NATIONAL DIALOGUE ON DAMS AND DEVELOPMENT IN GHANA

FIRST GHANA DAMS FORUM

THEME

"USING DAMS FOR DEVELOPMENT – INSTITUTIONALISING THE MULTI-STAKEHOLDER PROCESS IN GHANA"

Date: September 4, 2007. **Venue: Fiesta Royale Hotel, Accra, Ghana.**

Table of Contents

1.0 Introduction

1.1 Background

The Ghana Dams Forum was one of the recommendations suggested at a National Consultative Meeting (NCM) which was held on 16th January 2007 in Accra, and brought together fifty different stakeholders having an interest in dam related issues. The Forum is made up of sixty (60) stakeholders selected from six (6) different institutional categories; Ministries, Departments and Agencies, National Operators and Private Sector, Local Level Institutions, Dam Affected Communities and Traditional Structures, Local Non-Governmental Organizations and Media and Research Organizations.

1.2 Theme of the workshop:

The theme of the workshop was "Using Dams for Development – Institutionalizing The Multi-Stakeholder Process in Ghana"

1.3 Programme

The workshop took place on Tuesday 4th September, 2007 at Fiesta Royale Hotel, Accra, Ghana, between 9:00GMT and 17:30GMT. A copy of the workshops' programme can be seen at Appendix 1.

1.4 Organizers of the workshop

The workshop was organized by the National Consultative Committee (NCC) with International Water Management Institute (IWMI) acting as the de-facto secretariat. Members of the NCC (including their respective organizations and positions) are in Appendix 2.

1.5 Donor

The workshop was financed by German Technical Cooperation (GTZ).

1.6 Registration

Registration started at 8:45GMT and continued through the first session of the programme.

1.7 Participation

A total of 84 stakeholders attended the workshop. These comprised officials from Ministries, Departments and Agencies; Local Non-Governmental Organization and Media; National Operators and Private Sector; Communities and Traditional Structures; International Finance and Donor Agencies; Research Organizations and Local Level Institutions. Appendix 3 presents the list of the participants. Plate 1 shows some participants at the workshop.

2.0 Session 1: Opening Remarks

2.1 Opening Prayers

Mr. Richard Twum Koranteng, the Executive Director of Volta Basin Development Foundation (VBDF) and a member of NCC called upon Togbe Adom Drayi II, chairman of the National Association of the 52 Resettlement Townships, to lead all in attendance through the opening prayer at 9:47GMT to officially start the workshop.

2.2 Welcome Address

Dr. Liqa Raschid-Sally, the Head of Office of the International Water Management Institute (IWMI), and a member of NCC, was invited by Mr. Richard Koranteng to give the welcome address. After welcoming remarks, she explained why today's demands are too complex to allow for just one solution, welcomed all participants to the dialogue process and hoped that participants would frankly and dispassionately dialogue all issues relating to dam development, especially in Ghana.

Plate 1: Some participants having discussions at the workshop premises

2.3 Introduction of Chair

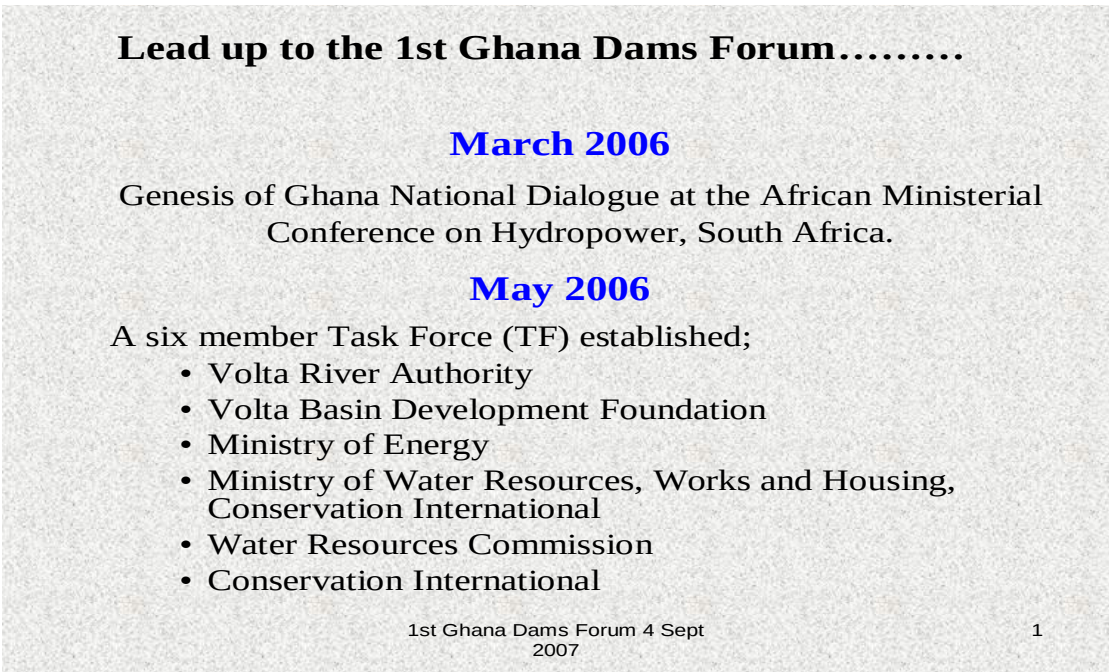
In place of Hon. J. H. Mensah who could not make it to the workshop, Hon. Maxwell Kofi Jumah was introduced as the Chair Person for the workshop by Mr. Richard Koranteng.

2.4 Chairs' Response

Hon. Maxwell Kofi Jumah, after responding positively to the chair-ship said that the construction of the Bui Dam is timely. Recounting his days as the Chief Executive of Kumasi Metropolitan Assembly (KMA), Hon. Maxwell Kofi Jumah, believed that if stakeholders' forums, like what he was witnessing that day, were held in connection with all matters affecting the country as a whole, confrontations with the citizenry as observed during the KMA demolition exercise would not have arisen. Hon. Jumah hoped that, with the knowledge of the problems that arose from the construction of the Akosombo and Kpong dams at hand, the Forum would frankly and transparently dialogue on all issues that would prevent similar problems from recurring now that the Bui hydropower dam construction is underway. Hon. Jumah advised other groups to learn from the initiative of the National Coordinating Committee (NCC). He then urged all in attendance to be open during the dialogue process to ensure general understanding since the project will affect all (either positively or negatively).

2.5 First Speech

The first speech was given by the Chair person of NCC, Mrs. Cecilia Amoah, who is a lecturer at the Botany Department, University of Ghana, Legon, and The Director of Volta Basin Research Project (VBRP), University of Ghana, Legon. She briefed participants on issues before and after the 1st Ghana Dams Forum. Dam construction in Ghana dates back to 1918 at Ntweaban, followed by Akosombo and Kpong dams in 1965 and 1985 respectively. Since then, both ecological and environmental problems associated with dam construction had been given little attention. This, Mrs. Amoah observed was the cause of the problems associated with most dams in Ghana. With the commencement of work on the Bui hydropower dam, the chairperson of NCC conceded that there was therefore the need for a consultative meeting of all stakeholders in dam development to consider the problems that are associated with dam development. A copy of the presentation is shown at Annex 1. However, a slide presentation of her speech is shown below:



September 2006

IWMI as member of SC of UNEP-DDP Global Dialogue on Dams invited to play advisory role

January 2007

National Consultative Meeting to discuss background report for Ghana Dialogue and establish National Coordinating Committee (NCC)

April 2007

Inaugural meeting of NCC

September 2007

1st Ghana Dams Forum

Objectives of the meeting

- To inaugurate The Ghana Dams Forum with representation of all groups with a stake in Dam development.
- To identify priority issues and prepare outline Terms of Reference for detailed issue papers that will support transparent information exchange

In addition to the above mentioned objectives, enhancement of information between those affected by Akosombo dam project and the upcoming Bui dam project, and identifying problems and mitigation measures regarding the creation of the Bui dam were also mentioned in the speech.

