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An analysis of basic manpower training for sanitation services in developing countries: the Ghanaian perspective

Peter Appiah Obeng*

Water and Sanitation Group,
Department of Chemistry,
University of Cape Coast, Ghana
E-mail: obengpeter@yahoo.com
*Corresponding author

Walter Leal Filho

Hamburg University of Applied Sciences,
Research and Transfer Centre 'Applications of Life Sciences',
Lohbrügger Kirschstr. 65, D-21033 Hamburg, Germany
E-mail: walter.leal@haw-hamburg.de

Abstract: The purpose of this paper is to provide inputs for consideration in the development of curriculum and institutional framework for manpower training for the sanitation sector in the developing world, using Ghana as a reference case.

The approach of the paper is to link competence requirements to sanitation sector objectives and existing challenges in developing countries and identify the curriculum components and institutional framework which may equip training beneficiaries with the required competences.

The paper identifies the need to equip all prospective recruits into the sanitation sector with a basic technical competence in areas such as social marketing and community mobilisation, reporting and basic computing skills. The paper also identifies an institutional framework which may be replicated and hence ensure effective manpower training for sanitation services in developing countries.

Keywords: manpower training; sanitation services; institutional framework; developing countries; Ghana.

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Biographical notes: Peter Appiah Obeng is a Lecturer in the Water and Sanitation Section of the Department of Chemistry, University of Cape Coast, Ghana. He is the Coordinator of the Group, and lectures in courses including institutional development, sector management and community participation. He has particular interest in the application of these subjects to solid waste management and community water supply. He was formerly a Lecturer in the Civil Engineering Department of the Cape Coast Polytechnic, Ghana. He received his MSc from the Kwame Nkrumah University of Science and Technology in Kumasi, Ghana.

Walter Leal Filho heads the Research and Transfer Centre 'Applications of Life Sciences' at the Hamburg University of Applied Sciences, in Hamburg, Germany.

1 Introduction

1.1 Background information

Manpower training for efficient environmental sanitation services delivery is indispensable to the attainment of environmental sustainability, one of the millennium development goals (MDGs). Lawrence and Tomaro (1988) note that "without effective measures to recruit, train, and successfully manage skilled labour to provide water supply and sanitation services, government policies and available resources can have little impact". Evidently across the developing world, the lack of adequate trained manpower continues to frustrate the efforts of governments and the international community in the pursuit of the MDG on environmental sustainability, especially in Sub-Saharan Africa.

Several years down the journey in search of sustainable water and sanitation services in developing countries, the observation of Lawrence and Tomaro in 1988 is as valid now as it was then, that "developing country governments are faced with complex problems in human resource development (HRD) planning". Consequently, the challenges of the sector in many developing countries are not matched up with adequate human resources with the right level of training and experience and so the attainment of environmental sustainability becomes more and more elusive. It is disturbing but not too surprising that, at almost half-way through the target period for achieving the MDGs, the progress report for 2007 (UNDESA, 2007) reveals that "half the population of the developing world lack basic sanitation" and that "in order to meet the MDG target, an additional 1.6 billion people will need access to improved sanitation over the period 2005–2015". Perhaps what is even more disturbing is the revelation that "if trends since 1990 continue, the world is likely to miss the target by almost 600 million people".

The close connection between manpower capacity and sustainability of environmental sanitation derives from the fact that a certain basic manpower capacity is always required for successful implementation, maintenance and expansion of all forms of sanitation improvement projects. The United Nations' blueprint for sustainable development, *Agenda 21* (UNSD, 1992), recognises that "the ability of a country to follow sustainable development paths is determined to a large extent by the capacity of its people", among other factors, and therefore recommends national mechanisms and international co-operation for capacity building in developing countries as one of the means of implementing the blueprint on sustainable development.

The case of Ghana is not much different from the general trend in most countries in the developing world. The manpower structure of the sanitation sector shows deficiencies at all levels of political administration. Positions expected to be filled with professionals and sub-professionals are being occupied by technical and sub-technical staff. The technical and sub-technical staff receive basic training from the three schools of hygiene (SOHs) in Accra, Tamale and Ho, with the Accra SOH producing technical staff with a diploma in environmental health and the Tamale and Ho SOHs producing sub-technical staff with a certificate in environmental health.

