BACKGROUND PAPER FOR THE WEST AFRICA REGIONAL SANITATION & HYGIENE SYMPOSIUM

SUSTAINABLE SANITATION AND HYGIENE DELIVERY IN WEST AFRICA

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Sustainable Sanitation and Hygiene Delivery in West Africa

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1 Introduction

This Paper

The need for adequate sanitation and improved hygiene behaviours has become more widespread in recent years, and have been included in the Millennium Development Goals; it is therefore necessary that the sector pursues the MDGs and full coverage with vigour. This is however not the first time the world body has embarked on a vigorous campaign to improve sanitation. The "water and sanitation decade" of the 1980s had the bold aim of meeting all needs. At the end of the decade Africa was the only region which fared worst at the end of the decade (www.uneca.org/eca_resources/speechs/2005_speeches/032205speech_des.htm). This time the target is longer (i.e. 15 years) and the goals are less ambitious. However, there remain huge problems in the achievement of these goals.

Therefore the conduct of this symposium is timely; in it, participants will share their experiences of good and indifferent practices and outcomes, and through discussions, help to create an environment in which greater progress can be made. It is the purpose of this paper to stimulate some of the debate. Its aim is to raise some of the issues across the range of topics which need to be confronted in the sanitation and hygiene sector in West Africa. It cannot be fully comprehensive, this is not the objective – but it is the aim to raise questions throughout that may form part of a list of issues for participants at the symposium to consider. So, in each section, one or some key questions are posed for that purpose. The relevant text can, therefore, be seen in each case as the context for generating inputs to the symposium.

This paper discusses the various definitions of sanitation by different insititutions and countries. It also reiterates the importance of sanitation and hygiene delivery. There is a major section on the overview of sanitation in West Africa which highlighted several issues including institutional arrangement, technologies and approaches in sanitation and hygiene delivery, challenges in the sanitation sector and cost-effectiveness analysis using Disability Adjusted Life Years (DALY) implications. Several issues are also elaborated in the section on the way forward. The paper concludes with some key issues such as disparity in definitions, sanitation planning and financing sanitation which need to be critically looked at by all stakeholders.

Definitions

The professional definition of sanitation centres on human excreta and wastewater collection, treatment, and disposal. Sanitation, according to the World Health Organisation (WHO), is defined as group of methods used to collect human excreta and urine as well as community waste waters in a hygienic way, (WHO 1987). This definition is not all embracing since it does not capture solid waste management which includes domestic and industrial waste whose management has been poorly done in the developing world especially Sub Saharan Africa. It is also notable that solid waste problems are often the most visible sanitary issue, even though it may not be the most problematic in health outcome terms.

Sanitation facility however, used in the Joint Monitoring Programme (JMP) by the WHO and United Nations International Children's Fund (UNICEF), refers to toilet facilities. According to the JMP report (WHO/UNICEF, 2008) sanitation can be grouped into four main categories: Improved, Shared, Unimproved and Open defecation (Table 1).

Table 1: JMP/WHO Sanitation Categories

Improved	Shared	Unimproved	Open Defecation

Facilities that ensure hygienic separation of human excreta from human contact. They include:
• Flush or pour-flush toilet/latrine to
  ○ Piped sewer system
  ○ Septic tank
  ○ Pit latrine
• Ventilated improved pit (VIP) latrine
• Pit latrine with slab
• Composting toilet
	Sanitation facilities of an otherwise acceptable type shared between two or more households. They include public toilets. It excludes shared facilities that are unimproved, such as pit latrines without slab or shared open pits.	Facilities that do not ensure hygienic separation of human contact. Unimproved facilities include pit latrines without slab or platform, hanging latrines and bucket latrines	Defecation in fields, forests, bushes, bodies of water or open spaces, or disposal of human faeces with solid waste.

Source: WHO/UNICEF 2008

What this definition fails to look at is the end of pipe treatment. It appears to assume that all the improved toilet technologies include treatment as well. However, when the sludge is often removed it is dumped into the environment untreated (Awuah et al, 2008, Awuah and Abroakwa, 2008). The final handling of the sludge should be included in the definition. Symposium participants are asked to consider all elements of the sanitation chain – the facility, transport, treatment and disposal/reuse of waste (Laryea et al, 2009).

The Environmental Sanitation Policy of Ghana also defines Environmental Sanitation to have the following principal parameters and/or components:

(a) Collection and sanitary disposal of wastes, including solid wastes, liquid wastes, excreta, industrial wastes, health-care and other hazardous wastes;
(b) Storm water drainage;
(c) Cleansing of thoroughfares, markets and other public spaces;
(d) Control of pests and vectors of disease;
(e) Food hygiene;
(f) Environmental sanitation education;
(g) Inspection and enforcement of sanitary regulations;
(h) Disposal of the dead;
(i) Control of rearing and straying of animals;
(j) Monitoring the observance of environmental standards.

A juxtaposition of the WHO and Ghana Environmental Sanitation Policy definitions of sanitation could result in confusion among actors in the sub sector. So, for this essay, sanitation is defined as the provision of safe management of human waste; physiological (human excreta which is pathogen laden), and human activities from solid waste and any other material in the environment that can harmfully affect human beings and other animals from the disease associated with the waste.

But of course, it is impossible to talk about sanitation without also discussing hygiene; in essence hygiene is a condition for promoting sanitary practices; it is the science concerned with the prevention of illness and maintenance of health. It includes the proper use of water and sanitation facilities and practices to prevent the transmission of diseases - in our case water and sanitation related diseases. This requires proper handling, treatment and disposal to eliminate or reduce the pathogen number to non-infective levels in excreta, solid waste, sullage drainage, and reduce the level of toxic substances of environmental nuisance. Simply put hygiene is the protection of oneself and others from diseases associated with human waste through good personal behavioural practices.

Importance of Sanitation and Hygiene Delivery

According to the special report by WHO/UNICEF JMP for Water Supply and Sanitation 2008, the importance of sanitation is indisputable. It is a crucial stepping stone to better health indeed, it forms a basis for achievement of most – if not all – of the MDG targets. It is fundamental to gender equity as it protects women's dignity. At the community levels, sanitation and hygiene are considered a women's issue, though they impact on both gender. However, societal barriers continually restrict women's involvement in decisions regarding sanitation improvement programmes. It is imperative that sanitation and hygiene promotion and education are perceived as concern of men, women, and children and not only of women (GWA, 2006). Are the sanitary facilities in the sub-region gender friendly? There are other social gains through sanitation including convenience and comfort, privacy and safety, for women and girls especially - avoidance of sexual harassment and assault, less embarrassment with visitors and dignity and social status.