2.6 Second Speech

On behalf of the 52 Volta River Authority (VRA) Resettlement Township, Togbe Adom Drayi II, chairman of the National Association of the 52 VRA Resettlement Townships (NAVRAT 52), gave the second speech which had to do with dams affected communities. Togbe Adom said that the fifty-two (52) Volta River Authority (VRA) resettlement communities/towns (5 towns in Brong Ahafo Region, 16 towns are in the Eastern Region, 8 towns in the Northern Region, and the remaining 23 towns in the Volta Region,) have had to cope with so many adverse problems/conditions since the construction of the Akosombo and Kpong dams from the mid 1950's. He made reference to lack of electricity and potable water supply in resettlement towns, and not-paid compensation due some of the members of the communities as some of the hardships suffered by affected communities.

Togbe Drayi II said that most of the fifty-two resettlement communities have had to live in their new habitats as tenants without appropriate compensation, adding that a wide gap mostly exist between formulated project policies and the actual implementation of these policies. With the commencement of the Bui hydropower dam project, Togbe Drayi II hoped that the experiences from the Akosombo and Kpong dams and their resettlement communities would be used as guides to good development. The chairman of NAVRAT 52 advised that all infrastructure including houses, schools and roads to be constructed during the Bui project should be known and all individuals to be compensated identified and compensated immediately. Moreover, there should be full dialogue for affected communities when it comes to type of schools and houses to be constructed, and payment arrangements.

2.7 Third Speech

In his speech, the Minister for Water Resources, Works and Housing, Hon. Boniface Abubakar Saddique stressed that, the basis for dam construction is mainly for security purposes, especially ensuring water security, and that studies indicate that by the next twenty-five to thirty years, about 3.1 billion people would be living in water scarce areas. The minister noted that the few problems associated with dams, such as siltation which call for expensive dredging, odour from decaying vegetation, sewage, flood, and breeding mosquitoes which cause malaria, should not prevent the pursuance of dam development but rather make us see the need to adopt an Integrated Water Resource Management (IWRM) approach in managing and developing water resources. Making specific reference to bilharzia, he emphasized that environmental and socio-economic aspects of dams construction should be considered.

Hon. Saddique hoped that the forum would discuss and dialogue on all nagging problems related to dam development so as to advise the government appropriately. His words for ending the speech were: "We need the dams for our development…All sectors such as irrigation, farming on advance stage, and water supply will benefit to ensure more economic activities and revenue to move Ghana to a middle earning income country".

2.8 Chair's Remarks

In his remarks to close the first session of the forum, Hon. Maxwell Kofi Jumah urged all at the forum to bring out all relevant issues that would help to correct the problems that characterized previous dam construction. He said that a forum such as the 1st Ghana Dams Forum brings together the experiences, differences, and suggestions that should be reflected on the implementation. He ended by suggesting that the people of Bui should be the first to enjoy the electricity so that some of the problems faced by communities affected by the construction of the Akosombo dam would not be repeated. After this, there was about 25 minutes Cocoa Break and photographs. Plates 2 and 3 show participants at the workshop.

Plate 2: Some participants of the Forum

Plate 3: Mrs. Cecilia Amoah, Director of VBRP (in pink) with participants in back

3.0 Session 2: Presentations

3.1 Introduction of Chair

Prof. Odamteng was invited to chair the session 2 presentations. He invited the presenters as soon as he assumed his position for commencement of the session.

3.2 First Presentation

Title: Compensation and Resettlement Schemes of the Volta Hydropower Project (Akosombo and Kpong Dams)
By: Mr. Emmanuel Martey (Resettlement Officer, VRA)

This presentation focused specifically on the resettlement schemes for the Akosombo and Kpong dams of the Volta basin in Ghana and the lessons that were learned. Site acquisition and attendant compensation and resettlement issues become critical especially in dams which cover very large surface areas and require resettlement of large groups of people. Consultation with affected groups has the potential to bring about more harmonious outcomes. The two dams disrupted in all 87000 persons in 765 villages the larger portion being from the Akosombo. The criteria and categories of compensation and how cash compensation was calculated, was explained. The advantages of organized settlement (as opposed to self help schemes) were mentioned and the excellent opportunity provided for rehabilitation of the villages was referred to. In all 58 settlements were established for the two dams. Detailed consultations were held and social, economic and physical features were taken account of to minimize disruption. Highlighting the challenges faced, securing suitable land and the time taken for acquisition ranked high. Some other issues discussed were domination by the majority groups to the detriment of the minority communities in the dam sites, and ownership conflicts. The complexity of resettlement was further complicated by the fact that there was no blueprint for resettlement in Ghana. In addition misconceptions by the displaced population of the extent of government responsibility, for all future maintenance works in the settlement, chieftancy disputes and harassment by host communities were other problems faced. The expenditures involved in such resettlement were very high, and there are still some outstanding cases for compensation. In conclusion two key benefits of the resettlement were cited as, enhanced living conditions, and new investment opportunities - like banana farming and aquaculture. A further interesting outcome were the social, economic and political transformations that took place resulting from the intermingling of different cultures and ethnic groups.

3.3 Second Presentation

Title: Community Participation with Special Reference to the Bui Dam
By: Mr. G. O. Boateng

Mr. G. O. Boateng gave the second presentation which focused on community participation with special reference to the Bui Dam. Whilst the two main reasons in Ghana for dam construction were electricity generation and water supply one of the main purposes of the Bui dam to be constructed will be to supply about 400

megawatts power to supplement what is already generated in the country. As the Bui dam will be located in a protected area, the Bui National Park, a key environmental impact would be with regard to plant and animal (both terrestrial and aquatic) species. The socio-economic impact included loss of agricultural lands, with about 2000 people to be displaced, and health impacts like the possible spread of diseases such as malaria, guinea worm infection, and bilharzia. From a community participation perspective, he mentioned earlier consultations in Accra, Banda Ahenkuro, and Banda Nkwanta with respect to the Bui dam project. These and other group discussions had brought out amongst others, the following issues of concern for those to be affected by the Bui project:

- request for electricity, schools, health facilities, and road construction
- will affected ones be allowed to continue farming when the project starts?
- can affected ones make their own choice when it comes to type of house and where to stay/resettled?
- fear of wiping out the Hippopotamus population.

The presentation made the following recommendations:

- sharing of information with the people including distribution of maps indicating key information, to facilitate the project acceptance
- land acquisition problems must be resolved methodically and quickly,
- the people must be well informed when it comes to compensation issues, and
- resettlement must take note of the current and future livelihood of the people.

