



**sawa**

CONSULTANTS FOR DEVELOPMENT

*Rural Development  
Agriculture  
Land & Water Management  
Water supply & Sanitation  
Institutional Development*

LIBRARY  
INTERNATIONAL REFERENCE CENTRE  
FOR COMMUNITY WATER SUPPLY AND  
SANITATION (IRC)

**REFLECTION ON NEW TRENDS IN THE WATER AND  
SANITATION SECTOR**

Review on presentations at the Water Africa 94 Conference  
in Accra, Ghana 1-4 May 1994

May 1994  
Dick Bouman

SAWA, Beukenlaan 2b, 6711 NH EDE, the Netherlands  
Phone: (31)8380-53380; fax: (31)8380-51636

205.1-g4RE-13051

## CONTENTS

1.	THE NEW CONCEPT OF COMMUNITY MANAGEMENT	1
1.1	Introduction	1
1.2	Other concepts	2
1.3	Rationale	2
1.4	Community financing	3
1.5	Market philosophy	3
1.6	Actors	5
1.7	The role of financing agencies	6
1.8	Main observations to the new approach	7
	1.8.1 Government bias	7
	1.8.2 Financial bias	7
	1.8.3 Gender bias	8
2.	EXPERIENCES WITH THE NEW CONCEPT	9
2.1	Urban water supply in Northern Ghana	9
2.2	Urban sanitation in West Africa	11
2.3	Rural water supply in Ghana	13

## REFERENCES

INTERNATIONAL REFERENCE  
CENTRE FOR COMMUNITY WATER SUPPLY  
AND SANITATION (ICWSS)  
140, rue de la Chapelle, 1050 Brussels  
Tel: (070) 814211 ext. 141/142  
NW 13051  
LO: 205.1 94RE

## REFLECTION ON NEW TRENDS IN THE WATER AND SANITATION SECTOR

Review on presentations at the Water Africa 94 Conference in Accra, 1-4 May 1994<sup>1</sup>

SAWA/Dick Bouman

### 1. THE CONCEPT OF COMMUNITY MANAGEMENT

#### 1.1 Introduction

During the last 15 years, a remarkable change can be observed in the approach in the Water and Sanitation sector. Was Community Participation and Health Education introduced as an integrated approach in the late seventies/early eighties, this concept has been changed in the early nineties to one of Community Management. This change became very apparent in the Water Africa 1994 Conference in Accra, held from 1-5 May 1994, on which this paper is mainly based.

The here discussed concepts are mainly developed by the West African Regional Group on Water and Sanitation of the World Bank and UNDP, but is parallel to the developments in Uganda (World Bank financed Urban Water Supply and Sanitation programmes) and Tanzania (Concept developed by the Swedish HESAWA project and adopted for the whole country after an evaluation of IRC of different approaches). It is also in line with the conclusions of the Rabat Conference on Water And Sanitation held in September 1993. Experiences on Community Management in 7 rural and semi-urban areas have already been evaluated in a Workshop in November 1992 in The Hague (IRC 1993). Most advanced in this concept is Indonesia, where the concept is implemented in urban water supply and sanitation activities in the Integrated Urban Infra-structure Development Project. Planning is demand driven, with the community making its choice from a list of seven possible infra-structural improvements and then working with the local government and consultants to carry out surveys and manage the project (WSSCC CLC-working group 1993)

The concepts are not solely applied for the rural water supply sector, but also for the urban sector on water and sanitation. For sanitation, pilot projects have been implemented in Kumasi (1989-90), Ouagadougou (1990-91) and Conakry (1992-93) (Brown, 1994).

