Motivation for Construction of Household Toilets in Low Income Communities in Kumasi – Emmanuel Obeng Appiah  
**Topic 2:** Households’ Perception of Community Toilets in Low Income Communities in Kumasi – Emmanuel Obeng Appiah  
**Topic 3:** Improving Sanitation in Poor Urban Areas: Exploring the Option of Community Led Approach in Ashaiman Municipality, Ghana – Abena Korang Abaitey  
**Topic 4:** No household sanitation facilities: What options remain for urban dwellers? - Adrien Mazeau  
**CHAIR:** Kwabena B. Nyarko | **SUB-THEME: URBAN WATER SUPPLY-EFFECTIVE SERVICE DELIVERY**  
**Topic 1:** The Human Factor in Urban Water Services in Ghana – Matthew Adombire  
**Topic 2:** Supply Constraints of Utility Water Services to Newly Developed Private Estates in Accra - Hector Boye  
**Topic 3:** The Urban Pro-Poor Water Services Delivery – The Access Dimension – Benedict Tuffuor  
**CHAIR:** Philip Gyau-Boakye |

10:30-11:00  | **COCOA BREAK/POSTER PRESENTATIONS IN EXHIBITION AREA**                                                                 |                                                                                               |                                                                                             |
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<td>Topic 3: - Strategic Considerations for Bridging the Sanitation Gap in Ghana – Othniel Habila</td>
<td>Topic 3: Degradation of Water Resources and the Effect on Drinking Water Treatment in Ghana – Evans Y. Balaara</td>
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<td>CHAIR: Lenason Demedeme</td>
<td>CHAIR: Frederick Amu-Mensah</td>
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| 12:30-13:30 | LUNCH | LUNCH | LUNCH | LUNCH |