Before ending his presentation, Mr. Boateng made mention of the development of Environmental Management Plan to minimize/mitigate some, if not all, of the environmental issues such as vegetation clearance and wildlife issues. Some of the measures he mentioned were:

- trees will be felled to clear the reservoir to allow for river transport,
- there will be a wildlife rescue agent,
- one kilowatts of power will be use to draw 7000 liters of water (water management), and
- sustainable fishing will be ensured.

After the first two presentations, the chair person, Prof Odameten of the University of Ghana allowed for questions which were discussed and contributions from participants.

3.4 Discussions of First and Second Presentations (Questions and Contributions)

Prof. Francis Momade (College of Engineering, KNUST) was concerned about populations downstream. The professor, making reference to fishing, farming, and the long term effects of the dam, wanted to know what livelihood can be provided in the long term for the local communities down stream in the Bui hydropower dam project? He advised that resettlement plans should:

- not be limited to upstream of dam but also downstream.
- take into consideration the culture, behaviour, and livelihoods of the affected people.

According to Mr. Emmanuel Martey, Resettlement Officer of VRA, all factors would be considered on the long term so that the mistakes in the Akosombo and Kpong projects not repeated.

Mr. G. O. Boateng also added that irrigation farms would be created and encouraged downstream for all the resettlement communities downstream in the Bui dam project for all year farming.

Directly affected persons from the Akosombo area had the following questions:

Nene Tetteh Amoako IV, chief of Natriku Resettlement Area, advised that proper land documents should be given to resettled individuals or communities by the appropriate authority after land acquisition in resettlement programmes. He was also concerned with crop compensation and supply of food to resettled persons. Nene Tetteh Amoako IV was also worried whether the size of the promised land for irrigation could be proved by Mr. Emmanuel Martey of VRA who claimed VRA gave three acres of land to resettled communities, contrary to what he (Nene Tetteh Amoako IV) said were pieces of land less than three acres.

In response to Nene Tetteh Amoako IV's worry, Mr. Emmanuel Martey said that documents to be given resettled individuals or communities, especially concerning farmlands, were being considered by the VRA. Mr. Martey stated further that the lands were being held in trust for a purpose and that they would be given out at the appropriate time.

Osahene Kwaku Aterkyi II, a member of Brong Ahafo House of Chiefs, National Lands Commission, Bui Dam Secretariat, and formerly the Principal Lands Officer i/c. VRA, spoke of land matters. He said VRA normally had two types of land acquisitions during resettlements; those for the resettling communities and those for commercial farming purposes. He advised that those who wish to enter into commercial farming can apply appropriately.

Hon. David Sackitey Asare, the District Chief Executive (DCE) of Manya Krobo District Assembly, made mention of a visit to most of the resettlement areas which brought to light serious defects in the building structures and very deplorable road net-work. In addition, he wanted to know the role of VRA in rehabilitating these infrastructure for the benefit of the resettlers' or what are VRA modalities concerning dilapidated infrastructure such as housing units and road networks in the resettled communities?'

Answering Hon. David Sackitey Asare later in the programme, Mr. A. K. Kalita (a former Chief Executive of VRA) and Mr. Emmanuel Martey quoted provisions in the VRA Act contained in the Ghanaian constitution, which apportions such duties to the District Assemblies.

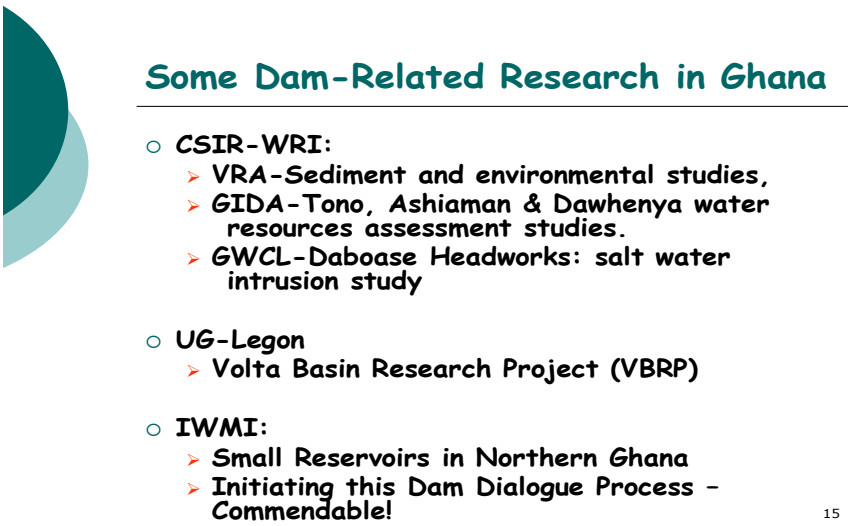
Hon. Asare supported by the District Chief Executive of Kete Karachi advised therefore that VRA should do the proper handing over of those constitutional duties to the District Assemblies so that the Assemblies could begin repairing damaging infrastructure in the resettlement communities.

3.5 Third Presentation

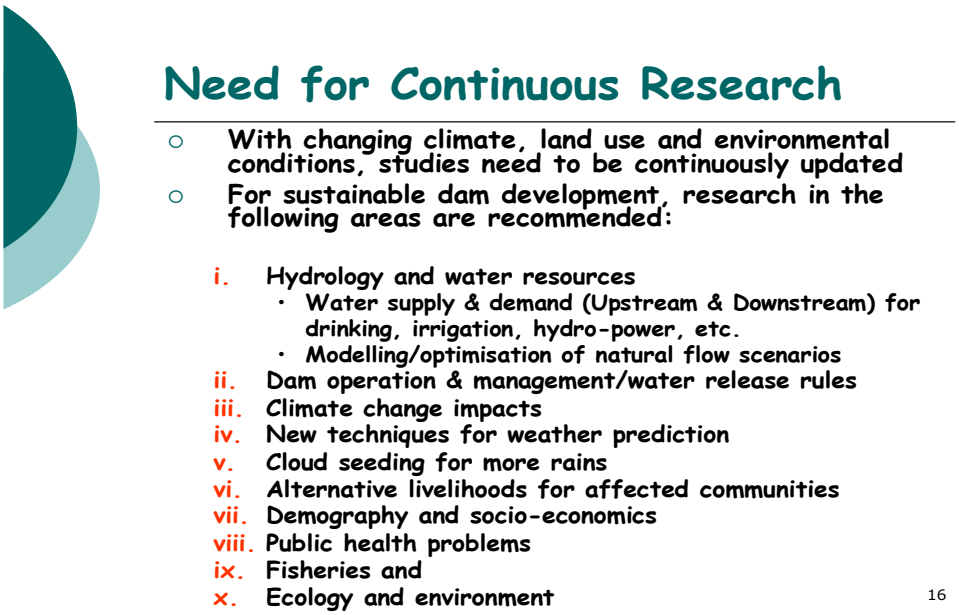
Title: The Role of Research Development and Capacity Building for Sustainability of Dams in Ghana
By: Prof. Emmanuel Owusu-Bennoah, Director General of Center for Scientific and Industrial Research (CSIR)

Dr Owusu-Bennoah in his introduction discussed the multiple purposes that dams served and outlined the commonly known benefits and disadvantages of dam construction both upstream and downstream. Using the environmental and social challenges posed by the Akosombo dam as an example, he concluded that post dam problems occur because of insufficient attention to ecological and human/social problems during planning and execution stages. Referring to the Bui dam he mentioned the range of issues covered, and highlighted how past research in the area had contributed to the ESIA.