Sanitation is also a key to economic development in that investments in sanitation protect investments made in other sectors, such as education and health, and bring measurable economic returns.

On the other hand simple hygiene practices such as disinfecting drinking water prior to consumption or preparation of food; cleaning hands, utensils, and surfaces before food preparation and consumption; and cooking food thoroughly can also greatly reduce morbidity and mortality rates from hygiene-related diseases, achieving cost-effective public health impacts spread equitably throughout society. For example handwashing with soap can reduce diarrhoea by over 40% and respiratory infection by 30% (Curtis and Cairncross, 2003). It was therefore not surprising when all these benefits of sanitation were endorsed in the key messages of the International Year of Sanitation, in the words of the JMP 2008:

- "*Sanitation is vital for human health*
- *Sanitation generates economic benefits*
- *Sanitation contributes to dignity and social development*
- *Sanitation helps the environment*
- *Sanitation is achievable*!"

Geographical and Socio-economic Characteristics of West Africa

According to the geopolitical definition of the United Nations (UN), West Africa is made up of 16 countries: Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, and Togo. West Africa has a great span of geography in Africa, covering an area of just over six million km^2. For comparison this is about two thirds the size of the USA and twice the size of Western Europe. The vast majority of these lands are plains lying less than 300m above sea level, though isolated high points exist in numerous countries along the southern shore of the region. The northern section of West Africa is largely composed of semi-arid terrain known as Sahel. A transitional zone between the Sahara Desert and the savannahs of the Western Sudan forests form a third belt between the savannas and the southern coast, ranging from 160 km to 240 km in width.

The population (2008 estimate) and gross domestic product (GDP) for 2008 of the countries in the sub region are shown in Table 2. Many of the poorest countries in Africa are found in the West African sub region. Of the 20 worst off African countries in terms of GDP per capita, 9 are found in West Africa (www.en.Wikepedia.org/wiki/list_of_african_countries_by_GDP_(nominal), 2009). With these low GDPs for most West African countries what sustainable toilet technologies can the people afford? Will the low GDPs also affect proper hygienic practices by the people?

2 Overview of Sanitation in West Africa

Coverage of Sanitation

WHO/UNICEF (2008) reported that the world is not on track to meet the MDG sanitation target. It is acknowledged that there are (perhaps considerable) inaccuracies in the JMP data and that these sometimes need to be treated with some caution. However, as long as the JMP remains the principally accepted source of coverage data, then its use represents the best available, without doubt. The symposium participants are asked to consider how better monitoring of coverage may be obtained at national and sub national levels.

Table 2: The Economic Geography of West Africa				
Country	**Size (km^2)**	**Population (millions)** *Microsoft Encarta 2009, 2008 estimate)*	**GDP (million) (US$)** **(***CIA world factbook, 2008 estimate)*	**GDP per capita ($)**
Benin	112,622	8.5	6,940	816.47
Burkina Faso	274,200	14.8	8,242	556.89
Cote d'Ivoire	322,462	18.4.	23,780	1292.39
Cape Verde	4,033	0.4	1,845	4612.50
Gambia	11,295	1.7	779	458.24
Ghana	238,500	23.4	17,720	757.26
Guinea	245,857	10.2	4,454	436.67
Guinea Bissau	36,125	1.5	442	294.67
Liberia	99,067	3.3	926	280.61
Mali	1,240,192	12.3	8,776	713.50
Mauritania	1,031,000	3.4	3,625	1066.18
Niger	1,267,000	13.3	5,322	400.15
Nigeria	923,768	138.3	220,300	1592.91
Senegal	196,722	12.9	13,900	1077.52
Sierra Leone	72,740	6.3	1,971	312.86
Togo	56,785	5.9	3,009	510.00
Total				

Source: Personal Compilation.

According to the JMP, some 2.5 billion people in the world lack access to improved sanitation including 1.2 billion who do not have any access to sanitation facilities at all (i.e. practise open defecation). The situation is a daunting task especially in the Sub-Saharan Africa and Southern Asia where only 31% and 33% respectively have access to improved sanitation facilities, in contrast to the 50% and 46% respectively which was the coverage needed to be on track in 2006. Even though sanitation coverage has been improving the sanitation MDG is very unlikely to be achieved in West African countries.

According to the 2006 sanitation coverage for all West Africa, countries have improved sanitation coverage but none, with the exception of Gambia, has more than 50% coverage (Table 3). The clear headline is that sanitation coverage in the sub region is poor- about 211 million of the population do not have access to improved sanitation.

From Table 3 some countries attained high percentage for shared facilities. Ghana for example has the highest percentage (51%) of shared facilities followed by Gambia 34%, Sierra Leone 26%, Togo 22%, Nigeria 21% and the least is Guinea Bissau 3%. Data was not available for countries like Liberia, Cape Verde and Benin. The major challenge in the sanitation sub sector in the sub region is the high percentage of unimproved sanitation facilities and open defecation. Open defecation was between 20 and 80% with the exception of Gambia which had 4%.

The poor status of sanitation coverage in West Africa may be partly attributed to controversy as to the definition on improved sanitation and shared sanitation (Table 1). For example, in Ghana due to culture, there are several compound or tenement housing systems in all the communities. These housing systems are comprised of two or more households. In Ghana, the sanitation by-law allows sharing of toilet facilities and these have been incorporated in the designs of the buildings. However, by the WHO/UNICEF definition, shared facilities are unimproved sanitation systems. This does not allow for a situation where if the facility is adequate, convenient, ensures user privacy, and is hygienic should be

considered improved[1]. It is understood that this issue of definition is under consideration by the JMP in discussion with relevant agencies.

Another outstanding question relates to the issue of public toilets. Shared facilities should not include public toilets but there is a blurred distinction between the two. Also, politicians are using their promotion of public toilets to enhance their image but this can undermine the Government's own policy on the promotion of household latrines.