*Third Ghana Water Forum (GWF-3) Conference Report*
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<thead>
<tr>
<th>Time</th>
<th>Sub-Theme: Governance Policy &amp; Management in the WASH Sector in Ghana</th>
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<td>13:30-15:00</td>
<td>• Current status of M&amp;E for the Sector – Yaw Asante-Sarkodie</td>
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<td>• The MDG Accelerated Framework (MAF) – Lukman Salifu</td>
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<td>• SWAP and the SSDP: The Way Forward – Frempah Yeboah</td>
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<td>• The SWA Compact: Status of implementation – Lenason Demedeme</td>
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<td>CHAIR: Sumani Alhassan</td>
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<tr>
<td>13:30-15:00</td>
<td>• Topic 1: Wastewater Use: Promoting a Green Environment – Coca-Cola</td>
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<td>• Topic 2: Potential Energy Recovery from Wastewater Treatment - Study of UASB Reactor in Accra, Ghana – K. M. Afful</td>
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<td>• Topic 3: Biofil Toilet Digester: An innovative on-site treatment – Evelyn Gyampo</td>
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<td>• Topic 4: Walking the Talk to Innovative Local Sanitation Technologies and Strategies – Sirth Faith Amago</td>
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<tr>
<th>Time</th>
<th>Sub-Theme: Drinking Water Quality – A Focus on Some Critical Issues</th>
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<tr>
<td>13:30-15:00</td>
<td>• Topic 1: Comparative Study of the Physico-Chemical and Bacteriological Quality of Water Supplied by Ghana Water Company Limited (GWCL), Commercial Drinking Water and Stored Water in Kumasi and Ho Metropolitan Areas – Philip Dwamena-Boateng</td>
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<td>• Topic 2: Cancer and Non – Cancer Human Health Risk Assessment from Exposure to Arsenic, Cadmium and Copper by Resident Adults and Children from Drinking Borehole, Tap and Surface Water in the Obuasi Municipality of Republic of Ghana – Samuel Obiri</td>
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<td>• Topic 3: Characterisation and adsorption potential of Kpong Water Treatment Plant filter media- Richard Buamah</td>
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<td>• Topic 4: Impacts of Energy Price Changes on the Financial Sustainability of Water – Somuah Tenkorang</td>
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<td>CHAIR: R. K. D. Van-Ess</td>
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<th>Time</th>
<th>Water II Sub-Theme: Economic Considerations on Some Key Issues in the Water Sector</th>
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<td>13:30-15:00</td>
<td>• Topic 1: Economic Efficiency of Water Storage Options: An Application of the Approach to Ghana – Stefanos Xenarios</td>
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<td>• Topic 2: Quality drinking water for rural communities: Technology options – Edward Antwi</td>
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<td>• Topic 3: Suitability of Private Finance Initiative (PFI) System for Adoption in Ghana’s Water Sector – K. Ofori-Kuragu</td>
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<td>• Topic 4: Impacts of Energy Price Changes on the Financial Sustainability of Water – Somuah Tenkorang</td>
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<td>CHAIR: Emmanuel Nkrumah</td>
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15:00-15:30 COCOA BREAK/ POSTER PRESENTATIONS IN EXHIBITION AREA
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<tr>
<th>Time</th>
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<td><strong>SUB-THEME: ACCELERATING THE PROGRESS TOWARDS THE ACHIEVEMENT OF THE MDG ON SANITATION</strong></td>
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<td><strong>Topic 1:</strong> Meeting Ghana’s MDG Target on Sanitation, Through Dissemination of biogas plants – Richard Arthur</td>
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<td><strong>Topic 2:</strong> The Canker of Open Defecation – Nii Odai Laryea</td>
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<td><strong>Topic 3:</strong> Improving Access to Basic Sanitation in Ghana. Lessons from a Water and Sanitation Project in Ghana - Joseph Ampadu-Boakye</td>
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<td><strong>CHAIR:</strong> Lukman Salifu</td>
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<td><strong>SUB-THEME: INNOVATIONS IN WATER TREATMENT AND SERVICE DELIVERY</strong></td>
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<td><strong>Topic 1:</strong> Wet Oxidation of Paper Mill Debarking Water: Improving the rates of contaminant removal – Anang Daniel Adjah</td>
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<td><strong>Topic 2:</strong> Promoting Decentralized Solar Water Purification Systems In Ghana: A Case Study of Bongo – Edem Cudjoe Bensah</td>
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<td><strong>Topic 3:</strong> Capacity Development Tools for Improving Water and Sanitation Services Delivery in Metropolitan, Municipal and District Assemblies in Ghana – Kodwo Keelson</td>
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<td><strong>CHAIR:</strong> Patrick Moriarty</td>
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<td><strong>SUB-THEME: WATER SUPPLY IN GHANA- A REVIEW OF KEY SUSTAINABILITY FACTORS</strong></td>
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<td><strong>Topic 1:</strong> Cost of rural and small town water service delivery in the Bosomtwe District – Eugene Appiah Effah</td>
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<td><strong>Topic 2:</strong> Towards a Sustainable Allocation of Potable Water in Ghana: Evidence from Kumasi – J. D. Quartey</td>
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<td><strong>Topic 3:</strong> Performance of a Multi-District Water Supply Scheme in Ghana – Case study of the three District Water Supply Scheme – Bismark Dwoumfour-Asare</td>
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<td><strong>Topic 4:</strong> Decentralised Water Supply for Low-Income Urban Areas – Kwabena B. Nyarko</td>
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<td><strong>CHAIR:</strong> Yaw Asante-Sarkodie</td>
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## 5.3 DAY 3 – Plenary Sessions