1.2 The problem

In the absence of adequate professionals and sub-professionals in the sector, technical staff are at the helm of affairs in most of the decentralised local government areas supported by the sub-technical staff. Gaps between the demands of field practice and the capacities of these products of the SOHs have become a major source of concern to the government and other stakeholders. In spite of changing trends in the demands of field practice over the years, the SOHs have failed to evolve their training curriculum to respond to the current demands of practice. Besides, the institutional framework for staff development has neither succeeded in attracting high quality professional staff nor ensured the upgrading and retention of existing technical and sub-technical staff to the professional category. There is the urgent need for training options which would be responsive to current demands on the sector and an institutional framework for HRD that would ensure adequate human resource capacity to deliver efficient sanitation services in the country.

1.3 Purpose of the paper

The purpose of this paper is to discuss training options that would equip graduates of the SOHs with the basic competences required to match the demands of field practice in the absence of professional staff, and to highlight the institutional framework for HRD that would guarantee adequate staff with the requisite knowledge and skills to ensure efficient sanitation services delivery in Ghana.

It is hoped that issues raised in this paper would engender and inform the review and development of curriculum of the SOHs and those of prospective training institutions in Ghana and elsewhere in the developing world that seek to produce graduates well suited for the delivery of efficient environmental sanitation services.

1.4 Approach of the paper

While recommending national mechanisms and international co-operation for capacity building in developing countries as a means of implementing the principles of sustainable development, *Agenda 21* (UNSD, 1992) notes that “technical cooperation, including that related to technology transfer and know-how, is effective only when it is derived from and related to a country’s own strategies and priorities on environment and development”. This suggests the need to relate technical capacity building directly to national environmental sanitation sector objectives, taking into consideration the local constraints within which such objectives must be pursued.

Therefore, the approach of this paper is to relate competence requirements to national objectives of environmental sanitation and existing challenges and, hence, identify the major curriculum components and methodology required to equip prospective trainees with such competences needed to surmount local challenges and achieve national objectives. Subsequently, an institutional framework to support an efficient training system and general staff development is discussed.

Ghana’s sanitation sector objectives and existing challenges were identified through a review of the national environmental sanitation policy (NESP) and other related literature, as well as interviews conducted among officials of the Environmental Health and Sanitation Directorate (EHSD) of the sector Ministry of Local Government and Rural

Development (MLGRD) in Accra and those of the Accra SOH. Information gathered from these primary and secondary sources are presented under the 'findings' section. Based on the findings, the authors draw from their experience and knowledge to analyse the responsive curriculum, training methodology and supportive institutional framework under the 'discussion' section.

2 Findings

2.1 Ghana's sanitation sector objectives

Ghana's sanitation sector objectives were identified through a review of the NESP. The policy (MLGRD, 1999) recognises the aim of environmental sanitation as being "the development and maintenance of a clean, safe and pleasant physical environment in all human settlements, to promote the social, economic and physical well-being of all sections of the population". To achieve this aim the policy identifies the following specific objectives as the principal components of environmental health and sanitation (MLGRD, 1999):

- 1 collection and sanitary disposal of wastes, including solid wastes, liquid wastes, excreta, industrial wastes, clinical and other hazardous wastes
- 2 storm water drainage
- 3 cleansing of thoroughfares, markets and other public spaces
- 4 control of pests and vectors of diseases
- 5 food hygiene
- 6 environmental sanitation education
- 7 inspection and enforcement of sanitary regulations
- 8 disposal of the dead
- 9 control of rearing and straying of animals
- 10 monitoring of observance of environmental standards.

2.2 Constraints to efficient sanitation services delivery in Ghana

As a guide to identifying what constraints confront the delivery of sanitation services in Ghana, literature were reviewed to unearth those generally associated with the delivery of the services in the developing world. Following that, interviews were conducted with officials of the MLGRD to identify those constraints which are prevalent in Ghana.

From literature, it was found that the sanitation sector of developing countries is generally faced with constraints which have frequently been related to:

- low technical capability (Ogawa, 2000)
- lack of economic and financial sustainability (Antipolis, 2000)
- weak institutional structures (DFID, 1998; World Bank, 2000)

- social-cultural barriers (Ogawa, 2000).