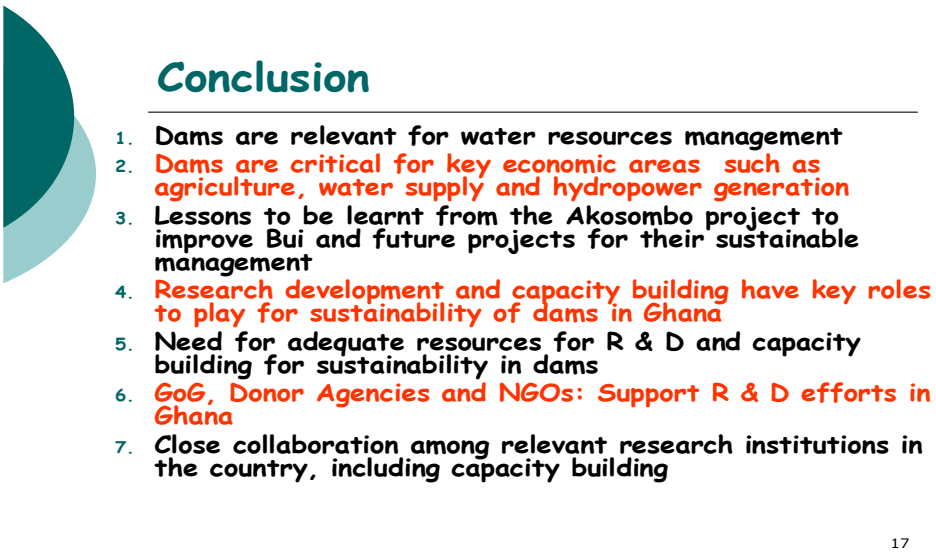
The consultants had notably relied on several previous research studies to set the pre-impoundment, environmental, socio-economic, hydrological and hydro-meteorological baseline. In the interests of sustainability of dams the need for monitoring key issues requires continuous research which requires adequate resources. He presented an example of research funding to ministries and questioned adequacy. The need for the CSIR, universities and other international research bodies in Ghana to collaborate in relevant research would avoid duplication. He identified some examples of dam related research in Ghana currently viz:



The need for continuous research in the key areas listed below were justified.



His concluding remarks were as follows:



3.6 Discussions of Third Presentation

Concerning the third presentation, Nana Kyei Krukruwu II, Paramount Chief of Adjena, asked why it has taken research team such a long time to address issues and improve upon water management. Again, he wanted to know whether water, which is an important commodity, has been privatized.

In answering the question about research institutions and water research, Prof. J. K. Amatekpor made mention of problems associated with research funding and added that serious water research had been going on, despite the problems, for a long time now. Prof. Amatekpor stated that the problem had rather been that many of such research works and recommendations have been on shelves awaiting implementation by appropriate implementing authorities.

Mr. Minta A. Aboagye of Water Research Commission (WRC) added that water had not been privatized in Ghana and that issues on water, especially its quality, had gained prominence in recent times in the public domain because of the public's realization of the importance of water in the society. Therefore, with little more attention to issues of water, especially water treatment, water would be sustained for the future.

3.7 Modalities for Working Groups

Four working groups comprising of Community Involvement (group 1 facilitated by Mr. B. D. Ofori), Institutions (group 2 facilitated by Mr. Mintah A. Aboagye), Research and Development (group 3 facilitated by Dr. E. O. Bekoe), and Compensation (group 4 facilitated by Togbe Adom Drayi II) were announced.

The main objective of the working group was to develop clear outline terms of reference which would be used to develop detailed ToR by the National Coordinating Committee for 4 issue papers. Each group was also requested to prepare one key message which would e used in the communiqué.

4.0 Session 3: Discussions

4.1 Settling in Groups

To ensure independent work, members settled in their respective groups at different places for commencement of the group discussions. Plate 4 shows settled members of a working group.

Plate 4: Members of group 4 (Compensation) settled for discussions

Reporting (Group Presentation)

4.2 Group 1 (Community Involvement)

Members of this group categorized affected communities of dam projects into

1. Displaced communities upstream
2. Displaced communities downstream
3. Host communities

The group also categorized community involvement in dam projects mainly into

I. Conceptualization stage
II. Planning
III. Implementation
IV. Monitoring
V. Maintenance

The break down in relation to the priority issues was as follow:

Planning:
- identification of settlement (structure of choice) while considering the traditions and culture of the people
- ensuring transparent compensation process
- support packages for affected communities, especially, those downstream
- the people should be told exactly what they will gain from the project
- salvage medical plants and archeological items by the help of he local people

Implementation:
- employment/job for the local people
- listen to local peoples' suggestions

Monitoring:
- strict adherence to project planning
- community should be involve in the planning of schools, hospitals, market, etc and where they would be sited

Maintenance:
- siltation
- erosion
- deforestation
- overfishing

Concerning the Terms of Reference (TOR), the community involvement group agreed among others that

i. Misunderstandings between resettled communities and host communities could be prevented if resettled communities' give due recognition and respect to their host communities on matters of traditions especially. The group advised therefore that the socio-economic issues of such misunderstandings be studied thoroughly by researchers.
ii. For purposes of supervision and protection of the lakeshores or buffer zones, surrounding communities should be involved in the project management.
iii. In terms of support packages, affected communities, especially communities downstream should be involved.
iv. Rich biodiversity and archaeological materials upstream and downstream should be salvaged before actual construction work commences.
v. Possibly, individuals living in the resettled communities should maintain the various infrastructures in the resettled communities to prevent neglect of such infrastructure.

4.2.1 Key Message Community Involvement

Affected communities should be adequately informed and sensitized about the dam projects during the planning, implementation and monitoring stages.

4.3 Group 2 (Institutions)

Members of this group agreed that the word institutions was broad, hence in the future, the word should be well defined before any such dam projects begin.

The group realized that in dealing with the role of institutions in dam development, the priority issues/terms of reference were;

i. The identification of major institutional issues at planning, implementation and supervision stages of the dam project.
ii. The identification of national and international standards, rules and regulations of the project.
iii. Identification and analysis of opportunities for institutional collaboration or networking.
iv. Strategies for information management on socio-economic and environmental issues among others (strategic development management).
v. Detailed profile of institutions, their mandate, nature of their mandate and their institutional capacity.
vi. Appropriate institutions to be involved in the assessment, planning and construction stages of the project.
vii. The right information to be made available from the right people, at the right time and at the most appropriate place or stage.
viii. Policy issues with regard to dams development

4.3.1 Key Message Institutions

Institutional issues are critical to successful and sustainable dam development and management. Government is therefore urged to provide the enabling environment (financial, technical, legislative among others) for relevant institutions to perform.

4.4 Group 3 (Research and Development)

The priority issues of this group were:

i. availability of existing reports
ii. priority areas for research was restricted to resettlement, compensation, and community participation.
iii. Monitoring during and after construction (in line with EIA) and mitigative measures to address emerging problems
iv. not much dissemination of information on reports regarding EIA, etc on Bui project and already existing ones since 1918
v. lessons learnt from the past reports and actual situations
vi. appropriate technology for irrigation
vii. climate change impact assessment and methodology at dam site
viii. flow of water (hydrology) and drainage (siltation) studies
ix. post dam effects
x. demography and socio-economics
xi. fisheries
xii. health implications
xiii. ecology and environment
xiv. alternative livelihood for affected communities

xv. land management and land issues
xvi. human and social impact
xvii. funding research
xviii. extent of education and awareness creation

Concerning the Terms of Reference (TOR) for the issue paper on research and development in the context of dams, Group 3 stated the following:

i. Inventorize and prioritorize the key issues related to dams and development
ii. Recommend solutions to the key issues related to dams and development
iii. Develop structures for implementations and monitoring of he recommendations

4.4.1 Key Message Research and Development

Financing of research is key to sustainable development of dams.