Table 3: Sanitation coverage: Country estimate by sanitation facilities (Year 2006)

Country	Population		Urban (%)				Rural (%)				Total (%)				% of population that gained coverage (1990-2006)[2]
	Total (thousands)	Urban (%)	Improved	Shared	Unimproved	Open defecation	Improved	Shared	Unimproved	Open defecation	Improved	Shared	Unimproved	Open defecation	
Benin	8,760	40	**59**	-	17	51	**2**	-	4	94	**12**	-	9	79	**30**
Burkina Faso	14,359	19	**41**	13	38	8	**6**	3	8	83	**13**	5	13	69	**12**
Cape Verde	519	58	**-**	-	-	-	**-**	-	-	-	**-**	-	-	-	**-**
Côte d'Ivoire	18,914	45	**38**	25	33	4	**12**	13	24	51	**24**	18	28	30	**12**
Gambia	1,663	55	**50**	43	6	1	**55**	23	15	7	**52**	34	10	4	**-**
Ghana	23,008	49	**15**	69	8	8	**6**	34	28	32	**10**	51	19	20	**8**
Guinea	9,181	33	**33**	39	27	1	**12**	3	47	38	**19**	15	40	26	**13**
Guinea Bissau	1,646	30	**48**	8	41	3	**26**	1	26	47	**33**	3	30	34	**-**
Liberia	3,579	59	**49**	-	51	-	**7**	-	93	-	**32**	-	68	-	**11**
Mali	11,968	31	**59**	5	32	4	**39**	4	29	28	**45**	4	30	21	**29**
Mauritania	3,004	41	**44**	12	26	18	**10**	7	8	75	**24**	9	15	52	**14**
Niger	13,737	17	**27**	29	25	19	**3**	1	4	92	**7**	6	7	80	**7**
Nigeria	144,720	49	**35**	28	27	10	**25**	14	32	29	**30**	21	29	20	**16**
Senegal	12,072	42	**54**	23	19	4	**9**	9	43	39	**28**	15	33	24	**14**
Sierra Leone	5,743	41	**20**	44	30	6	**5**	13	40	42	**11**	26	36	27	**-**
Togo	6,410	41	**24**	44	9	23	**3**	6	13	78	**12**	22	10	56	**4**

Source: WHO/UNICEF, 2008 (NB: All dash symbols suggest unavailable data).

Urban Versus Rural Sanitation

A comparison of the urban and rural coverage of sanitation in the world revealed that 79% has been achieved in the urban areas while 45% was achieved in rural areas. The disparity is very great though the world's population in 2006 was almost equally urban / rural. The urban and rural sanitation coverage in the sub-Saharan Africa was 42% and 24% respectively against 90% and 59% respectively in North Africa. Although, the disparity was relatively low in sub-Saharan Africa, the coverage is not encouraging especially in rural areas. Generally urban improved sanitation coverage in West Africa is better than in the rural areas with the exception of Gambia which has 55% coverage for rural and 50% for urban (Table 3). Even this hides a problem. Generally the coverage figures in urban areas are considerably exaggerated by the JMP and the pace of urbanisation means that it is extremely difficult to make inroads into urban

[1] In this instance, adequacy means 10 people to a toilet and convenience also means not waiting for more than five minutes in a queue before defecation. The toilet room must also be structurally stable and enclosed to ensure privacy.

[2] with respect to median population (Year 1998)

coverage deficits in the face of increases in population, which most often occur in unplanned urban areas/slums.

Institutional Arrangements.

The principal identified actors in Sanitation and Hygiene in the sub-region include the public sector (national and local), private sector and civil society groups and organisations..

The Governments of the various countries mandate the responsible Ministries; District, Municipal, and Metropolitan Assemblies; and State's agencies to deliver improved sanitation facilities, acting through delivery agencies in some cases. The legislature enacts the by-laws and regulations which are enforced by the responsible institutions. These are often achieved through the process of decentralisation. Government is expected to provide the platform and the enabling environment for the implementation of sanitation and hygiene projects. Generally the private sector include private firms (usually small) involved in design, construction and maintenance, private consultants, local spare part stockists, local masons, sections of water utilities supporting 'community water supply systems' in the rural areas of municipalities, private universities, professional organisations, etc. Major development in the local private sector, both formal (consultants, contractors, suppliers, utility staff, with a focus on bidding and contract design) and informal (entrepreneurs, cooperatives and user associations of (small) water providers) has taken place (Ijjasz, 2005) Financing organisations are also becoming increasingly important at this level, partly because of growing interest in micro-credits.

The civil society organisations are mostly NGOs (including external donors or Support Agencies) and other community associations (Table 4). They are mostly the financiers of sanitation and hygiene projects. The roles played by the NGOs range from capacity building to the building of sanitation and hygiene infrastructure. They strengthen local governance and build capacities through training and joint applied research. Also, they promote the use of appropriate technologies, adapt financial mechanisms, and participatory approaches. In Ghana more than 90% of the funding for provision of sanitary facilities comes from donor/NGOs (Table 4). However the question still remains whether this practice is sustainable or not.

As it stands now the responsible institutions differ from one country to the other in both Anglophone and Francophone West African countries. This has normally resulted in non uniformity in operations. In most countries there are various ministries all involved in sanitation delivery (e.g. Ghana and Burkina Faso) (Table 4). In such cases how can they effectively collaborate with one another to ensure sustainability? Will this not result in conflict of operations? Is there a way for ECOWAS and AMCOW (African Ministers Council on Water) to bring uniformity in the management of sanitation in West Africa? It has also been the practice of some countries to change the responsible sector ministry whenever there is change of government. Will this also not affect the capacity of staff in these ministries and more importantly how will the financial arrangements be affected?

Improving governance has become a mantra of the water sector but it may be argued that less attention has been paid to this issue to date in the sanitation sector. What are the key issues in sanitation sector governance – should arrangements be similar to that for the water sector or not, should there be greater alignment with Health ministries, what impact might decentralisation have on sanitation (and hygiene) service delivery, what is the "right" role for each agency, how important is it that each country has a national sanitation policy and plan?

Financing of Sanitation and Hygiene Services Delivery

It is widely understood that most investment in sanitation is carried out by households; indeed there is persistence in many quarters, of the view that sanitation is essentially a personal matter, so no external finance is required. This is misguided in the extreme. Much of the attention in the sanitation sector is moving towards a more mature consideration of financing different elements of the sanitation chain. It is essential that this symposium makes a contribution towards the movement of this issue forward.

As it stands now one of the biggest challenges for smooth implementation of good quality Sanitation and Hygiene delivery in many of the West African countries is to raise the required financial resources. Basically there are three main sources of funds for sanitation and hygiene deliver – known as the three Ts – taxes, tariffs and transfers. Taxes cover funds from the central government and any internally generated

funds from other government agencies. Tariffs are finances raised from users, and transfers are funds (grants and loans) from external support agencies. Simply put, the need for sanitation finance is to find out how much each element of the sanitation chain costs (including the hygiene promotion element) and to find which combination of the three Ts will provide for it. Also, that this should be carried out over the lifetime of the infrastructure. It is noteworthy that most often funding is addressed mainly for capital investment with little consideration of operation and maintenance. This is being addressed significantly in West Africa through WASHCost, a project to look at the life cycle cost of water and sanitation facilities which is underway in Ghana and Burkina Faso.