Interviews with officials of the MLGRD confirmed the prevalence in Ghana of most of the constraints identified to be commonly associated with sanitation services delivery in developing countries. The following are those which have gained the attention of Ghanaian officials as significantly affecting the sector in Ghana:

2.2.1 Technical constraints

Ghanaian officials confirmed the existence of a lack of adequate number of staff with the requisite level of training. Three key manpower categories – professionals, sub-professionals and technical officers – are recommended by the NESP for the sector. It was revealed that, a staff requirement assessment conducted as far back as 2001 estimated that the numbers of these three categories required for efficient sanitation services nationwide were respectively 430, 3655 and 2293 (CBG, 2001). However, 2008 statistics provided by the officials show that the numbers currently at post throughout the country are respectively 8, 60 and 490 respectively. Nonetheless, there exists a sub-technical category that, by the requirements of the NESP, should have either been upgraded to any of the three categories mentioned above or perhaps phased out from the sector. Unfortunately, they rather constitute the largest proportion of the current workforce, numbering up to 2,185.

Consequently, it was revealed that most of the staff currently at post lack the requisite competences to deliver efficient services. There generally exist:

- 1 lack of adequate technical capability to analyse technical problems and develop solutions to deal with them
- 2 weak social marketing and community mobilisation skills to ensure the effectiveness of environmental sanitation programmes
- 3 poor writing, reporting and computing skills for effective internal and external communication.

For technical officers who are expected to play middle level managerial roles, it was disclosed that they lack:

- 1 good planning and budgeting abilities to ensure proper planning of environmental services within the limits of available funds
- 2 the ability to maintain an efficient management information system
- 3 the tact to manage political interference and influence, which tend to disrupt the pursuit of sector goals, especially at the local government level.

Apart from the problem of inadequate staff capability, the use of obsolete technologies and unavailability of state-of-the-art equipment were mentioned as barriers to the pursuit of sector objectives. It is observable in Ghanaian cities that, waste management, for example, has gone only a little beyond ‘getting the waste out of sight’, which is the very minimum level on the waste management hierarchy. The practice of waste reuse, recovery and recycling has not received the needed attention for the reason that the nation is still struggling to get the waste out of sight.

2.2.2 Institutional and financial constraints

Regarding institutional and financial constraints, it was mentioned that since the inception of Ghana's sanitation policy in 1999, some progress has been made in the removal of confusion and overlaps in the distribution of responsibilities among stakeholders and the participation of the private sector, which has introduced some cost recovery, but there still exist a number of institutional and financial constraints such as:

- 1 lack of clear direction on the development of capable, trained staff for all levels of political administration especially the district levels
- 2 lack of capacity to undertake effective planning and budgeting for environmental health and sanitation services in the districts
- 3 lack of 'institutional confidence' in the environmental health department due to the absence of high skilled professionals, which leads to bureaucratic controls that inhibit effective management
- 4 political management and lack of willingness to impose tariffs or charge economic rates, which affect the chances of cost recovery
- 5 lack of willingness on the part of service beneficiaries to pay for services rendered;
- 6 lack of incentives for environmental health and management staff, which makes working in the sector unattractive
- 7 inadequate management information systems, especially in the districts, which impede effective planning.

2.2.3 Socio-cultural constraints

Socio-cultural factors affecting sanitation services delivery are more complex in developing countries than they are in the developed world. In Ghana, the socio-cultural constraints said to be regularly encountered in the delivery of environmental health and management services include:

- 1 bad waste disposal practices, which increase the demand for and cost of cleansing and waste collection services
- 2 poor attitude to personal hygiene which calls for more education, regular inspection and intensive law enforcement activities, all of which have grave budgetary implications
- 3 low priority for environmental health and management services during budgeting and resource allocation at the household level, which leads to low commitment to user participation and willingness to pay for services
- 4 a *government-must-provide* attitude toward environmental services which leads to low appreciation of private sector participation and low cost recovery
- 5 negative perception of the waste management profession, which affects the attraction of the required expertise

- 6 community protests to citing of infrastructural facilities in their neighbourhood, that is, the *not-in-my-back-yard* (NIMBY) syndrome, which has often sabotaged waste collection and disposal efforts.