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<tr>
<th>Time</th>
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<tr>
<td>8:30 – 10:30</td>
<td>Panel Discussion • Urban Governance – Management of Sanitation and Water Supply: The Roles and Responsibilities of Key Stakeholders</td>
<td>Discussants • Farouk Braimah – CONIWAS • George Yanore – CHF • Emmanuel Nkrumah – WB • Ebenezer Garbrah – GWCL • Anthony Mensah – WMD, KMA</td>
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<td>Moderator – Dr. Ohene Sarfo, ILGS</td>
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<td>10:30 – 11:00</td>
<td>COCOA BREAK</td>
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<td>11:00 – 12:30</td>
<td>Making Knowledge Management Effective in the WASH Sector • Perspectives on Learning – Global to Local • Government perspective of Sector Learning • Panel Discussion on Knowledge Focused Projects o WASH Tech o SaniPath o SWITCH/Junior Water Prize o IRC o CWSA o WaterAid • Plenary Discussion on aligning sector learning • Closing Remarks Chairman: Yaw Asante-Sarkodie</td>
<td>Rapporteurs Team/Harold Esseku</td>
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<td>12:30 – 13:30</td>
<td>LUNCH</td>
<td>Rapporteurs Team/Harold Esseku</td>
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<tr>
<td>13:30 – 14:30</td>
<td>Reporting on Thematic Discussion &amp; Presentation of Draft Communiqué</td>
<td>Rapporteurs Team/Harold Esseku</td>
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<td>14:30 – 15:00</td>
<td>COCOA BREAK</td>
<td>Rapporteurs Team/Harold Esseku</td>
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<td>15:00– 16:30</td>
<td>Closing Ceremony • Opening Prayer • Introduction of Chairperson • Chairperson’ s Response • Communiqués o Ghana Youth &amp; Children’s Forum o Business Roundtable o Ministerial &amp; Development Partners Roundtable o Third Ghana Water Forum • CULTURAL INTERLUDE • Presentation of Certificates of Recognition • Closing Remarks • Chairperson’s Remarks • Vote of Thanks • Closing Prayer</td>
<td>Rapporteurs Team/Harold Esseku • Enoch Ofosu • Patricia Buah • Chairperson • Moderator</td>
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<td>MC: Patrick Apoya</td>
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Annex 2: Theme Address

THEME ADDRESS DELIVERED BY PROFESSOR KWAMENA AHWOI, GIMPA, AT THE OPENING CEREMONY OF THE 3RD GHANA WATER FORUM HELD ON THE 5TH SEPTEMBER 2011.

THEME: WATER AND SANITATION SERVICES DELIVERY IN A RAPIDLY CHANGING URBAN ENVIRONMENT

Introduction

About twenty years ago, the urban population of Ghana was about 5.6 million or 36 percent of the total population. Today, it is about 12.2 million or 50 per cent. Clearly, systems that were designed to service a 5.6 million population will have to be modified to be able to service 12.2 million people. That represents the challenge of urban water and sanitation delivery in Ghana today.

Managing the Water and Sanitation Sector: The Problems

In those long ago days of centralized and state-controlled administration, water and sanitation services for the whole country was the legal responsibility of the Ghana Water and Sewerage Corporation (GWSC). This was understandable, because of the smallness of the population which therefore made the management of water and sanitation by a monopolistic para-statal logical response to the problem caused by the economies of scale. But those who are old enough will remember that this arrangement was wholly disadvantageous to the rural population, as the activities of the GWSC barely touched the rural communities.

It was the PAMSCAD (Programme of Actions to Mitigate the Social Costs of Adjustment and Development) of the late 1980s and the early 1990s that first alerted the country to the reality that the rural community was being shortchanged in the area of water provision by this arrangement and that it was possible for a dichotomized approach to water and sanitation services provision between urban and rural Ghana to be adopted. Thus the WATSAN projects of the PAMSCAD gave birth to the Community Water and Sanitation Agency (CWSA) of today.