Table 4: Responsible Institutions for Sanitation and Hygiene Delivery in some West African Countries

Country	Ministries Responsible for Sanitation
Benin	Ministry of Health
Burkina Faso	Ministries of Agriculture and Water, Health, and Environment and Infrastructure
Ghana	Ministries of Local Government and Rural Development; Education; Health; Water Resources, Works and Housing
Guinea Bissau	Ministry of Natural Resources
Liberia	Ministries of health and Social Welfare; Public Health; and Rural Development
Mali	Ministry of Environment and Sanitation
Mauritania	Ministry of Health
Niger	Ministries of Water, and Hydraulics and Environment
Nigeria	Ministries of Water Resources, and Environment
Sierra Leone	Ministry of Health and Sanitation
Togo	Ministries of Water; Environment and Science; Health; and Local Government and Rural Development

Source: Personal Compilation

In Ghana for example the government has the Common Fund from the Ministry of Local Government and Rural Development to each of the Metropolitan, Municipal and District Assemblies (MMDAs). Each of these MMDAs also has a fee fixing resolution document which has amounts for sanitation related components including rates (especially property rates), lands, fees and fines, licenses, rent, investment income and miscellaneous income as sources of the internally generated funds. Funds from the government are mostly from budget allocation which is from taxes paid to the government. The resources have not been adequate for ensuring sustained coverage. In Ghana for instance, investments in rural areas and small towns are largely driven by donor funds (up to 95% of capital cost). On-going urban sector reforms are counting on US $1.3 billion comprising largely of funds from donors and private sector. Hygiene is normally funded as part of water supply projects and toilet facilities delivery. Funding for sanitation and hygiene is not adequate though there are aids and assistance from Non Governmental Organisations- both internal and external with funding mainly from donor agencies. The USAID and Coca-cola Company Water and Development Alliance (WADA) is increasing access to water and sanitation in 10 countries in Africa including Ghana, Cote d'Ivoire, Mali, and Nigeria from the sub region. About US $20 million funding has been issued to date. USAID's new US $20 million Sustainable Water and Sanitation for Africa (SUWASA) program promotes innovative reform and financing approaches to water and sanitation provision in Sub-Saharan Africa (www.usaid.gov)

Comprehensive and effective sanitation and hygiene delivery is expensive. There are no rules about how to finance it, nevertheless users must contribute towards cost recovery. The decision to generate revenue through full cost recovery or use subsidies is a political choice but in the long run it is only likely to be sustainably financed through cost recovery with users paying the marginal cost of the services (even if the capital replacement is seen as a public good and is therefore financed from the Treasury/public purse). It is typical to find only cost recovery mechanisms (for only operation and maintenance activities) being pursued by government agencies across the sub-region. For example cost recovery mechanisms for liquid waste include user charges from public toilets, desludging charges from households and public places or institutions, sanitation levy per household and private operator charges. But the key problem has been a

lack of identification of the full range of capital and recurrent costs and of sources (from the three Ts) of funds to pay over their lifetime.

Technologies and Approaches

Sanitation technologies are technologies that are available for improving sanitation services (defined here as excreta disposal), which are equally effective in preventing disease if consistently used and maintained correctly. A sanitation technology is 'smart' when adapted to local conditions and adaptable to a changing environment (NWP, 2006). Therefore a smart technology in one country will not be the same in another country.

An ideal toilet technology should have the following characteristics (Awuah, 2005):

a) Odour free
b) Fly free
c) Convenient with privacy
d) Able to treat and stabilise human excreta
e) Promote re-use of excreta materials after treatment
f) Does not pollute ground water
g) Less dependent on water
h) Does not allow direct human contact with excreta

Is this ideal toilet feasible for the sub-region?

Sanitation and Hygiene Promotion.

Proper interventions have telling effects on higher levels of service where both operator and beneficiaries are satisfied with services and derived maximum benefits from the facilities. Patronage of services also becomes higher resulting in higher productivity and subsequent higher dividends for service providers.

Technology Design and Selection and the Sanitation Ladder.

The Sanitation Ladder is a model ladder showing a range of latrine options from a relatively unimproved type to a more improved type. A latrine can be improved in any of the three main components– the pit and pit lining (the lining is only necessary if the soil is unstable and might collapse), the slab and the superstructure. The ladder factors in key considerations such as cost and the need to be flexible in the designs by using low cost materials (local materials). The sanitation ladder should also have designs for various hydro-geological conditions such as wet ground conditions, conditions where ground is rocky and conditions where there is unstable terrain that presents peculiar slope stability problems. It should also consider other components such as transportation, treatment, and disposal.

Sanitation Markets (Sanimarts)

SaniMarts are an effective ways of increasing the acquisition of household latrines since they bring accurate information and materials for construction of latrines within close proximity of potential latrine owners. The SaniMarts serve as focal points for promotion of latrine acquisition by ensuring readily available information on various latrine options and their proper O&M. These facilities also support the promotion of the sanitation ladder and play an important role in promoting self acquisition of latrines and less reliance on latrine subsidies. This sanitation promotion approach has been piloted in Ghana by the Community Water and Sanitation Agency (CWSA). This is a widespread practice in other regions.

Community Led Total Sanitation (CLTS)

CLTS is an approach in which people in rural communities are facilitated to do their own assessment on sanitation, come to their own conclusions, and take their own action. They are not taught nor forced in taking their decisions. CLTS is an approach that targets the following (Box 1):

Studies carried out on pilot CLTS in communities in Ghana showed that there is a potential for CLTS to improve sanitation. The sub-region should seriously consider this approach in their sanitation policies (Magala and Roberts, 2009).

Social Marketing

Social marketing is the application of **marketing** to achieve **behaviour change for social good**, and has previously been exploited in public health to achieve large-scale changes in health-related personal and

household behaviours (e.g. use of bed nets to prevent malaria, condoms to prevent HIV, household disinfectant to treat drinking water) (Jenkins and Scott 2007). The objective of social marketing can **bring together** two sectors to pool resources which normally have **different responsibilities**: The **public** and **private** sector.