The basis for the new approach in Ghana has been laid down in the Krokobite Conference in May 1991. The action plan developed identified community management of services, meaning ownership and control, as being the central element (Livingstone 1994). Other key elements of the action plan and later plans included:

---

<sup>1</sup> A separate reader of the relevant literature can be obtained from SAWA, Beukenlaan 2b, 6711 NH Ede, the Netherlands, phone: 31-8380-53380 fax 31-8380-51636

- \* effective control of water resources vested in the local communities
- \* decentralized, district-level support of community management with government promoting services provision
- \* encouraging an active role in the process by the formal and informal private sector
- \* adhering the demand driven approach
- \* to consider water as an economic commodity (Livingstone 1994)
- \*\* a special focus on women (Barnes 1994)

During the 2nd Water Africa Conference in Accra from 1-4 May 1994, it proved to be that Ghana has a leading role in this change of concepts. One of the Ghanaian participants complained that Ghana is always used as the garden to experiment with the new concepts in the international world and that it has to suffer from all the consequent children's diseases (e.g. first independence, IMF, etc).

One may question if all these changes, enforced by the donor society, are really shared by the implementing agencies. In a personal discussion, one of the participants complained that some donors do not let them free in the development of their own policy: they put so many conditions.

### 1.2 Other concepts

In parallel to the community management concept, other approaches have changed as well (Matisse 1994):

- \* from a project approach to a programmatic approach,
- \* from the idea of the Water Agency being the provider of (free of charge) water to the facilitator, for which services have to be paid.
- \* from a pre-determined technology choice to a demand driven choice
- \* increase of importance of Information, Education and Communication

Traditional quantitative targets have to be extended with targets which measure the quality of the community management process, like community involvement, skills in the community etc. A set of indicators can be found in the Proceedings of a WB/UNDP Workshop on Goals and Indicators for Monitoring and Evaluation for Water Supply and Sanitation, held in Geneva in June 1990.

### 1.3 Rationale

The underlying reasons for these changes are:

- \* the awareness that systems are not sustainable as long as the responsibility for maintenance is not shared by the users (Dovlo 1994)
- \* the awareness that Agencies are not able to finance the operation and maintenance of the schemes and supplies by themselves (Dovlo 1994, Matisse 1994)
- \* awareness that the former concepts were not able to keep in speed with the population growth, despite of enormous

financial inputs (Matisse, 1994)

Hence underlying motives are that present financial inputs cannot be maintained as during the Water Decade, because other areas like health and education are in a competitive situation (Matisse 1994).

Scaling down of costs for the Agencies is also seen as the answer to the tendency to focus on urban projects with a higher turnover of revenue, which could be observed in Ghana before 1986 (Sakey 1994). However in reality the opposite might occur (see section financial bias).

Of a new concept one expects, that it will be more efficient in use of resources and more effective in reaching sustainability of facilities and their use:

- \* more sustainable
- \* less cost
- \* wider reach

An interesting observation in the IRC case studies is that the community management concept is the evidence of community driven replication and sharing of successful community management approaches as well as the stimulation of other development activities in the same community. (IRC 1993).

#### 1.4 community financing

Central assumption in the new concept is that people are able to manage and finance the operation and maintenance of the water facility when they have made the choice themselves for the technology they want, and which is in line with their capacity to pay.

Willingness and ability to pay becomes the key-factor in the selection of villages (Sakey 1994, citing the in March 1994 adopted National Community Water and Sanitation Programme of Ghana). Willingness To Pay surveys will determine the level of sanitation technology which can be proposed to the people (Brown/WB 1994 promoting the new SSP strategy for sanitation). The extend to which communities have to cover for the investment costs is not yet well established. Matisse of UNDP (1994) gives full coverage of operation costs and the "amortization". Others, especially on rural level, speak only about operation and maintenance costs (e.g. Thompson 1994).

In Ghana, beneficiaries should contribute 7.5% of the investment costs in cash or in labour (Sakey, oral information).

#### 1.5 market philosophy

The underlying idea of the change comes from the market oriented thinking, which is the prevalent thought in the World, since the fall of communism and socialistic rule and the introduction of democratization (and capitalism) almost all over the world.

In a market economy the primary actors are manufacturers, suppliers and consultants on the one hand and clients on the

other.

The relation is relying on the factor money. Intermediate agencies may influence this relationship as secondary actors. A Government may determine legislation, strategies and encourage or discourage actions by financial strategies. A Donor or Bank may fund the most feasible solution (with the highest probability or rate of return). Other agencies may support the manufacturers by training and technical support. Local government or Non Governmental Organizations may stimulate and educate the clients, enabling them to make a choice.