But the problem of water and sanitation provision has not been attributable to the monopoly of the GWSC only. The segmentation of the sector has represented another major problem. Whilst GWSC, WATSAN, WASH, CWSA and other acronyms all
suggested that water, sanitation and hygiene belong to the same sector, they have unfortunately been bifurcated or trifurcated between the Works and Housing, Local Government and Health Ministries. It is therefore virtually impossible to deal with the sector without calling a meeting of all three sectors, and we all know that such meetings only spawn sub committees which also spawn their own meetings leading to the establishment of Expert Groups which also hold their own meetings ad infinitum. At the end of the day, the problem is left unsolved because one is not sure as to even who is to take the final decisions.

There is yet a third problem, a problem which I choose to describe as “settlement before planning”, a phenomenon which is best illustrated with a story, ‘Numoo’ Kwamena is a hunter who hunts in the peri-urban area of Accra in the Accra Plains somewhere in the Dangbe East District. Whilst hunting one day, he chases a rat far into the Plains, kills it, skins it, and because it is night, lights a fire and cooks it, eats it, and settles for the night. The next day, he invites his wife and children to join him to finish the rat meat. Because there is a stream nearby and the rats seem to be in abundance, ‘Numoo’ Kwamena never goes back and before you can say “Kwamena” Kwamenakope (or Kwamenakrom in Akan), a new village is born. Kwamenakope has not been planned for, and yet the settlement of Kwamekope has come into existence. Forget about the fact that it is an illegal settlement, but ‘Numo’ Kwamena and his descendants have votes and therefore come election time, politicians will go and promise them water and sanitation services. No service provider whether a monopoly, a duopoly or a ‘multi-poly’ can redeem this promise, especially if such a scenario is a regular occurrence in the spatial development sector of a country, which it is in Ghana.

All these problems point to one thing: water and sanitation are micro, localized needs which are very difficult to manage from distant, centralized locations. They point to the need to decentralize the water and sanitation sector in a way that they will be managed at the local level with the participation of the local people. They suggest that not even the bifurcation of the water and sanitation sector into urban and rural sectors will resolve the problem. They argue for a total decentralization of the water and sanitation sectors. The call for new arrangement for the provision of water and sanitation services and because of their sheer numbers, they argue especially for a new arrangement for urban water supply.

Managing the Water and Sanitation Sectors: The Questions

In responding to the identified challenges, a number of questions arise:
• Should water, sanitation and environmental hygiene continue to belong to separate sectors or should they be clustered as a single sector issue to be handled by one sector Ministry?

• Should the production, transmission and distribution of urban water be considered, as one activity to be undertaken by one agency or organization or can they be split between different agencies or organizations as has been done with electricity?

• Is it possible to at least regionalize urban water supply if decentralizing it to the district level will not be defensible from the point of view of the economies of scale?

• How can we get urban residents to be involved in the provision of water and sanitation services given the difficulty that is encountered in mobilizing especially the urban elite for any community activity whatsoever?

• Is cost recovery a feasible option in the provision of urban water and sanitation services or are there alternative options that can provide these social and human needs?

I will share a few of my own thoughts on some of these difficult questions.

A Disparate or a Single Sector?

Water, sanitation and environmental hygiene are so closely related that they are best treated as a single sector. The common thread running through them is water. Lack of or too little of water causes the sanitation and environmental hygiene problems. Water is therefore the cause of the problem; the others are merely symptoms. It is therefore necessary to treat the cause by making the entire sector the responsibility of the agency responsible for water which to me would be the ministry of Water Resources, Works and Housing (MWRWH). But that only means responsibility for water and sanitation policy. Responsibility for water provision should be decentralized to the Metropolitan, Municipal and District Assemblies (MMDAs) which will continue to be overseen by the Ministry of Local Government and Rural Development (MLGRD). Environmental hygiene training will continue to be the responsibility of the MOH, but that would not mean a transfer of the responsibility from environmental health back to the MOH. Environmental health is the decentralized responsibility of the MMDAs and it should remain as such.