Box 1: Core Concepts for CLTS – Igniting Behaviour Change

1. Discourages supply-led subsidy driven campaigns
2. Focus on 'triggering' behaviour change for the collective, and not simply for individuals
3. Focus on demand creation for 'total sanitation'.
4. Seeks to 'find out' what causes local people to change their open defaecation behaviour. Involves identifying triggers that are defined by the local context.
5. Facilitator ensures dialogue among community members until an Ignition point is reached where the community collectively decides on actions to eliminate open defaecation.
6. Emphasis of CLTS aims at triggering behaviour change
7. Creating awareness about the dangers of open defecation (PHAST, F-DIAGRAM)
8. Shaming the communities and generating a sense of disgust by facilitating discussions relating to the consequences of open defecation
9. Key process involves a sanitation analysis which involves:
   - Mapping on the ground to show where people live and where they defecate;
   - Transect walks (walk of shame) to visit and stand in those places;
   - Calculations of quantities of excreta and identifying pathways to the mouth;
   - Faecal Transmission Routes to illustrate the Faecal Oral transmission
10. Process basically about facilitating community discussions until an 'IGNITION POINT' where a collective decision is taken on actions to stop open defecation.
11. Communities install their own latrines or toilets with their own resources.
12. Those who are better off help those who are too weak or poor to help themselves.
13. No standardisation or top down designs. People decide for themselves (the sanitation ladder approach)

The reasons to market sanitation are described as follows (Cairncross 2004):

- Marketing ensures that people **choose** to receive what they want and are **willing to pay** for.
- Marketing is **financially sustainable**
- Marketing is **cost-effective** and can be **taken to scale**
- **Provision of hardware is not enough** (those who buy a latrine will use and maintain it, opposed to subsidized latrines)

The '**4P**' marketing approach as suggested by Cairncross (**Product, Price, Place and Promotion**) has been extended with a **fifth 'P'** (**Policy**) by Scott and Jenkins, as frequent local or national governments' policies can constrain the sanitation marketing process (Scott and Jenkins 2005). The fifth 'P' relates to Cairncross' idea of **state involvement** in marketing sanitation.

Box 2: Six suggested recommendations as hypotheses for testing in the development of marketing approaches for sanitation in Benin:

1. Advertising campaigns should associate latrines (or other sanitation solutions) with positive values
2. The use of scientific explanations of disease transmission to promote latrines should be avoided
3. Improving latrine designs to enhance attributes important to drive satisfaction could increase their desirability over competing alternatives and lead to broader choices for consumers
4. Bundling the promotion of latrines with other highly desired housing improvements maybe an effective way to raise the image of latrines
5. Recognizing that different lifestyles and village environments give rise to different drives or dissatisfactions
6. Certain population groups maybe very unlikely to adopt latrines, no matter how much promotion is done, and should therefore not be targeted.

Source: Jenkins and Curtis 2005

3 Challenges in the sanitation sub sector in the sub region

The challenges in the sanitation sub sector in West Africa from Table 3 are the use of unimproved sanitation facilities and open defecation. Apart from these challenges there other forms which resulted in the two challenges identified in the JMP report. These are discussed below.

Political will

Political will refers to the support given to policies by politicians, government officials, and representatives of influential organizations. This support can be manifested in a variety of ways, including: public statements, the passage of legislation, the establishment of relevant institutions, and the provision of resources to carry out sanitation-related policies (Elledge *et al*, 2002). Political will may be influenced by human resource commitments, budget allocations. Political will for sanitation must include expressions of concern for sanitation needs, promotion of sanitation concepts, advocacy for policy change, government resources for implementation of improved services, and an interest in reaching the underserved. More often than not this support is lacking from the political figures and thereby resulting in some of the problems facing the sector. African Governments have often ratified resolutions including the Johannesburg World Summit on Sustainable Development (WSSD) in 2002 but lack of commitment and implementation has resulted in little or nothing being accomplished.

Political instability

Governments of the West African sub region have varied in stability over time, and some have experienced coups d'état. These various degrees of instability have affected the enactment and implementation of policies including sanitation and hygiene policies. The hiccups in the sanitation and hygiene subsector due to different "sanitation ideologies" from different governments have left many sanitation and hygiene problems unattended to.

Financial constraints

More often than not revenues from sanitation are firstly insufficient to cover costs, and secondly used for non-related sanitation services and therefore worsening the financing capacity of sanitation services especially for operation and maintenance of existing sanitation facilities. It is also not uncommon that most government agencies allocate a small percentage of their budgetary for sanitation service delivery indicating the low priority attached to sanitation services. In addition, financing in most policies are delegated to local governments (GWA, 2006) which has consequently affected the expansion of sanitation and hygiene services due to lack of integrity and motivation. Again lack of technical capacity at the local government level and lack of financial transfer from central to local could affect sustainable financial mechanisms.

Legal and regulatory framework

Several field assessments have it that weak enforcement of policies and bye-laws in developing countries including West Africa are due to the following:

- Insignificant penalties (including fines) that are imposed on offenders
- Weak political will of government agencies to enforce legislative and interference from some political figures.
- Lack of capacity of the service providers to enforce laws due to inadequate staff for supervision and monitoring
- Lack of resources to support activities of field staff
- Lack of involvement of the communities and NGOs
- Some level of corruption- compromise by those who are supposed to implement the law
- Public apathy to environmental issues
- Lack of incentives for staff of the government agencies.

Bribery and corruption

Bribes or kickbacks are the most cited forms of corruption and include the payment of a fixed sum, a certain percentage of a contract or in-kind favours. Fraud involves manipulation or distortion of information, facts and expertise for private gain by people entrusted to cater to the public good. Fraud is a purposeful act and does not include unwilling misconduct or negligence. Favouritism, clientelism, cronyism and nepotism are the use of entrusted power to provide preferential treatment to friends, family, kin or anybody close and trusted. This form of corruption stands out, as it concerns the distribution of resources as opposed to its accumulation. For example sanitation related services are at times dented by favouritism by those in authorities on the lines of family relationships as reflected in low capacities and incompetence of staff. Without citing examples it is an undeniable fact that all these kinds of corruption are rife in the sanitation sub sector in all the West African countries and measures must be put in place to

fight against them. TI estimates (Global Corruption Report, TI 2008) that between 10% and 40% of project funds are lost through various forms of corruption.

Culture differences and language

Sustainable Sanitation and Hygiene delivery is also affected by customs and beliefs that have been enshrined in tribal life and societies of most West African countries. These beliefs affect technology choice, hygiene behaviours and the general institutional set up of actors. The availability of sanitation facilities does not necessarily translate into effective use, because of taboos, culture norms and beliefs. Field experience has also shown that sanitation facilities from donor-sponsored projects can be white elephants if beneficiaries are not involved and the CLTS approach could provide solutions to these problems.

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Institutional arrangement

Lack of clearly defined institutions to manage the affairs of the sanitation and hygiene sub sector has been a major bottle neck to the effective implementation of sanitation and hygiene policies. This is due to the lack of proper organizational structures for effective management and coordination. Even where there are instituted bodies, weak coordination and low or no dialogue has been hindering the success of the sanitation sector.

Lack of incentives and motivation

The weak enforcement of bye-laws and the incidences of corruption in the sector can partly be attributed to the lack of motivation for the enforcers. Often times these people lack the necessary equipment and logistics to aid them do their work well. They are therefore forced to take bribes instead of allowing the law to deal with offenders of sanitation related offences. To curtail and forestall some sense of dignity in their work activities the central government through the departments and agencies must resource them by providing adequate vehicles or motorcycles, needed fuel and other incentive packages where possible daily subsistence allowances.