In making a choice, the client needs to define:

- \* what is the quality of the product I want to buy,
- \* can I afford it, and, if not, can I get the money elsewhere?
- \* are there other needs for which I would like to use my money;
- \* do I have to make concessions to the product I want to buy;
- \* can I operate and maintain the product (can I do it myself or can I get assistance; can I finance it, do I want to finance it)

The new concepts can be summarized as follows:

- \* the users are trained to be good clients: to make a good choice for the needs they have and the money they want to spend to these different needs
- \* the users are educated on the consequences of their choice for future costs, requirements for operation and maintenance, level of dependency on other agencies, on the appropriateness of the technological options and on the uncertainties on future price developments
- \* the users are trained to manage the operation and maintenance by themselves or by others and to finance it
- \* Agencies (GO and NGO) are trained to behave like a facilitator, to train the users to be a client
- \* Agencies (GO and NGO) are trained to become a good protector of the clients to guarantee the functioning of other agencies and their supply of spares and services
- \* Agencies (Private, GO or NGO) are trained to give a good after sales-service: to train the users on Operation and Maintenance of their Supply and to guarantee the continuation of supply of spares through various ways.

To my opinion, the best results can be get if the functions of the Agencies are separated: the Agency which is the facilitator should not be the contractor or supplier of technology. In many projects we still see that the facilitator is also the supplier, whether an NGO implementing a water project or a Water Agency. This leads to a situation in which the Agency starts to influence

the User in a pre-determined direction.

A Government still has the possibility to intervene in this free-marketing process, by giving guidelines, to build in quality control, to provide subsidies for priority activities or to induce a tax or penalty on activities which are not in line with the policy.

Apart from this there are the Users Associations: organizations which try to give good information to the users, give guidance in selection, try to emphasize the real needs etc., intermediate if all the other agencies are not behaving according to standard etc. In the UNDP/WB set-up, this task lays at the level of the local and central government, being elected by the users (Matisse 1994). However, as politics are involved in the action of the Government, an independent NGO or real user association may be an alternative.

## 1.6 Actors

In short there are 6 different groups in this marketing process:

1. A Client which is selecting his facility, which is responsible for operation and maintenance and which generates revenues to meet costs; the client may be an individual or a group of individuals, represented by a committee (WATSON Committee)
2. An agency (NGO, local Government or even private) which guides the client in the selection of a good of his choice, and intermediates between clients and suppliers; the client may make a contract with this Agency. In the National Strategy of Ghana, this Agency is "the District" (Thompson 1994) or the Municipality (Matisse 1994). The role of NGOs is withdrawn from this coordinating function.
3. Private suppliers of services and goods, which are contracted by the community, but for which the Agency may have a supervisory role
4. A National Government, which can define general standards, make a general policy in which concepts and priorities may be defined, which is responsible for general planning monitoring and evaluation, which disseminates information to lower levels; which regulates the private sector; which stimulates or discourages a certain development by giving subsidies or taxes etc.; which divides the limited resources available; which controls the application of standards and policy.  
In the case of Ghana, there is a level between the National and the District: the regional level. Government should also ensure equity and widespread coverage through targeted subsidies supporting basic service levels (Barnes 1994).
5. An organization (GO or NGO) which assists the clients in defining their own needs, independently of the agencies

mentioned under 2, do the training, public education etc. In the case of Ghana, this social development activity is attributed to the NGOs, specifically, even for the training of the private (profit) sector (Thompson 1994) Training to public sector, private sector and communities will be organized by the Regional W&S Teams, the Kumasi University as well as by Small Bussiness Development Units.

6. Financing agencies like banks and donors which give loans or grants to different levels, especially to cover part of the investment costs or for capacity building in the transition process..  
In the case of Ghana, donors are not defined as a specific group; it is assumed that they all participate in the same national plan.