Within the framework of these proposal, and consistent with my proposal elsewhere that local government should not continue to be a line Ministry, policy responsibility for water, sanitation and environmental health would be the responsibility...
MWRWH; training of environmental health personnel would be the responsibility of the MOH; but the provision of water and the implementation of sanitation and environmental health policies would be the decentralized responsibility of the MMDAs. After all, the Ghana Medical School which trains our doctors is under the Ministry of Education, but the doctors who are the products of the school are under the MOH.

**Production, Transmission and Distribution of Urban Water**

There seems to be an unquestioned assumption in Ghana that production, transmission and distribution of water should necessarily be undertaken by the same agency or organization. We used to think the same for electricity. But once we decided to allow Independent Power Producers (IPPs) into the sector, the VRA, GRIDCo and the ECG emerged as three distinct entities in charge of production, transmission and distribution of electricity respectively.

Similarly with urban water, because of the large cost and investment outlays, it is possible to have different agencies or organisations handling the different aspects of the water operation. In South Africa, for example, water is produced by one agency which sells it in bulk to the local authorities which are responsible for its distribution within the cities. This does not mean that the local authorities have to do the distribution by themselves by all means.

They can also contract out that responsibility to private companies under public-private partnership arrangements. Is private participation in any of these aspects of the water chain an option in Ghana and specifically is MMDA involvement in water distribution also an option in Ghana? This Forum must interrogate that possibility.

**PPP in Urban Water Supply**

Even if the water production-transmission-distribution chain will not be fragmented, it is still possible for a public private partnership system to be introduced into the urban water supply sector. Not only will this introduce a spirit of competitiveness into the urban water supply sector, it is also likely to introduce efficiency into the system. Currently, not only is there a lot of inefficiencies leading to a lot of leakages, but the inefficiencies have led to many customers boycotting GWCL water and relying on their own privately-provided bore-hole supply of water.
The most cursory of researches in Accra will reveal that for many middle and upper middle class families, GWCL water has become a supplement to private bore hole supplied water that they have dug in their homes rather than vice versa. For an initial investment of some GH¢10,000, one can have a permanent bore hole pumped water system installed for which there are no monthly or periodic payments. After installing the system in my house at East Legon some four years ago as a result of the irregular supply of water by the GWCL in the area, my monthly average GWCL metered water bill is less than GH¢5 from the previous over GH¢100 monthly bill that I was paying, and I am not alone in this. What that means is that we are tapping natural resource - underground water - for which we pay nothing, thereby depriving the GWCL of substantial revenue it would have been earning if it was more efficient and regular in supplying us water and we had been forced to rely on their water supply.

Other houses in the middle and upper middle class areas have one, two or more poly tanks. Once the GWCL taps flow, these polytanks are filled first and therefore the GWCL has to pump a lot more water than is needed since the polytanks serve as "water warehouses" for as long as the taps keep flowing during the short period that they flow.

I am sure that a private independent contractor would have spotted this weakness in the urban water supply chain long ago and even if he or she could not supply us with water regularly, would have gotten into the borehole drilling business and possibly found a way of ensuring that we pay some periodic fee for what is after all a Ghanaian natural resource - underground water- which we are currently tapping for free.

The interesting thing is that the GH¢10,000 that was used as the initial investment in the bore hole system spread over time, that is, divided by the GH¢100 monthly payment that used to be made to the GWCL, would equal GH¢100 months. In other words, the house owner would have made an 8-year upfront payment to the private contractor which he does not realize because he or she is not making the payment monthly or periodically.

Regionalization of Urban Water Supply

Another option for the management of urban water is to "regionalize" the system. This does not mean that urban water supply systems should be operated or managed by the Regional Coordinating Council or from the regional capital. What is meant is that regional water management systems could be clustered around the
production locations and managed by separate bodies. That could be another way of breaking the monopoly of the GWCL over urban water supply, one of the critical issues at the heart of the problem of urban water in Ghana.