Rapid population growth and urbanisation

There is rapid population growth in many of the towns and cities of West African countries (Table 6) as a result of rural drift to urban centres to engage in commercial activities and also to find a place of residence. These drift had increased the floating population of these areas and put pressure on existing sanitation facilities. It has therefore become difficult for the central government to satisfy most of these towns and cities which have become busy commercial centres.

Estimates from WHO reveal that as a result of rapid urban population growth, the development of informal settlements and growing urban poverty, African governments will need to provide sanitation to 211 million urban residents in order to attain Millennium Development Goal 7 Target 10, (UNICEF/WHO, 2000). This is a daunting task for African governments considering the difficulties with urbanisation and population growth in general.

Cost-Effectiveness Analysis using DALY Implications

Human health benefits cannot usually be measured economically. The current measurement tool is DALY (disability adjusted life years) i.e. a health gap measure that extends the concept of potential years of life lost due to premature death to include equivalent years of healthy life lost by virtue of being in state of poor health or disability. Then, based on this, the cost effectiveness analysis (CEA) is made according to Jamison et al (2006). The CEA per DALY averted per latrine construction and promotion is $\leq$ \$270. Christofers et al (2004) also reported that hygiene promotion with and without soap were \$91-122 and \$44 respectively. Given that implementing sanitation can often cost much less than \$50 per head shows that it is an economically viable business, even if the finances are not always easy to come by.

To highlight this point, worldwide, the total cost of sanitation interventions was estimated at \$9.5 billion whiles economic benefits of intervention were \$66 billion. It has been calculated that for every \$1 of cost investment there is a benefit of \$9 (The Economics of Sanitation study on behalf of WSP World Bank, to be published). This is too good to be ignored by the Governments of the sub region.

Table 6: Total and urban population of countries in West Africa for the year 1990 and 2006`				
Country	**Total Population (thousands) (1990)**	**Urban Population (%) (1990)**	**Total Population (thousands) (2006)**	**Urban Population (%) (2006)**
Benin	5,179	34	8,760	40
Burkina Faso	8,871	14	14,359	19
Cape Verde	355	44	519	58
Cote d'Ivoire	12,780	40	18,914	45
Ghana	15,579	36	23,008	49
Guinea	6,033	28	9,181	33
Guinea Bissau	1,017	28	1,646	30
Liberia	2,137	45	3,579	59
Mali	7,669	23	11,968	31
Mauritania	1,945	40	3,044	41
Niger	7,822	15	13,737	17
Nigeria	94,454	35	144,720	49
Senegal	7,896	39	12,072	42
Sierra Leone	4,087	30	5,743	41
The Gambia	962	38	1,663	55
Togo	3,961	30	6,410	41
Total/Average	180, 747	32	279,323	41

Source: WHO/UNICEF, 2008

Some concluding questions for this section:

- Where should funds come from for sanitation and hygiene? From the current trend of events (global financial crisis) should the sub region be more wary of donor funds and begin to play an active part in sanitation delivery?

- If we continue like we are doing now we cannot achieve 50-100% coverage. With the current trend most countries in the sub region cannot achieve the MDG targets by 2015. How can we speed up coverage increases and how might this impact on sustainability?

4 The Way Forward

In this section, brief statements of key issues, for discussion, on the main topics in moving forward on sanitation and hygiene in West Africa is provided.

Decision Making Processes

Since sanitation and hygiene delivery affects the whole populace. Service providers in all the respective countries should try and involved all stakeholders in decision-making, planning and implementation process. There must be an increased collaboration and active involvement of all actors including beneficiaries, traditional authorities and religious leaders in communicating sanitation related issues and enforcing regulations and bye-laws at the community levels. This approach ensures a wider scope of inclusivity starting with the poor beneficiaries. How can this be achieved in a realistic and sustained way, and yet take account of resource realities in each instance?

Capacity Development and Research

In many countries capacity development efforts focus primarily on improving the enabling environment (policy reform, legislation, regulation) and human resources (particularly training), rather than on structural strengthening of sector organisations.

Sector ministries need to support sanitation implementation capacity. The objective is to build long–term management and operating capacity. Governments need to develop and implement National Sanitation Policies and Action Plans and to provide funds to facilitate their implementation They can even go as far as to declare sanitation a national emergency. The Monitoring and Evaluation Unit of the Ministries must be strengthened to carry out their function more effectively. Also, the Sector Ministries must strengthen the capacity building for Environmental Health and Sanitation Unit to strengthen and promote behavioural change. They must also be strengthened at all levels- upgrading the Unit at the Ministries into a Directorates, providing the required logistics such as transport, increasing the staff strength to reach out to all communities with education and enforcement of laws and regulations.

In any capacity development programme, the following must be looked and must take critical centre stage:

1. What are the processes involved in the sanitation delivery and identify actors and then develop structures to build them up.
2. What are the educational structures in place to provide the skill labour and carry out research to provide solutions in the sector through science and technology and effective governance structure? What are the current institutions working on sanitation and what programs are available?
3. Research in sanitation area in West Africa is carried out by which institutions and what have been done so far? What are the gaps and recommendations:
    - More studies on hygiene and technologies for toilets and treatment for resource recovery
    - Public perception on new technologies

Stakeholders Learning Alliance Platforms

All sector actors in the sub region need to work together to make progress in what is inherently a fraught and complex process. This might be best be carried out through Learning Alliances which are a series of connected stakeholder platforms, created at key institutional levels (typically national, intermediate and local/community) and designed to break down barriers to both horizontal and vertical information sharing and thus to speed up the process of identification, development and uptake of innovation. Each platform is intended to group together a range of partners with complementary capabilities in such areas as implementation, regulation, policy and legislation, research and learning and documentation and dissemination.

The central premise of the Learning Alliance approach is that, by giving as much attention to the *processes* of innovating and scaling up innovation as is normally given to the subject of the innovation itself, barriers to uptake and replication can be overcome. The Learning Alliance approach is intended to overcome these problems by systematically addressing the issues surrounding the scaling up as part of the same process as undertaking the innovation itself. It aims to do this by:

- Carrying out innovation and learning within an alliance of practitioners, researchers, policy makers and activists who, together, will provide an 'engine' for uptake and replication.
- Ensuring that innovation happens in a context (institutional, financial) that is realistic for a given country or region, making the innovation suitable for quick uptake.
- Making explicit where extra resources must be brought to bear for specific technical or institutional reasons, and analysing how these extra resources can be found or created within the structures that will scale up the innovation.
- Creating an environment in which, it is possible to be honest and open about lessons learned– particularly failures.
- Creating an environment in which flexibility and adaptation to local circumstances become the norm when dealing with complex developmental problems.