4.5 Group 4 (Compensation)

The priority issues of this Group were:

i. Identification of owners and type of interest affected
ii. type of compensation (cash/cash and kind/kind)
iii. clear-cut policies which is understood by the local people
iv. prompt compensation as soon as Government acquires the land and starts work
v. eligibility criteria (all who have valuable interests, transparent compensation process made known to affected ones)

TOR of the group includes:

i. undertake detailed public education on land rights
ii. properly design resettlement in accordance with settlers choice
iii. incidental losses must be paid (enhanced resettlement schemes)

4.5.1 Key Message Compensation

Compensation (including Akosombo/Kpong outstanding) must be given the needed attention. Resettlement must be given the needed consideration to ensure better living standards considering the culture, traditions, norms, and economic activities of the people.

4.6 Discussions of Working Group reports

(These have been presented more or less verbatim because the discussions were interesting and provides very useful information and pragmatic suggestions from first hand experiences in some cases).

Mr. A. K. Kalitsi, former VRA Chief Executive, advised that problems of the past should be identified and what should be done determined. However, he asked whether compensation should be determined by the type and size of house or by family size. Answering Mr. Kalitsi's question, Krachiwura, Nana Mprah Besemuna III, said that the overriding consideration should be the opportunity to move Ghana forward. Thus,

the type of houses should be up to date standard. However, those houses that are of certain high standards should necessarily be reflected in the type of houses that would be given as replacement.

Adding to the discussions, Prof. Kobina M. Bosompem of the Noguchi Memorial Institute of Medical Research (NMIMR) also said that rather than compensation, health of the people should be the basis of housing unit provision in resettlement programmes. Prof. Bosompem explained further that because little regard was given to health issues during the compensation stage of the Akosombo and Kpong project resettlement programme, most of the fifty-two resettled communities along the River Volta suffer from Bilharzia.

As a medical researcher, Prof. Bosompem advised that health issues and their implications should be considered seriously during dam developments since the development of any group of people and for that matter any nation is hinged on the health of the people.

Mr. Ted Y. Annang of the Volta Basin Research Project (VBRP) at this point encouraged Prof. Bosompem to help identify health issues that were not appropriately handled in the Akosombo and Kpong projects so that the way forward could be provided at the forum.

Prof. Kobina M. Bosompem then explained that Noguchi Memorial Institute of Medical Research (NMIMR) had done extensive work on the health failures of the Akosombo and Kpong projects. Prof. Bosompem therefore said it would be inappropriate to summarize the already completed research, adding that the work would be released in full to help prevent the incidence of Bilharzia in the Bui hydropower project. Prof. Bosompem went on further to say that the health impact of dam projects could be solved through comprehensive health assessment with baseline on disease causing vector assessment.

Nana Amprah III, the Krachi Wura of Kete Krachi Traditional Area advised at this point that dam projects should be opportunities for socio-economic development and at the end, the projects should provide an improved livelihood for the local communities and their inhabitants.

Contributing to the discussions, Mr. Ofoe Caesar (DCE – Fanteakwa District Assembly) added that Town Development Committee has the MP of the area as automatic member. This committee manages the VRA settlement fund and there are problems of mismanagement of funds. He therefore suggested that the management of the settlement areas be vested in the district assemblies. Moreover, Mr. Ofoe said vesting the administrative authority of the settlement areas in the traditional authorities will create problems. According to him, traditional authorities have their undisputable authority over their traditional areas, they have their traditional roles to play and any deviation from that will create problems. Again, Mr. Ofoe suggested that cultures of re-settlers must not conflict with that of the host traditional authorities but they must be accorded the respect due them since their resettlement is of national interest.

Mr. Emmanuel Martey also explained that problems raised by the settlers had to do with the management of resettlement towns. He added that the District Assemblies must take over the political administration of the resettlement towns just as any other community in their jurisdiction.

The District Chief Executive of Kete Krachi also advised traditional authorities, district assemblies and the resettled communities to collaborate more to effectively manage the resettled towns or communities.

The chief of New Somanya Resettlement, Nene Nanor Odjidji I, complained about land distribution problems and instances where lands given to individual tenants were sold as they moved. Nene Nanor Odjidji I advised that allocation of resettlement lands should be done with the local people in mind and the managers of these resettled communities should be able to speak and understand the language of the inhabitants of the resettled communities to foster understanding and peace on the part of resettlers.

4.7 Communiqué

At 17:17GMT, a four point communiqué was compiled, read and approved by all participants at the workshop. The communiqué of the workshop can be seen at Annex 2.

4.8 Closing Remarks

The chairperson, Prof. Odameten, gave the closing remarks. He commended participants for opening up to one another for successful dialogue process and for being able to identify priority areas/issues pertaining to the topic. Regrettably, he said: "We in Ghana are known for good papers, good presentation, but poor implementation". However, he hoped there would be adequate implementation in connection with the workshop. He then encouraged participants to leave further information which may be of interest but were not discussed due lack of time to the secretariat. This was followed by a short cocktail (Plate 5).

Plate 5: Some participants enjoying themselves during the cocktail session

Appendix 1: Workshop Programme

National Dialogue on Dams and Development in Ghana

1ST GHANA DAMS FORUM

Date: 4th September, 2007 Time: 09:00 am Venue: Fiesta Royale Hotel, Accra

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PROGRAMME

8:00 – 9:00	Registration		
Session 1: Opening Remarks			
9:00-9:05	Opening Prayers		
9:00-9:10	Welcome Address	-	Secretariat
9:10-9:15	Introduction of Chair	-	Secretariat
9:15-9:20	Chairs' Response	-	Hon. J.H. Mensah
9:20-9:50	Speeches		
	• Chairperson of NCC	-	Mrs. Cecilia Amoah
	• Dam Affected Communities	-	Togbe Adom Drayi II
	• Ministry of Water Resource, Works and Housing	-	The Minister
	• Ministry of Energy	-	The Minister
9:50-10:00	Chair's Remarks	-	Hon. J.H. Mensah
10:00-10:05	Announcements	-	Secretariat
10:05-10:20	Group Photographs		
10:20-10:45	**Cocoa Break**		

Session 2: Presentations

10:45-10:50	Introduction of Chair	-	Chairperson of NCC
10:50-11:50	Presentations	-	
	• Introduction of Presenters		
	• Presentations		
11:50-12:20	Discussions		
12:20-12:40	Modalities for working groups		
12:40-13:40	**Lunch**		

Session 3: Discussions

13:40-14:00	Settling in groups		
14:00-15:30	Working group discussions		
	• Community Involvement	-	Mr. B. D. Ofori
	• Institutions	-	Mr. Mintah A. Aboagye
	• Research and Development	-	Dr. E.O. Bekoe
	• Compensation	-	Togbe Adom Drayi II
15:30-16:30	Reporting		
16:30-17:10	Discussions		
17:10-17:25	Communiqué		
17:25-17:30	Closing Remarks	-	Chairperson of NCC
17:30-	Closing		
17:30	**Cocktail**		