**Water- A Natural Right**

Those options that I am asking this forum to consider are not meant to indicate support for the commercialization of water in a way that will make it unaffordable. After all, if there is one commodity to which humans must be considered entitled as a matter of natural right after the air that we breathe, it is water. Everybody needs water, and that includes criminals, prisoners, beggars, lunatics, destitute and indigents, meaning outlaws, the confined, the excluded, the marginalized and the disadvantaged. Any option for urban water supply must therefore include a safety net to cater for these categories of homo sapiens.

It is in that context that the issue of a "Water Fund" becomes most relevant. As a country, we have set up funds for all kinds of purposes which are not vital for human existence and survival. We have a GETFund, but we can exist and survive without education, even though at the great cost of ignorance. We have a Road Fund, but we can exist and survive without roads and indeed without travelling. But can we exist and survive without water? The answer to this question simply tells us what a "Water fund" to take care of those who cannot afford to pay for water at any cost is a sine qua non to any urban water supply system that we may decide upon.

**Urban Sanitation: A Neglected Sub Sector**

I have said very little about urban sanitation because the recently launched Environmental Sanitation Policy of September 2010 addresses many of the problems of the sub sector. But until the National Environmental Sanitation Policy of 1999 was launched by the second Government of the Fourth Republic; sanitation was largely a neglected sub sector in the Central Government's scheme of things. Yet we are aware of the insalubrious conditions of our urban environment that seriously affects the underground water system, creates a health hazard and increases the cost of health.

This is not a call for a centralization of the sanitation sub sector. It is a call for the channeling of more Central Government resources to the sanitation sub sector through the Metropolitan/Municipal Assembly function in Ghana, so the expertise or functionaries to deal with the function of sanitation resides in the
Metropolitan/Municipal Assemblies. What is left is for the funds to be made available to the functionaries at the Metropolitan/Municipal level so that the function of sanitation can be effectively performed at that level. It is a classical case of the application of the fiscal decentralization principle of “the finances follow the functions.”

**Conclusion**

I would like to conclude by summarizing the thoughts that I have tried to share with you in this address. I have made the following points:

- Ghana's rapidly changing urban population means that we cannot continue to use systems that were designed to provide water and sanitation services to an urban population that was half the number of today’s population at the time they were designed;

- The major problems of urban water supply and sanitation services include the fact that the two sectors, together with environmental hygiene, are not holistically managed and controlled, the monopolistic control of urban water supply by the GWCL; and the phenomenon of "settlement before planning" which makes it difficult, if not impossible for water providers to plan for future water and sanitation needs;

- The need to decentralize the water and sanitation sector in such a way that it will be managed at the local level with the participation of the people.

- A proposal for the production, transmission and distribution of water to be done by different bodies or organizations

- Consequently, the novelty of independent water producers (IWPs) as an idea whose time has come;

- The possibility of "regionalizing" urban water supply and management by clustering urban settlements around the water production and treatment sources;

- The introduction of a PPP system in the water sector to allow for competition and efficiency;

- Considering water as a "natural right" and therefore ensuring that whatever option is chosen includes a "safety net" to cater for the outlaw, the confined, the marginalized, the disadvantaged, the excluded, the shunned and all other classes
of persons who cannot afford to pay for water. My preference is for a "water Fund" along the lines of the GETFund and the Road Fund.

- The fiscal decentralization principle of "the finances follow the functions" must be applied in the sanitation sub sector so that enough resources are made available to the Metropolitan/Municipal Assemblies to deal with the issues of urban sanitation and environmental health.

I thank you very much for your attention.
Annex 3: Keynote Address

KEYNOTE ADDRESS – HON. A. S. K. BAGBIN, MINISTER FOR WATER RESOURCES, WORKS AND HOUSING (ON BEHALF OF HIS EXCELLENCY, THE PRESIDENT)

It is with great pleasure that I welcome you all to the Third Ghana Water Forum under the theme “WATER AND SANITATION SERVICES DELIVERY IN A RAPIDLY CHANGING URBAN ENVIRONMENT”. There is no doubt in my mind that this is a very appropriate theme looking at the huge challenges facing the urban sector. I understand rural water and sanitation is not being neglected but the focus this year is on the urban sector since the rural sector has made huge strides in delivering good water supply to the rural and small towns since the National Community Water and Sanitation Project was launched by government in 1994. Urban water supply coverage has however stagnated in the same period with water rationing being the norm rather than the exception. Indeed many urban dwellers under twenty years of age have never seen water flowing daily out of their taps!! The situation with sanitation is even more appalling.