Do participants see the creation of such Learning Alliances or other multi stakeholder platforms as a helpful development?

Hygiene Promotion.

For sustainable sanitation and hygiene delivery service, hygiene promotion should not be done on ad hoc basis. It should be continuous with or without projects. Improving sanitation delivery requires a key objective to maximise the health benefits through integration of water, sanitation and hygiene. Public education, enforcement of laws and regulations by the Nationals and a strong commitment and leadership

role by the Governments must form one of the strong pillars for sanitation. Hygiene education should be part of the education curriculum.

According to Harvey *et al*. (2002):

- Planning, implementing, following through and evaluating the programme with care
- Improvements are to be directed only to unfavourable behaviour models
- Target audience should be selected with care
- Motives leading to behavioural changes should be identified
- Hygiene information should be positive
- Choosing most efficient communication channels
- Keeping cost-benefit relation in mind when selecting communication channels.

How much of the sanitation and hygiene budget should be allocated to hygiene promotion? What methods have worked best in West African countries and why? What impact is CLTS (Community Led Total Sanitation) having in this area? Is SSHE (School Sanitation and Hygiene Education) making a real contribution to this as well or is it peripheral?

Technology Choice

As already mentioned technology selection for sanitation facilities should be based on affordability, safety, convenience and the geographical location. It should always be a matter for household choice, informed as necessary by practical realities.

A sanitation ladder for the major components of sanitation can be seen in table 7.

Planning for Short, Medium, and Long term Actions/Strategies

The Governments of the countries in the sub region must have short, medium and long term action plan to mitigate the challenges in the sanitation sector.

For sustainable sanitation and hygiene delivery it is important to have policy guidelines and strategic documents to guide the implementation of services. These documents must embrace a national action plan to guide the whole country and from which all sanitation related services must be guided by. West African countries should also have strategic documents to guide the national ministries, departments and agencies involved in sanitation delivery and finally a strategy document to guide district and other decentralised bodies in their operations. In Ghana for example there is the National Environmental Sanitation Policy (Draft final version, 2007). This umbrella policy document is a long term action plan document from which all other sanitation related policies and guidelines are based on.

In addition the government of Ghana is seriously preparing the National Environmental Sanitation Strategy and Action Plan (NESSAP) and the District-level Environmental Sanitation Strategies and Action Plans (DESSAPs) to hasten quality sanitation delivery and this is worth emulating by other countries according to context.

Financial Commitment.

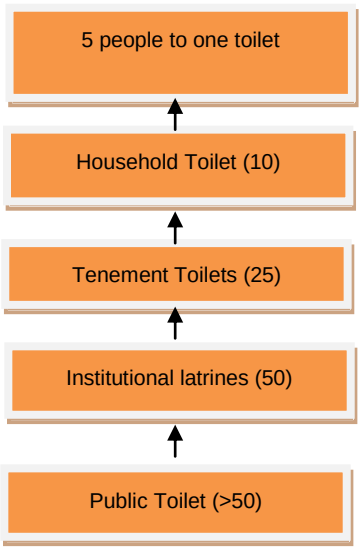
One of the biggest challenges in the implementation of quality sanitation and hygiene services delivery is adequate financing. As it pertains now the central government through its ministries, departments and agencies in almost all the West African countries put in funds on these services but are not able to recover the costs they incur. One way of dealing with this is to build the capacity of the public sector to outsource the provision of services. In other words, they can be assisted in developing effective partnerships with the private sector (PPP). However, it is not clear that this brings benefits to the poorest – what is clear is that national policy on sanitation should lead the pursuit of financial mechanisms, and not the other way round.

But it would appear to be clear that each National Governments on their own and as a union (ECOWAS) need to scale up its internal commitment to sanitation. The Sector Ministries, development partners and other key players in the sectors must also facilitate and provide concessionary loans and micro credits schemes to enable small scale providers to bridge supply side gaps. A sanitation fund might be helpfully created to receive taxes from imported goods and part of monies for health insurance. The level of

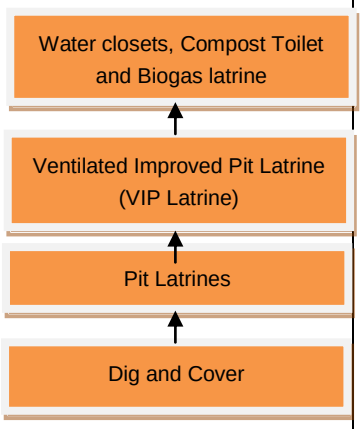
investment in sanitation delivery must be increased through a clear, specific and transparent budget line; in short, each Government should make a budget for sanitation and own it.

Table 7. Sanitation ladder for human excreta management at various stages.

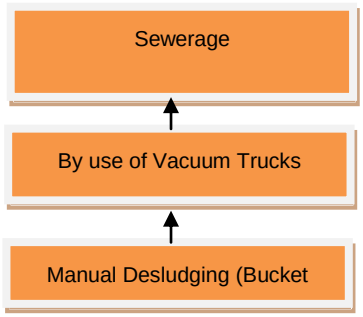
Sanitation Ladder based on number of users per defeacating unit



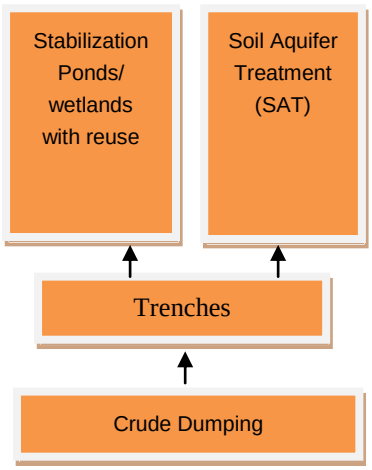
Technology ladder for toilets



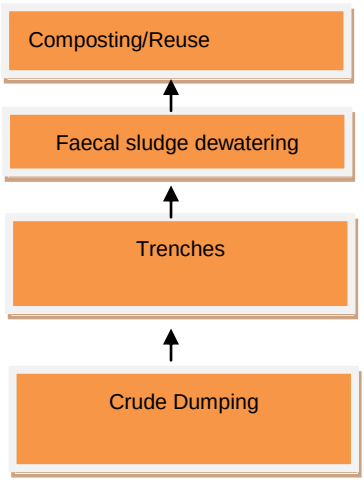
Sanitation ladder for collection and transportation of faecal sludge



Sanitation ladder for Treatment (Wet System)



Sanitation ladder for Treatment (Dry System)



Private Sector Involvement

Public sector domination in the provision of water and sanitation in Africa has been held responsible for the awful state of sanitation service provision. It has been argued that public enterprises have been characterized by the absence of competition, low levels of government investment, and lack of service expansion resulting in inefficiency and lack of pricing mechanisms to reflect service cost and meet public demand (UNESC/ECA 2005). The past few years, therefore, have witnessed an increase in private sector participation in urban water and sanitation provision in most West African countries. Participants may wish to debate which is a correct mix of private/public involvement in the sanitation and hygiene sector according to their context. In all cases a mix will be needed and in no case will uncritical adherence to tired dogma be helpful.