2.3 *Challenges facing training and development of sanitation sector personnel*

Interviews with officials of the SOHs and those of the EHSD of the MLGRD revealed a number of challenges facing the training and development of sanitation sector personnel in Ghana. These challenges pertain to:

- 1 weak capacities of training institutions
- 2 difficulty of attracting quality candidates for basic training and recruitment
- 3 lack of opportunities for further training
- 4 problems of promotion after further training.

2.3.1 *Weak capacities of training institutions*

Basic training for recruitment into the EHSD of the MLGRD is provided by three SOHs in Accra, Tamale and Ho. The Accra SOH produces technical officers with a diploma in environmental health who are recruited by the EHSD/MLGRD as environmental health officers (EHOs). The Tamale and Ho SHOs produce sub-technical officers with a certificate in environmental health who are also recruited as environmental health assistants (EHAs).

Since the NESP of 1999 recommends the technical officers' (EHO's) level to be the minimum for recruitment into the sector, there have been plans to upgrade the Tamale and Ho SOHs into diploma-awarding institutions while that of Accra would be upgraded to award higher national diploma (HND) to produce sub-professional officers to be recruited as environmental health technologists (EHTs).

However, the weak capacities of the institutions occasioned by the lack of staff with the requisite level of training and adequately resourced academic infrastructure such as laboratories, libraries and classrooms have made the intended upgrading impossible. Besides, the present capacity of the Accra SOH which is already awarding a diploma is not up to the standard required by the National Accreditation Board. Consequently, the diploma being awarded by the school is not accredited, a situation which makes it difficult for its products to access post-diploma programmes in higher academic institutions.

2.3.2 *Difficulty of attracting quality candidates for basic training*

Negative perception of the work of sanitation sector personnel is rife in Ghana. Only a few candidates would opt to enter a SOH if they had the entry qualification for other institutions. The entry requirements of the certificate programme in Tamale and Ho are lower than those required to enter other post-secondary institutions in the country so they are able to attract prospective students. The case of the Accra SOH is the opposite; the entry requirements are the same as those of the nursing and teacher training colleges and the country's polytechnics which award HNDs in various disciplines. Consequently, the

Accra SOH is undersubscribed while Tamale and Ho are oversubscribed, leading to a situation where the sector is choked with sub-technical officers.

In the past, the granting of scholarships and payment of allowances to students in Ministry of Health (MoH) training institutions made the SOHs attractive to brilliant but needy students, and that helped to attract some students who could have even entered the Universities but for the lack of financial support. This incentive has been removed with a recent decision by the MoH to withdraw all scholarships and payment of allowances to students in its training institutions.

2.3.3 Lack of opportunities for further training

It was revealed that, products of the SOHs have limited opportunities for further training and upgrading. The obvious opportunity for sub-technical staff who hold certificates in Environmental Health is to enrol in the diploma programme offered at the Accra SOH. The main constraint here is that, entry requirements into the diploma programme are higher than those of the certificate programme so sub-technical staff who wish to upgrade themselves are required to improve upon their high school results notwithstanding their two-year training leading to the award of the certificate.

The upgrading of technical staff was found to be the greatest headache in the sector. This is primarily due to the fact that the Diploma awarded them by the Accra SOH lacks the necessary accreditation to warrant direct entry into post-diploma programmes in the nation's Universities. Previously, technical staff could enrol in the equivalent of a HND in environmental health technology at the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi and graduate into the sub-professional category (EHTs) but that programme is no longer available.

Products of the Accra SOH who aspire to attain higher education only have to improve their SHS results and enter a University, usually for non-technical courses due to the unavailability of relevant technical programmes other than the highly competitive civil engineering programme at the KNUST. Some also enrolled at the University of Cape Coast for the equivalent of a HND and, subsequently, post-diploma programmes in health science education whose contents do not fully satisfy their technical competence requirements.