There is a saying that, “Water is Life”. This saying lets us know the importance of water to our lives and to live as noble people. To maximise the health benefits of improved water supply, there is the need to have appropriate toilet facilities in our homes. The practice of handing washing with soap becomes an illusion when there is no water to use. Good environmental sanitation has a huge impact on the health status of the good people of this country by reducing diarrhoeal diseases including cholera, worm infestations and various kinds of flu.

Mr. Chairman, it is the wish of government to put in place all the necessary measures to ensure that all the good people of Ghana have access to good drinking water and adequate sanitation. We have been told that the Millennium Development Goals require that we reach a target of 76% for water 53% for sanitation by the year 2015. These figures are indeed laudable, but what kind of water will the good people of this country who do not have access be safe drinking be using and what kind of toilet facilities will the almost 50% of the country left be using? We as a government are intent on doing what is best for the people of this country. To this end government will spare no effort to ensure that we do better than the targets set for us by the year 2015.
Accordingly, we have this year launched the initiative to provide boreholes fitted with hand pumps to all our people in the remotest corners of this country. We are also in the process of implementing the Sanitation and Water for All (SWA) Compact which the Government of Ghana has committed itself.

On the issue of Urban Sanitation, I am urging all Metropolitan and Municipal Chief Executives to implement the relevant bye-laws to ensure all households have access to appropriate sanitation facilities in their houses. I will also urge the various assemblies in the big cities especially Accra to come together and coordinate among themselves in accordance with the Local Government Act, Act 462 and the National Development Planning Systems Act, Act 480. All must understand that cholera and other diarrhoeal diseases do not know the political boundaries we have put in place. Indeed, this year we had an unfortunate outbreak of cholera and the almost 90% of cases recorded were in Accra.

The issues facing urban water supply in the country are well known to all. Currently the World Bank has given the country a grant of over hundred million dollars to implement the urban water project. Construction works are currently ongoing in urban centres in six regions. The Chinese are also supporting us to construct an additional treatment plant at Kpong to increase water supply to Accra by forty million gallons per day and which will supply water through a new pipeline to serve Adenta and surrounding areas. The World Bank project is expected to end next year and the Chinese project is expected to end in two years. With the completion of these projects and other projects the Government is embarking on, we will soon see a rapid improvement in delivery of water supply to our urban centres.

We are currently in the process of restructuring the urban water sector. We believe we have the required expertise and knowledge in the country for the smooth and efficient running of urban water supply services. The theme of this conference is focused on urban water issues. It is my hope that your deliberations and outputs will enable us improve on the sector and to enhance government decision on how urban water supply services should be managed.

The Government of Ghana appreciates the role and contribution of various stakeholders including our development partners, civil society organizations and the private sector are playing in the provision of potable water to the good people of this country. We hope such commitments and contributions will continue to supplement government efforts in ensuring that National and MDG targets are met.
Finally on behalf of the Government of Ghana and on my own behalf, I wish to thank each and every one of you, for your participation, in the Third Ghana Water Forum under the theme, “WATER AND SANITATION SERVICE DELIVERY IN A RAPIDLY CHANGING URBAN ENVIRONMENT”.

I am confident that outcomes from this forum will enable us to develop appropriate strategies and systems to ensure that urban water supply services are managed in a sustainable manner for the benefits of Ghana. As we are all aware form the last census approximately 52% of Ghanaians now live in urban areas.

On this note, I declare the Third Ghana Water Forum duly opened.