A draft summary of complimentary strategies for sustainable sanitation and hygiene delivery in the sub region has been provided in Table 8. This includes how to attract investment to the sanitation sector, measures for scaling up approaches to household latrine promotion and delivery, what should be done about solid waste management and financial commitment. Participants could use this Table as an input to a discussion of the issues arising.

Table 8:Complementary Strategies for Sustainable Sanitation and Hygiene Delivery in the Sub-region

How to attract investment to the Sanitation Sub Sector	**What should be done about Solid Waste management?**
• Definition of Sanitation should be made clear: There should be a holistic definition of sanitation that will encompass all aspect of sanitation. Definition should change from country to country and all ambiguities should be dealt with. • Development of Policy Framework: Per the definition, policy framework should address all vital thematic areas of sanitation and hygiene. • Development of Strategic Action Plan: A strategic plan which includes short, medium, and long term should be developed to come out with the remedies to the challenges in the sub sector. The approach that will be used must be indicated for continual use. Necessary laid down structures should be indicated in the strategic action plan • Investment Plan • Advocacy targeting all Stakeholders • Sustainable financing & Cost Recovery • Legislation/Regulation should be enforced	• Seek Donor/Government funding to support infrastructure provision • Institute Cost Recovery measure on declining basis to sustain service delivery (Urban Sector) • Promote Private Sector participation • Education and Enforcement of By-laws • Ensure adequate allocation of land for disposal\facilities installation • Develop a Ladder for the various functional areas of solid waste management o Generation o Storage (Primary & Secondary) o Transportation o Recycling o Treatment & Disposal • Prepare Investment Plans for all MMDAs • Waste management should be a taught program in the Universities as a specialised area. • Ensure land allocation for treatment and disposal of waste
Measures for Scaling up Approaches to household latrine promotion and delivery • Strengthening of Relevant Sector Institutions • Increase funding • Social Marketing • Education and enforcement of Bye-laws • Research into more appropriate and Low-cost latrines options	***Financial Commitment*** • The generation of a sanitation fund based on the principles of polluter pays must be adopted. • All importers of goods into the country must pay tax for solid waste • Part of the national Health Insurance should be put into this fund • Individuals must be willing to pay for their own waste management • A strategic direction for the sector should be a comprehensive and an integrated approach to manage sanitation in West Africa for sustainability

Review and Enforcement of Sanitation Bye-laws

One of the elements of an enabling environment for sanitation and hygiene delivery is the existence of laws and regulations. It is vital for all government agencies to formulate bye laws and constantly review them to reflect current state of the art issues. The revision of the bye-laws must also factor in considerations from the national policies related to sanitation and hygiene delivery and must also target the poor who are mostly affected by improper sanitation and hygiene delivery. The roles and responsibilities of all key stakeholders in the sanitation and hygiene sub sector should be clearly spelt out. In general policies, regulations and all other legal documents developed must be realistically implementable.

The enforcement of Environmental Sanitation bye-laws is also an important aspect of the service delivery process. To overcome the difficulties in enforcing the bye-laws the general populace should be made aware of the existence of the by-laws and their provisions through strategic educational campaigns. The bye-laws can be abridged and translated into local languages to make easier reading and understanding. There will also be the need to increase the number of enforcement personnel. The creation of special courts for sanitation related cases is also important to overcome the bottlenecks that are normally encountered at the general courts especially in attending to cases. Also, community leaders should be contacted for gender sensitisation to facilitate mainstreaming of gender in sanitation and hygiene promotional activities.

5 Conclusions

In concluding the paper an overview assessment of the sanitation situation and challenges and solutions have been addressed. Overall the major problem identified is poor coverage which has resulted due to key

factors such as improper planning for sanitation, disparities in sanitation definitions, technologies, Private Sector Involvement and sanitation financing.

The considerations below are my point of view and can be considered as provocations for discussion!

Sanitation Planning

Sanitation planning should be holistic and should include all the major components – faeces, solid waste and hygiene. Waste management departments should be adequately resourced, motivated and trained to effectively deliver these services through government, non governmental agencies and the private sector. The sub region may have sanitation policies, by-laws and even strategic plans for sanitation but the big question is whether these strategies are implementable or not. Sanitation strategies must be realistic and implementable.

Definitions

Recent deliberations on the definition of sanitation coverage caused uproar and the responsible ministry was advised to seek clarification from UNICEF/WHO/JMP. The JMP should look at the culture of the sub region and include shared facilities as adequate as raised in this paper.

Technologies

The choice of sanitation technologies should seriously consider availability of water. Since the sub region's water resources are dwindling whiles population is increasing. The technologies should examine easy faecal sludge collection, treatment, resource recovery and final disposal of residues after treatment. Local governments in their planning must most importantly allocate land for this.

Private Sector Involvement.

The private sector must be encouraged to get involved in the sanitation management process especially when waste is considered as a resource ("futigen" – the future seeing waste as a resource instead of relegating it as nothing and of no use). The private sector even though it is in a better position in terms of skilled personnel and access to equipment and logistics than the public sector should be trained for effective sanitation management. Staff of government agencies and structures must also be trained to administer franchise contract to the private sector in the relevant components of sanitation.

Financing Sanitation

For sustainable sanitation services there should be a sense of ownership of sanitation facilities by all actors including individuals, home owners, decentralised government structures, municipalities, departments and agencies and the central government. This draws away from the over reliance on donor funds but rather create independence in owning these facilities. There should also be adequate budget allocation on sanitation from the household level up to the central government level. It is recommended that at least 5% of an individual's or household net income should go into sanitation management since sanitation is a strong pillar for livelihood and overall development of all nations. Part of the funds for health insurance should be put into a National Sanitation Fund for onward distribution to the decentralised structures for sanitation related services in their local communities. It is also recommended that importers of goods into countries are made to pay tax for solid waste. The principle that all waste is owned by the government as in the case of Ghana is not working. The case of Rwanda where community cells (community groups) own and manage the waste collection process is recommended. CLTS could also be considered.

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Note/s:

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