Appendix 2: Members of NCC

NATIONAL DIALOGUE ON DAMS AND DEVELOPMENT IN GHANA

Members of the National Coordinating Committee

NAME	ORGANIZATION	POSITION
Mr. Minta A. Aboagye	Ministry of Water Resources Works and Housing	Director
Mr. S. Ayeh-Dartey	Ministry of Energy	Deputy Director (F&A)
Mr. Isaac Asamoah	Water Resources Commission	Engineer
Mr. K.D. Bright Siayor	Volta River Authority	Manager, Project Management
Mr. S.A. Appenteng	Association of Ghana Industries	National Treasurer and Managing Director of Joissam, (Ghana) Limited
Mr. David Sakitey Asare	Manya Krobo District Assembly	District Chief Executive
To be Decided	Ghana National Association of Canoe Fishermen	
Togbe Drayi II	National Association of the 52 VRA Resettlement Townships	Chairman
Nene Tetteh Amoako IV	Representative from the Lower Volta Basin Township	Chief of Natriku Resettlement
Togbe Kpakpa	Representative from the Proposed Bui Hydro power Area	Chief of Battor

Mr. Richard Twum Koranteng	Volta Basin Development Foundation	Executive Director
Mr. Mike Anane	Ghana Journalists Association	Member
Mrs. Cecilia Amoah	Volta Basin Research Project	Director
Dr. K. Kankam-Yeboah	Water Research Institute	Senior Research Scientist
Dr. Liqa Raschid-Sally	International Water Management	Head of OfficeInstitute

Appendix 3: List of Participants

Name	Organization	Position	Contact
Raymond Baxey	Daily Graphic	News Writer	244656204
Gifty Agyeman	The Insight	Reporter	243060919
Havijah Yatah	Top Radio	News Caster	
Willian Bossman	Ghanaian Times	Reporter	209224435
Adel Kwesi Najdoub	TV3	Crew	244698210
Yarboye Stephen	TV3	Crew	
Edmund Mingle	Ghanaian Times	Reporter	223285
Maxwell Bilson	Ghanaian Times	Photographer	223285
Isaac Homeku	Democrat	Acting Editor	242688959
Anthony Sabriki	Channel R	Senior Journalist	244957796
Hamdiya A. Yakubu	Daily Guide	News Writer	243987199
Yaw Osei- Owusu	Conservation International	Dep. Director	244277795
Patrick Obeng	Mercury FM	Reporter	243189070
Abubakar Salifu	Daily Guide	Reporter	208782379
A.A Mary	Adom FM	News Reader	208415612
Ivy Mante	Network Herald	Reporter	244459691
M.K. Bilson	Times	Photographer	285028593
Mike Anane	G.J.A	Member	244656632
Issabella Odoom	Choice FM	Reporter	246808745
P.D. Asare	The Moment	Reporter	243166567
Noble Wadzah	Friends of the Earth - Gh	Programme Coordinator	242257972
Richard Koranteng	Volta Basin Dev. Foundation	Executive Director	244451025
K.A. Ansu-Tutu	GWCL- PMU	Safeguards Officer PMU	243152761
K.D. Bright Siayor	VRA	Manager - Project	244208831
E. A.K Kalitsi	Kalitsi Associates	Chairman	244318019

Emmanuel Martey	VRA	Resettlement Officer	244664436
Angela Nkansah	VRA	Estate Officer	244652111
Francis Boateng	VRA	Schedule Office, Resettlement	208167288
Nene Tetteh Amoakow	Natriku	Chief	242840925
Chief Teye Kpabi	Kpong	Chief	208533810
Nene Nann Odjidji I	New Somanya	Chief	243713882
Nana Kyei Krukruwa II	Adjena Trad. Area	Paramount Chief	245754124
J.A. Lomo-Tettey	West Kpong	Secretary - Landlord Association	243771876
Anyemiteye Moses	New Somanya	Landlord	243145957
J.K. Okyctey	New Somanya		
Solomon Leigh	Mumuikope	Stool Elder	242126587
Yaw Annang	New Somanya	Landlord	
Kpakpa Agbesi	Akanyakrom/Bator	Chief	243224437
NanaKwadwo Womor II	Bui	Chief	249492220
Nana Oteiku II	Apaaso	Chief	243232534
Nana Dokua III		Queenmother	244033660
Nana Darkoa I	Apaaso	Nkosuohemaa	243126586
Nana Fosu Yiadom I	Pai-Katanka	Queenmother	246727352
Nana Okorwa Asifom III	Adjena Trad. Area	Queenmother	208199965
Togbe Adom Drayi II	NAURART/52	Chairperson	244653301
Osahene K. A	BA Hse. Of Chiefs		208139060
Nana Mprah Besemuna III	VR Hse. Of Chiefs		208170562
Nana B. Kwantow	Adjena	Sanaahene	244622923
Felicia Afum-Addo	Adjena		244426223
Osman Shaiton	Makango East Gonga	Representative	242010083
Maria Lavelle	CDN High Commission	Political Econ. Programme Manager	211521
Ted. Y. Annag	VBRP Univ. of Ghana, Legon	Research Fellow	208362522

Prof. F.W.Y Momade	College of Eng., KNUST, Kumasi	Provost, Rep. V.C	208175830
Dr. E.O. Bekoe	CSIR, Water Research Inst.	Research Scientist	242729297
E.A. Afari	School of Publich Health		208131828
Dr. F.K Wurapa	School of Publich Health		244221124
Prof. G.T. Odamtta	Univ. of Ghana, Dept. of Botany	Professor	244663636
Dr. K. Kankam-Yeboah	CSIR, Water Research Inst.	Snr. Res. Scientist	287298328
Cecilia Amoah (Mrs.)	Univ. of Ghana, VBRP	Snr. Res. Fellow	244658230
E. Laing	Dept. of Botany, UG. Legon	Professor	21502056
Benson K. Owusu	AY&A Consult/VBRP	Asst. Environmentalist	244843112
Harris Francis Andoh	Center for Africa Wetlands	Research Scientist	244672036
Ben. D. Ofori	VBRP	Research Fellow	208134292
Dr. S.O. Sackey	School of Publich Health	Lecturer	242216542
Prof. J. K. Amtekpor	Dept. of Soil Science/VBRP	Professor	208420590
Dr. O.O. Cofie	IWMI	Researcher	
Prof. K.M.Bosompim	NWIMR, Legon	Res. Prof.	2448358872
Dr. Liqa Raschid Sally	IWMI	Head	
Samuel Donkor	Eastern Regional Co-ordinating Council	Deputy Director	243441828
F.O. Boateng	BARCC	Chief Dir.	208205781
E. Ofoe Caesar	Fanteakwa D/A	DCE	244220049
Kwasi Ayitey	Hrachi Trad. Area	Chief	243540585
Sackitey Asare	Manya Krobo	DCE	208336198
D.S. Amlalo	E.P.A	Deputy Exec. Director	021664697/8
G.D. Boateng	Bui Secretariant	Project Manager	257816
Hon. Maxwell Kofi Jumah	MP. Asokwa Constituency	MP	208160133
Dr. I.F. Mensa-Bonsu	NDPC	Director	21771779
Joseph Abbey	MLFM	Planning Officer	21687352
Osafo Kissi	Bui Secretariant	Prin. Sec.	243224620