In a completely free market, levels 2, 4 and 5 are not really required. A client goes to a (non-registered) contractor which makes a well according to the standards given by the client, and for which it may try to get a loan from a financing agency.

The existence and need for all these levels as well as the type of organization in these levels will vary from case to case.

In the case of West Africa Matisse (1994) is proposing the following structure:

1. Clients to be the communities
2. Agency of coordination to be the District or Municipality
3. Contractor to be the private sector
4. Regional and National Government
5. Participatory Approach by an NGO
6. Funding through national Government/District to community and by community itself

#### 1.7 role of financing agencies

A financing agency can intervene in different levels in this structure:

1. A donor/bank can support or give credits to the client
2. A donor/bank may assist the Intermediary Agency in building up his capacities or in subsidizing the running costs for these services ( in the free market economy these costs should come from the client, or from the contractors or from the government from tax revenues)
3. A donor/bank may support the private sector by giving credits for investments
4. A donor/Bank may stimulate the Government for training and for putting the new system into place
5. A donor/Bank may finance a User-Association to stimulate the bottom-up process, so elementary in this approach.



## 1.8 Main observations to new approach

### 1.8.1 Government bias

To my opinion, this set-up is still too much focused on the need for the control of a central government. NGOs become actors in a government strategy, with the risk of becoming a branch of the Government. The case studies of IRC (1993) states, however, that as long as conflicting interest do not create an adversarial relationship, they can help to increase the outreach capacity of governments and donors.

It should also be possible that an individual community receives a grant or a loan of an NGO whereafter it determines itself what to do with their money to increase development. And an NGO may replace the function of a District as coordinating agency.

The importance of the role of NGOs was recognized by the World Bank, already in 1985 (WB 1985). Major advantages were: strong local ties, integrated approach to community development issues, commitment to workable low-cost alternatives, low overheads and less bureaucratic. Major constraints may be a lack of technical expertise, lack of experience in larger projects, ideological bias, and problems with collaboration with Government or in Bank philosophy.

A remarkable statement of 1981 in this report of 1985 demonstrate how quick policies may change: "the NGO may promote an excessive degree of local participation in engineering decisions regarding, say, irrigation works."

### 1.8.2 Financial bias

The emphasis on cost aspects and the need for cost recovery will lead donors of giving preference to projects which have the highest change of a good turn over of revenue, which may favour the rich and disfavour the poor in the urban fringes and rural areas, despite of lower investment costs in the rural areas.<sup>2</sup> According to Livingstone (1994), the Krokobite Conference in 1991 had endorsed to consider water an economic commodity "in volumes above a lifeline supply for the poorest communities". This is in line with the outcome of the Krokobite Conference, cited by Barnes (1994) "ensuring equity and wide spread coverage through targeted subsidies supporting basic service levels". This protection of the marginalized groups has not been repeated elsewhere in the more official presentations of representatives of the Government, World Bank and UNDP.

---

<sup>2</sup> Comparing the estimated costs per capita for the rural sector and the urban sector, the new plans of Ghana come to investment costs of 20 US\$ per capita for the rural sector (Sakey 1994) and of 50 US\$ per capita for the urban sector (abstracted from PIP figures, given in Dovlo 1994: 222 million US\$ for 80% of urban pop.).

### 1.8.3 Gender bias

The financial bias may even empower the male class which commonly has the control over the money, which mostly works against the so emphasized increase of participation of women in water supply and its management (Cleaver and Elson, 1994). It is remarkable that neither the representative of the World Bank nor the representative of the UNDP have given attention to gender in their papers. Mostly they have spoken about users as a united group of beneficiaries with the exception of Matisse, who made the remark that mediators are necessary because of the "frequent conflicts between the interest groups in the sphere of the communities" (Matisse 1994). Focus on women in the procurement and management of water facilities is, however, still defined in the Ghanian Water policy (Dovlo (1994) and Barnes (1994).