2.3.4 Problems of promotion after further training

Officials of the EHSD revealed that some aspects of Ghana's civil service scheme of service pose some challenges in the area of promotion after acquiring further training. In the case of the EHA grade, a staff who acquires a diploma in environmental health is admitted to a rank on the EHO grade equivalent to his last rank on the EHA grade, a provision which provides some incentive for further training. But in the case of EHOs, even though the scheme of service makes room for such an incentive, the opportunities are limited to only a narrow scope of training programmes. For instance, EHOs who acquire the HND in health science Education from the University of Cape Coast are admitted to the sub-professional grade (EHTs grade) just like those who completed the erstwhile environmental health technology from the KNUST. Unfortunately, an HND in civil engineering or some other relevant field from the polytechnics is not captured in the scheme of service apparently because they were not in existence at the time of the development of the scheme.

Similarly, the scheme of service recognises only degrees in civil and some other engineering programmes as the only means of upgrading from the sub-professional grade to the professional grade, in spite of the emergence of new relevant programmes that could still fit the professional grade such as a bachelor of science programme in water and sanitation recently introduced by the University of Cape Coast.

3 Discussion

3.1 Responsive competence-based curriculum required

Competence requirements depend on expected job output, which in turn depends on sector goals and objectives. Meanwhile, the delivery of environmental health and sanitation services in different economies, cultures and civilisations is subject to different external and internal conditions for which some special knowledge, skills and aptitudes may be required. It is therefore imperative to place the objectives of environmental sanitation within the context of prevailing local realities and constraints in order to avoid recommending training approaches which would be too academic or generic rather than responsive and result-oriented.

The multi-faceted nature of the tide of constraints confronting environmental health and sanitation services in Ghana and the developing world, in general, requires a multi-disciplinary competence-based training which would supply the sector with a human resource that commands a combination of skills well tailored to surmount those peculiar challenges and achieve the individual nations' sanitation sector objectives.

3.1.1 Basic competence-based curriculum required

From an analysis of Ghana's sanitation sector objectives and existing constraints, the curriculum for the basic training of all prospective staff, both technical and sub-technical, should include components that would ensure the development of the following basic competences:

- 1 basic technical competence to:
 - a supervise the collection and sanitary disposal of wastes, including solid wastes, liquid wastes, excreta, industrial wastes, clinical and other hazardous wastes
 - b supervise the operation and maintenance of simple community water supply and sanitation installations
 - c analyse the environmental and public health consequence of various human activities to ensure sound judgement during inspection
 - d identify unwholesome food and meat and the requirements for achieving food and meat hygiene
- 2 social marketing and community mobilisation skills to:
 - a ensure the effectiveness of environmental sanitation education programmes in bringing about behavioural change
 - b effectively mobilise communities to fully participate in environmental sanitation development projects

- c instil in service beneficiaries a sense of responsibility and willingness to contribute financially towards the sustainability of environmental infrastructural projects
- 3 analytical and logical thinking abilities to:
 - a appreciate the relevance of environmental and public health legislation and enforcement
 - b interpret and apply environmental legislation to individual situations
- 4 writing, reporting and basic computing skills to:
 - a write concise reports on inspection and other operational activities
 - b organise and present data with appropriate statistical tools
 - c prepare documents and reports using word processing and other relevant application software.

3.1.2 Additional competence requirements for technical staff

In addition to all the above, technical officers should possess:

- 1 moderate technical know-how to:
 - a be able to give expert advice on environmental health and management issues in the district assemblies
 - b identify and develop holistic solutions to basic environmental problems in communities
 - c review engineering designs and decisions made by external consultants in the absence of professional staff
- 2 good planning and budgeting abilities to:
 - a ensure proper planning of environmental services within the limits of available funds
 - b identify problem areas within communities and prioritise interventions to solve them
- 3 administrative and managerial abilities to:
 - a maintain an efficient management information system
 - b organise available human and other resources to pursue plans
 - c motivate and inspire staff to achieve set goals
- 4 effective communication and lobbying skills to:
 - a defend plans and demand appropriate funds for environmental health and management services
 - b manage political influence and interference
 - c penetrate bureaucratic controls to achieve results.

A responsive curriculum tailored to equip its products with the above competences is a key prerequisite to developing the manpower that can overcome or withstand the

numerous local constraints to achieve sector objectives in Ghana, in particular, and the developing world at large.

3.2 *Training methodology*

In addition to classroom teaching sessions, basic training for both technical and sub-technical staff should include

- 1 laboratory work
- 2 supervised field studies
- 3 educational field trips
- 4 individual project work or long essays.