Hon. Boniface Sadiq	MWRWA	Minister	
Ben Ampomah	WRC	Ag. Exe. Sec	244874138
Minta A-Aboagye	NWRWH	Dir (Water)	21685513
Joshua Awuku-Apaw	EARTH Service	Executive Director	244797638
Bernice Adu Offei	EARTH Service	Secretary	243145552

Annex 1:

THE ROLE OF RESEARCH DEVELOPMENT AND CAPACITY BUILDING FOR SUSTAINABILITY OF DAMS IN GHANA

PRESENTED BY PROF. EMMANUEL OWUSU-BENNOAH

DIRECTOR-GENERAL, CSIR

1. Introduction

Dams are important hydraulic structures in all civilisations, both past and present.
Societies throughout history have used dams and reservoirs successfully to collect, store and manage water in order to sustain civilisation. Effective management of the world's water is therefore critical in sustaining the existing, and survival of future generations, and civilisation of the world. As the worlds population continues to grow at about 100million a year so does the need for more dams, especially in developing nations such as Ghana.

The construction of dams is one of the most efficient ways to manage water resources for human needs. The dams create reservoirs for the storage and future distribution. Currently there are about 45,000 dams higher than 15 metres throughout the world. While some are more than 2,000 years old, about 73% have been built in the last 50 years. The reservoirs thus formed by these dams store some 3,600km^3 of usable water.

This paper highlights the importance of research development and capacity building for sustainability of dams in Ghana.

2. What is a Dam?

A dam is a barrier across flowing water that obstructs, directs or slows down the flow, often creating a reservoir, lake or an impoundment. In Ghana, dams generally serve the primary purpose of retaining water to be used or released by managers as and when needed. By this definition, weirs and other hydraulic structures may be included.

3. Benefits of Dams

The benefits of dams include:

- Flow regulation
- Flood control
- Hydropower generation
- Drinking water supply
- Irrigation
- Livestock watering
- Fisheries
- Recreation
- Lake transport

Some specific benefits from the Akosombo dam include the near-eradication of blindness as a result of the flooding of the Kpong rapids and reduction of river blindness because large areas of tsetse-infested forests have been inundated

4. Disadvantages of Dams

In spite of the benefits, dams can impact negatively on the environment and people at both upstream and downstream ends. These include:

Upstream

- Destroy the natural ecosystem as a result of flooding adjoining lands
- Dislocation of people
- Loss of livelihood
- Breeding sites for disease vectors
- Loss of life and property at the point of dam filling

Downstream

- Modification of the natural ecosystem due to controlled flow
  (e.g. emergence of aquatic weeds at estuaries because of inadequate sea water intrusion)
- Risk of failures of dams

- Loss of lives and property at the point of spillage and floods
  (eg. periodic flooding and loss of property when the Weija dam is spilled)
- Loss/modification of livelihood
- Emergence of diseases and disease vectors which were hitherto unknown (Malaria, Schistosomiasis)

5. Dam Operators in Ghana

The principal dam operators in Ghana are the Volta River Authority (VRA), Ghana Water Company Limited (GWCL) and the Ghana Irrigation Development Agency (GIDA). **Table 1** shows the purposes for the dams of the respective operators. Companies such as the AngloGold also operate dams in their concessions.

Table 1 Dam operators and purpose of dams

Operator	Purpose
Volta River Authority (VRA)	Hydropower generation
Ghana Water Company (GWCL)	Water supply
Ghana Irrigation Development Authority (GIDA)	Irrigation

There are also several small reservoirs that have been created, especially in the northern region, for small-scale irrigation. Apart from VRA, the exact number of dams under the operations of the management of the other operators is not easily known. The operators are the ones to give us an idea about the exact number and other pieces of information about the dams!

6. Environmental Challenges of Dams

Despite their economic importance, the economic feasibility and viability of dams can be hampered by certain ecological and human problems which most often are not adequately taken into account or are deliberately disregarded during the planning and execution stages. The Akosombo dam created the largest artificial lake with an area of 8,520 km^2 and required the resettlement of 80,000 people (VRA, 2007) besides the loss of fertile lands, forests and other ecological problems created by flooding. These problems are now of great concern to the affected communities and other stakeholders. Before the construction of this

dam adequate scientific research was not carried out to identify some of the current environmental and socio-economic problems which are currently being experienced.

However, before the commencement of the Bui dam, which was recently commissioned by His Excellency Mr. John Agyekum Kuffour (President of Ghana), a thorough Environmental Impact Assessment (EIA) was carried out. Similar environmental and socio-economic problems as in the case of the Akosombo dam have been identified. Another important outcome of this research and EIA is that measures have been proposed to mitigate the potential adverse environmental and socio-economic impacts of the dam project. Some of the reported issues addressed in the Bui study which were not adequately considered during the Akosombo Project are:

(i) Environmental protection and management
(ii) Community participation
(iii) Integration with host populations
(iv) Procedures for addressing procedures
(v) Community support measures
(vi) Watershed management plan and
(vii) Monitoring program

For the Bui Hydropower Project, many of the potential problems may have been identified because there was preliminary detailed research undertaken to establish the pre-impoundment environmental, socio-economic and hydrometeorological states of the basin. These have provided necessary baseline information for the identification of potential negative impacts of dam construction and the formulation of mitigation measures.

7. Sustainability Issue

An important requirement in the sustainable management of dams is continuous monitoring of the key facets of the dam. This also means continuous scientific research to identify emerging difficulties. This calls for serious commitment in funding, human and institutional capacity building.

On sustainability, the Rio Principles (Article 21) states that: human beings are at the center of concern; development should be met in an equitable way that considers future and present generations; development requires the environment to be integrated with the

development process; environment on its own is an insufficient goal. It also stresses that concerned citizens must participate in the decision-making process.

In essence therefore to ensure sustainability of dams is to have broad acceptance of projects or development alternatives, it is important to present and discuss, as early in the planning stage as possible, all the pros and cons of competing scenarios. The discussions must involve interested parties, including the persons directly affected by project, relevant government authorities and NGOs, taking into account technical, economic, financial, environmental, social, institutional, political, and risk factors.

It seems important for assessing whether a project is sustainable or not to:
Develop a limited number of credible forecasts about the impact, use and usability of the project for the future generations (perhaps look ahead 100 years).
Discuss those scenarios with the people concerned, and check whether they consider the project to be acceptable to their children and further future generations.
The same project may be considered sustainable in one country, but unsustainable in another, depending on needs and priorities of the people concerned. The important thing here is that the decision whether a project is sustainable or not, is a choice that must be made by the people concerned.
Part of the net profits from the early stages should be set aside to carry out rehabilitation in the future.
The design should have a high degree of built-in flexibility in order to enable the project to cope with a change, or be adapted to a possibly changing role of the project in the future.

The EIAs that were prepared for the Bui project resulted largely from previous research outputs of research Institutes of the CSIR and the Universities. However, as **Figure 1** shows the annual budget allocations of the Government of Ghana (GoG) to relevant Ministries to finance basic and applied research in Ghana are very limited. Also, donor support for research and development activities in the country follows the same trend (**Fig 2**). We could do better!