## 2. EXPERIENCES WITH THE NEW CONCEPTS

The concept is applied in different sectors on pilot scale:

1. Urban water supply (GWSC/Canada in 3 northern regions of Ghana; reference Livingstone 1994)
2. Urban sanitation (WB/UNDP Regional Group in the 3 cities Kumasi (Ghana), Ouagadougou (Burkina Faso) and Conakry (Guinea Conakry; reference Brown 1994)
3. Rural water supply (various countries; Reference: IRC 1993;

The change in concept is still very new and only tested in a few cases. In the urban spheres, results are encouraging, although many thresholds have to be overwon, still.

### 2.1 Urban water supply in Northern Ghana

In 4 of the 12 urban centres in Northern Ghana (33%), the concept is well implemented, and communities are ready for implementation. For another 3 (25%) it is expected to embark upon full community management in the coming years. However in 5 cases (42%) there is less enthusiasm. (Livingstone 1994). Major reason is the complexity of technology of existing systems and the resistance of the community to take over a responsibility for an utility for which they cannot oversee the consequences. In some cases an interim management arrangement can be made in which the Towns Water and Sanitation Development Board can take a part of the responsibilities (e.g. revenue collection or operation of small borehole supplied distributions).

It means that the concept of Community Management never should be enforced over the head of the community. "Diversity must be accumulated and encouraged, flexibility and adaptiveness are required to try various alternatives" (Livingstone 1994).

Or in the words of IRC: Community Management is an approach, not a formula (IRC 1993).

In the approach in the Canadian Supported transition in the urban Water Supply concepts in Northern Ghana, the following activities had been taken in the first 3 years:

**A. Creating an enabling environment**

- A1 Creation of Community Liaison Section within GWSC; members were trained in skills and abilities in Community development
- A2 GWSC technical staff being sensitized towards community management through workshops
- A3 Administrative and commercial GWSC staff trained in commercial optimisation: service contracting, increase of role of private sector, improvement of revenue generation, accounting and financial management
- A4 Improvement of institutional linkages and networking

**B. Empowering and equipping urban communities**

- B1 Establishment of Water and Sanitation Development Boards under Ghanaian legislation with representation of all interest groups; women equally represented; empowering District Assemblies
- B2 Participatory planning process for the first phase water supply rehabilitation; from which it proved that people prefer a mix of technologies to spread risks; implementation of interim rehabilitation
- B3 Establishment of Operation and Maintenance Fund
- B4 Training WSDB members in the specific fields of competence: financial management, administration, technical management, communication, conflict resolution, marketing, public education
- B5 Training of WSDB employees as supply operators and plumbers
- B6 Awareness rising for water and sanitation issues at all levels

after Livingstone 1994

## 2.2 Urban sanitation in West Africa

In the pilot-projects of the WB/UNDP Sanitation programme, it was concluded by Brown (1994) that the chosen concepts do not scale down the complexity of the process, nor reduce the need for high level professional competence, especially for the complex preparatory surveys and interactions. External input of External Support Agencies is a requirement.

Brown formulates several challenges for issues that need further study, which, to my view, can be interpreted as actual constraints in the implementation:

1. Simplification of complexity of planning process
2. Simplification and improvement multi-dimensional demand studies
3. Break-up stranglehold of Government Ministries to put in place a core planning and implementation team at local level
4. Changing character of sector institutions to respond to the facilitating role and partnership building
5. Development of integrated urban development approach
6. Development of indicators in approach
7. Improving capacity for overall urban planning and management

Seen the low coverage of sanitation in West Africa (according to Matisse 1994 almost zero), there are many constraints in developing this part of the sector. Awareness for good sanitation is very low, whereas the cost for urban sanitation and drainage is extremely high. The probability that people accept the economical value of sanitation is very low.

Community management of the sanitation component can never be a solution for the coverage of the investment costs, except for simple sanitary services like latrines.