3.2.1 *Laboratory work*

Practical laboratory sessions should be used to equip students with scientific observatory and examination techniques, which are essential for inspection of food and meat and general public health monitoring. They should also include hands-on information technology training.

The presentation of reports should not be considered an unnecessary formality but an important tool for making students develop good writing and reporting skills.

3.2.2 *Supervised field studies*

Students should be attached to various sector departments, agencies and industries for practical field studies. There should be proper supervision to ensure students fully participate in field work.

Again, the presentation of concise and coherent reports on field studies should be emphasised as a booster to the development of writing and reporting skills.

3.2.3 *Educational field trips*

These are needed to help students relate theoretical lessons to field practice and to prepare them for the supervised field studies. The presence of tutors during field trips to help students relate field observation to theoretical lessons is imperative.

Students are to be made to report on their observations during field trips and how they relate to theory.

3.2.4 *Project work and long essays*

These are necessary to make students develop independent thinking and arguing abilities. Technical students, in particular, should be made to undertake project works.

Together with the above methods, the training of technical officers, in particular, should include regular presentation of term papers and seminars before a panel to enhance their oral presentation skills and ability to defend plans and budgets.

3.3 Institutional framework for environmental human resource development

HRD would not just happen; it must be made to happen. There is the need for an institutional framework to encourage, support and insist on HRD in the environmental sanitation sector. From a viewpoint informed by the Ghanaian situation, such a framework should address, at least, five key issues. These are:

- 1 development of training institutions
- 2 attraction of quality candidates for training and recruitment
- 3 creation of opportunities for further training
- 4 provision for promotion of staff after further training
- 5 sustainable funding for manpower training.

3.3.1 Development of training institutions

The existence of well resourced training institutions for specialised training in environmental health and sanitation is crucial to HRD in developing countries. Such training institutions should be equipped with state-of-the-art scientific and computer laboratories and multi-disciplinary academic staff.

The weak capacity of the SOHs in Ghana could be due to a number of factors which may not be peculiar to Ghana alone. One, it could be attributed to the inability of the institutions to draw support from the Ghana educational trust fund (GETFUND), which is the preserve of only institutions which are under the direct supervision of the Ministry of Education. The SOHs are classified as specialised training institutions. Such institutions are expected to be autonomous from the Ministry of Education and supported directly by the ministries they serve. Considering the infrastructural developments that have taken place across the nation's educational institutions since the creation of the GETFUND in 2000, the SOHs would have been better off under the support of the fund. A good reason for classifying some training institutions as 'special' is to foster a closer collaboration between them and the organisations or ministries they serve in order to ensure the relevance of training to job requirements. However, their exclusion from funds established by a national initiative to support the education sector, as it is in Ghana, should be negotiable.

Secondly, it could be the result of wrong assignment of supervising Ministry. It was found out that, when responsibility for environmental health and sanitation was transferred from the MoH to the MLGRD in 1995, the training schools were left under the MoH whose commitment to the development of the SOHs cannot be compared to that of their own training institutions such as the Nursing Training Colleges, which produce staff directly for their official mandate. This scenario defeats the very purpose for classifying the SOHs as special training institutions since the MLGRD which employs the products do not have control over the schools. This justifies a school of thought that the schools should be transferred to the Ministry of Education so that they can benefit from the GETFUND.

The plight of the schools also reflects the general neglect of HRD for the sanitation sector in many developing countries. Commonly, when responsibilities for environmental health and sanitation are assigned to health ministries, there is the tendency for their

neglect in favour of healthcare delivery. Nevertheless, even when separate ministries take care of environmental sanitation, as in the case of Ghana's MLGRD, there is an obsession with direct service delivery at the expense of HRD. Though the schools are not directly under the Local Government Ministry, a good appreciation of the need for HRD to pursue sector goals would make them pay some attention to the schools to compliment the effort of the MoH.

Finally, a sense of proactive leadership on the part of the management of the schools in seeking direct assistance from sanitation sector development partners could go a long way to improve upon the infrastructural base of the schools. There is the urgent need for leadership in the development of a short-term plan to meet the requirements for accreditation for the current programmes being run by the schools and a medium-term plan to upgrade the institutions. This should obviously include staff development as well as the establishment of laboratories and computer pools to offer students high quality training.