8. Research and Development Efforts

Research and Development (R & D) has been recognised to play a key role in the management of dams everywhere in the world – Ghana cannot be an exception. Various institutions in the country are engaged in R & D. They include the Council for Scientific and Industrial Research (CSIR), the Universities and the International Water Management Institute (IWMI). These and other stakeholders need to closely collaborate, pool resources together and even support each other to develop the appropriate research which could effectively respond to the challenges posed by the construction of dams.

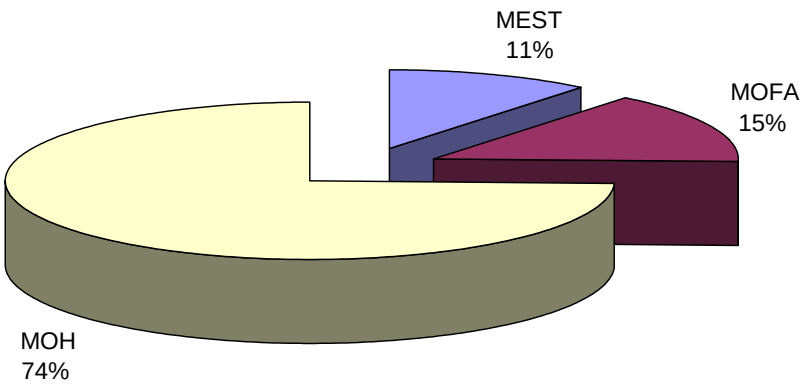
IWMI

The initiative of IWMI in this Dam Dialogue is very commendable and we all should co-operate to make it a success.

Volta Basin Research Project

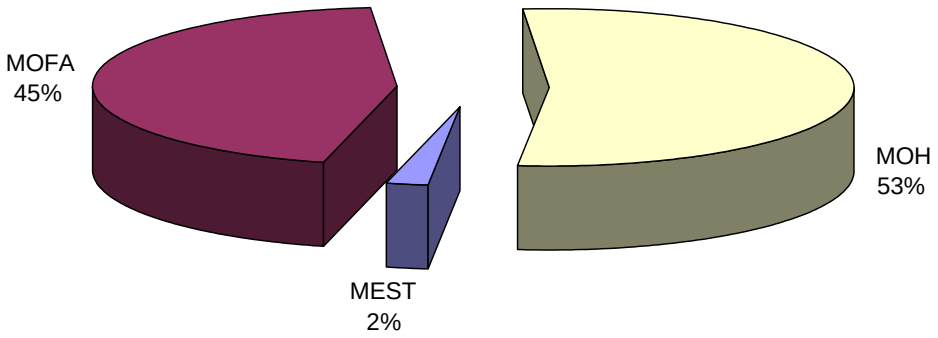
The Volta Basin Research Project (VBRP) of the University of Ghana has been on-going for several years. The relevance for its creation is as still valid as today.

Fig. 1: Government Budgetary Allocations to Three Key Ministries for Research Activities (2002 - 2005)



Source: Essegbey, et al. (2006)

Fig. 2: Donor Support for Research in Three Ministries (2002 - 2005)



Source: Essegbey et al., (2006)

CSIR Contribution to Dam Management in Ghana

At various times, dam managers in Ghana have sought the services of the CSIR-Water Research Institute (WRI) for research and sustainable development solutions to management problems of their systems. Examples are:

(i) Volta River Authority (VRA): Sediment and environmental studies
- Lake Volta

(ii) Ghana Irrigation Development Authority (GIDA):
– Tono (Upper East Region), Ashaiman and Dawhenya (GAR) projects: Assessment of water resources

(iii) Ghana Water Company Limited (GWCL)
– Daboase Intake (Western Region): Salt water intrusion study

For one reason or another, these studies have not been updated. With changing climate, land use and environmental conditions, the studies carried out then need to be continuously updated. We do not need to wait till problems arise in and around dam sites before we seek

solutions! Furthermore, to sustain the effective operation of our dams in the various river basins of the country, continuous research needs to be carried out in the following areas, among others:

(i) Hydrology and water resources, including-
  - Water supply and demand (upstream & downstream) for drinking, irrigation, hydropower generation, etc.
  - Modelling/optimisation of natural flow scenarios

(ii) Dam operation and management (water release rules)

(iii) Climate change impacts

(iv) New techniques for weather prediction

(v) Alternative livelihoods for affected communities

(vi) Demography and socio-economics

(vii) Public health problems

(viii) Fisheries and

(ix) Ecology and environment

9. Conclusion

Dams are relevant for water resources management, which critically control key economic factors such as agriculture, water supply and hydropower generation. However, without research and capacity building and adequate funding and resources made available for these; dam construction could have hazardous effects including uncontrolled internal migration, social conflicts, environmental degradation and water- borne diseases.

The construction and operation of the Akosombo dam has many important scientific, socio-economic, environmental and institutional management lessons, which need to be learned for better and sustainable management of the present-day and future efforts at dam construction for hydro-power generation, drinking water supply and irrigation.

Research development and capacity building have key roles to play for sustainability of dams in Ghana. The GoG, donor agencies and NGOs ought to support these endeavours. Also, close collaboration is called for among the relevant research institutions in the country, especially in terms of capacity building and support.

References

Essegbey, G. O., Frempong, G. K., Obirih-Opareh, H. and Tetteh, E. K. (2006) Agricultural Research and Development in Ghana: A review of the Institutional and Policy Framework and Prospects, CSIR-STEPRI, Accra.

VRA (2007) Volta River Authority website: http://www.vra.com/Power/akohydro.html

Annex 2:

National Dialogue on Dams and Development in Ghana

1ST GHANA DAMS FORUM

COMMUNIQUÉ

Date: 4th September 2007 **Venue: Fiesta Royale Hotel, Accra**

The development of a nation's water resources for hydroelectric power and other purposes which require large scale storage is one of the most important bases for economic development.

Yet, most large-scale dam projects despite their economic feasibility and viability can be crippled by certain ecological and human problems which most often are not adequately taken into account or deliberately disregarded during the planning and execution stages.

Subsequent to the Report from the World Commission on Dams and the outcomes of the UNEP-Dams and Development Project, it transpired that transparent multi-stakeholder dialogue processes could prepare the ground for better decision making pertaining to dams.

Therefore such a 60 member platform known as the Ghana Dams Forum was set up with proportionate representation from 6 institutional categories namely:

- Ministries, Departments and Agencies;
- National Operators and the Private Sector;
- Local Level Institutions;
- Dam Affected Communities and Traditional Structures;
- Local Non-Governmental organizations; and the
- Media and Research Organizations.

On the 4th day of September 2007 at the Fiesta Royal Hotel, Accra, Ghana,
The Ghana Dams Forum met and resolved the following:

1. Institutional issues are critical to sustainable dam development and management. Therefore government is urged to provide the enabling environment (financial, technical, legislative, etc) for the relevant institution to perform.

2. Communities should be informed and sensitized about the project and be involved in every stage of the project planning, implementation, monitoring and maintenance.

3. Compensation must be given the needed attention it deserves (the Akosombo, Kpong must also be addressed). Sufficient amounts must be given. Organized resettlements must be properly done giving due consideration to all factors so that standards will be improved.

4. Given the background history of research funding in the country, it is important that adequate resources are made available to key research institutions to enable them to perform their required functions.

We of the Ghana Dams Forum urge the government to take these issues seriously and address them.