In an evaluation of the 3 pilot programmes of the West African Regional Group on W&S, Mr. Ato Brown gave an exposure on this newly developed Strategic Sanitation Approach:

1. Begin with comprehensive Situation Analysis  
(settlement characteristics, demographic features, status of services, assessment of institutional arrangements, technology review)
2. Establishing demand for improved services with Willingness to Pay Methodology  
(Validate the data and conclusions Situation analysis, let people formulate what they want, determine threshold costs for improved services, based on WTP)
3. Determine Strength, Constraints and Opportunities
4. Design (in dialogue with parties involved; aimed at consensus building and resource mobilization)
  - \* financial requirements and financial systems
  - \* appropriate institutional arrangement
  - \* implementation strategy first stage project
5. Discuss alternatives with end users
6. Implement first stage
7. Feedback and lessons;  
Review strategies and implementation arrangements:
  - \* Demand and WTP
  - \* institutional arrangements
  - \* implementation strategy
  - \* Set new priorities for investments, based on demandPrepare full scale project
8. Mobilize resources and scale up implementation

Central in the approach is the following:

1. work at urban decision making level
2. work with country team, preferably from city  
(for continuity, institutional memory, human resource development)
3. Urban sanitation to be brought under one focal city level department
4. shared management concept articulated by global institutional arrangements (roles of responsibility, partnership arrangements)
5. Respond to capacity and demand of users; demand orientation should be the basis of investment selection
6. Adopt speed to beneficiary institutions
7. improvements should be within the context of an urban development and management strategy
8. Build on existing opportunities

After Brown (1994)

### 2.3 Rural Water Supply in Ghana

Community participation, animation and hygiene education as integrated elements in a water supply programme is a recent phenomena in the Government supported projects in Ghana (Upper West since 1982, Central Region since 1990), but is also applied in NGO-based projects as in the Village Water Reservoirs Project in Northern Ghana (1987).

Information Education and Communication are seen as the key element in reaching a Community managed water facility through a demand driven approach (Sakey 1994).

Up till now, all these programmes lack the choice of technology. Technological options have been pre-determined in feasibility studies and formulation missions. People had the choice to choose the offered technology or to be excluded from the project (Vergnet 1994). People can apply for a dam in a dam project or for a borehole with determined handpump type and pre-designed superstructure in a borehole programme. The only choice people may have is on the siting, on condition that the preferred site is technically feasible.

This set-up of a participatory approach has been rapidly followed by some government-ruled pilot programmes on decentralized management and decision taking. Since 1989, the approach is tested in some districts in the Volta Region and in the Upper West.

Meanwhile other NGO and GO-supported programmes started on integrated rural development, in which the people determine their own needs, and determine the priority ranking, like the GTZ supported Rural Action Programme in the Northern Region, the Action Aid supported District Development Programme in the Upper East and the SNV supported IRD programme in the Volta Region. All programmes work in harmony with the district, but only SNV involved a local NGO in the implementation.

However, most programmes are just at the end of the phase of community empowerment, and few works have been made, yet. Hence, it seems to be too early for evaluation of the approach, with the possible exception of the experience in the Upper Regions, where the approach was introduced in 1988.

An interesting study has been made by a Community Animation Unit in the Upper Regions (Cosway 1994). The study underlines the condition that traditional structures are incorporated in the whole decision and implementation process. In the Upper Regions, this means that decisions have to be channelled through the traditional leaders and that activities have to be coordinated by existing community structures like Village Development Committees.

In the IRC case studies, the existence of strong community leadership was found to be a key factor for success (IRC 1993).

One of the major conclusions in the rural setting is that interventions have to adapt in speed to the decision procedures within the village. Community managed projects take longer to

build up than conventional agency-led projects (IRC 1993).

In the Upper Region, Cosway summarized the consequences of her evaluation of traditional leadership for community management as follows:

1. Planning and negotiation of project through traditional leadership; agreement on responsibilities
2. Implementation and follow-up decision making through existing community structures; whereas role of women is encouraged
3. Training for financial management is a need; mostly women are selected for this task
4. Maintenance and repairs through local mechanics; local manufacture and local agents for spare parts encourage community management
5. Follow-up support is guaranteed.

After Cosway (1994)



## REFERENCES

- Barnes E.A., Sekpey N.K. (1994)  
CONSTRAINTS TO RURAL WATER SUPPLY IN THE KETU DISTRICT OF GHANA;  
CSIR/Ghana  
Paper presented at Water Africa '94 Conference in Accra
- Brown A. (1994)  
INTEGRATING URBAN SANITATION PLANNING AND MANAGEMENT (Evolving trends  
and lessons from West Africa);  
UNDP-WB Water and Sanitation Programme  
Abstract of presentation at Water Africa '94 Conference in Accra
- Cleaver F. and Elson D. (1994)  
GENDER AND WATER RESOURCES MANAGEMENT; INTEGRATING OR MARGINALISING  
WOMEN; Universities of Bradford & Manchester
- Cosway N., Anankum S.A. (1994)  
TRADITIONAL LEADERSHIP AND COMMUNITY MANAGEMENT - IMPLICATIONS FOR A  
RURAL WATER PROJECT; GWSC/WUP  
Paper presented at Water Africa '94 Conference in Accra
- Davis J., Garvey G, with Wood M. (1993)  
DEVELOPING AND MANAGING COMMUNITY WATER SUPPLIES  
OXFAM Development Guidelines No. 8
- Dovlo E.K.Y. (1994)  
TOWARDS SUSTAINABILITY AND ACCELERATED GROWTH IN THE WATER SECTOR IN  
GHANA; GWSC/Ghana  
Paper presented at Water Africa '94 Conference in Accra
- GTZ/KfW (1994)  
CO-OPERATION GHANA - GERMANY  
Brochure distributed at Water Africa '94 Conference in Accra
- IRC - International Water and Sanitation Centre (1993)  
COMMUNITY MANAGEMENT TODAY; the role of communities in the management  
of improved water supply systems; Case studies from Guatemala,  
Honduras, Cameroon, Uganda, Yemen, Pakistan and Indonesia as well as an  
evaluation of 122 UNDP/WB projects  
Occasional Paper 20; IRC, POBox 93190, 2509 AD The Hague, Netherlands
- Livingstone A.J. (1994)  
A TRANSITION TO COMMUNITY MANAGED URBAN WATER SUPPLIES IN NORTHERN  
GHANA; Wardrop/GWCS  
Paper presented at Water Africa '94 Conference in Accra
- Matisse A. (1994)  
LES NOUVEAUX ENJEUX DE L'EAU ET DE L'ASSAINISSEMENT EN AFRIQUE DE  
L'OUEST; UNDP/WB West African Regional Group on Water and Sanitation  
Paper presented at Water Africa '94 Conference in Accra
- Sakey P.O. and Van Ess R.K. (1994)  
RURAL WATER SUPPLY DEVELOPMENT IN GHANA, GWSC/Ghana  
Paper presented at Water Africa '94 Conference in Accra
- Thompson J. (1994)  
COLLABORATION BETWEEN PUBLIC AND PRIVATE SECTOR INSTITUTIONS ON  
CAPACITY BUILDING FOR RURAL WATER SECTOR DELIVERY WITHIN A COMMUNITY  
MANAGEMENT FRAMEWORK;  
ProNet/Ghana  
Paper presented at Water Africa '94 Conference in Accra
- Vergnet M, Carrier F. (1994)  
RURAL WATER SUPPLY PRIVATISATION: A SUCCESSFUL COMMERCIAL APPROACH  
Paper presented at Water Africa '94 Conference in Accra

Water Supply and Sanitation Collaborative Council (1993)  
Executive Summaries of the Report for consideration at the Rabat  
Meeting of the Council 7-10 September 1993

World Bank (1985)  
RURAL WATER SUPPLY AND SANITATION, POSSIBILITIES FOR COLLABORATION WITH  
NON-GOVERNMENTAL ORGANIZATIONS, PART 1: AFRICA  
Operational Policy Staff

World Bank/UNDP (1990)  
Proceedings of a WB/UNDP Workshop on Goals and Indicators for  
Monitoring and Evaluation for Water Supply and Sanitation, held in  
Geneva in June 1990.

World Bank/UNDP (1992)  
Water and Sanitation project in Kumasi