The institutional framework for environmental HRD should address all factors, like the ones mentioned above, which affect the development of training institutions to supply the sector with the right calibre of personnel.

3.3.2 Attraction of quality candidates for training and recruitment

The environmental health and management sector has to compete with other sectors of the national economy for the recruitment of young professionals and technicians. In many developing countries such as Ghana, the stigmatisation of the work which involves the disposal of wastes and unwanted materials makes the attraction of young people an uphill task for the sector. The institutional framework must provide some incentives to attract quality candidates for training and recruitment into the sector. Such incentives may be in the form of:

- 1 sponsorship for training
- 2 assurance of recruitment after training
- 3 opportunities for further training after recruitment
- 4 attractive conditions of service after training.

Given the low esteem attached to enrolment in the SOHs as compared to other post-high-school training institutions, and the fact that entry requirements are similar to those of equivalent institutions, the decision of Ghana's MoH to suspend financial support to students in its training institutions would have adverse implications for the attraction of high quality applicants to the SOHs. Opportunities should be sought to restore the scholarship and payment of allowances to students of the SOHs. This is because the SOHs, in particular, can be expected to bear the brunt of this directive since other health training institutions are still attractive due to the high respect attached to health sector jobs in Ghana.

3.3.3 Creation of opportunities for further training

Given the difficulty of attracting fresh and experienced professionals into the sector in many developing countries, the institutional framework should make provision for the upgrading of the knowledge and skills of those already recruited. In the case of Ghana,

this would involve the upgrading of sub-technical to technical staff and beyond, and technical to sub-professional and professional categories.

For sub-technical staff who constitute the largest proportion of the workforce, it is important for the MLGRD to support them to meet the high entry requirements of the Accra SOH. This could be done by affording them opportunities in the form of flexible work schedules and financial support to receive remedial tuition to enable them improve upon their High School results. They could then enrol in the Accra SOH on study-leave with pay. The assistance of development partners in this regard would go a long way to improve the basic human resource base of the sector.

The ministry could also initiate steps to seek a review of the entry requirements of the Accra SOH to grant direct admission to EHAs on the basis of their Certificate in Environmental Health and years of work experience. Perhaps, this makes a strong argument for the transfer of the schools from the MoH whose training institutions have high entry requirements due to their attractiveness to prospective students. While the SOHs remain under the MoH, it may be difficult to negotiate different entry requirements for them than those set for other health training institutions.

For further technical training of technical staff (EHOs), the MLGRD should engage the nations Universities in a collaboration to mount special programmes for them.

3.3.4 Provision for promotion of staff after further training

For employers, the motivation for upgrading staff is the anticipated higher capacity they would bring to bear in the performance of their duties. But for many staff, especially those in the lower and middle levels of the organisational structure, the real motivation is the brighter opportunity it would afford them to attain that higher rank they have always coveted. Even when trainees show interest in the acquisition of skills through further training, their ultimate aspiration is that, first and foremost, the acquired skills would make them attract the attention of superiors for promotion or some other personal reward, rather than merely contributing to the overall development of the capacity of the organisations in which they serve. There is therefore the need to ensure that such an incentive exists in the scheme of service to motivate staff to aspire for further training since they would not only enjoy promotion to higher ranks but also contribute to organisational capacity.

In the light of this, every effort should be made to remove bottlenecks in the scheme of the Ghanaian civil service which ties promotion of sanitation sector personnel to some specific academic programmes which existed at the time of its enactment, making it impossible for staff who enrol in newly introduced relevant programmes to be promoted to deserving ranks. The scheme should be reviewed to generally admit higher qualifications in relevant fields for promotion rather than to single out only a few specific fields since more relevant fields may emerge later on the country's educational landscape.

3.3.5 Sustainable funding for manpower training

Invariably, efforts to address almost all the other institutional issues mentioned above would require substantial amounts of money. However, given the importance the whole world attaches to the achievement of the MDG on environmental sustainability, a good

institutional development plan for manpower training for the sector is likely to attract the attention and support of development partners.

There is the need to critically examine the issue of why the SHOs should be left to starve under the MoH instead of placing them under the Ministry of Education for them to benefit from the GETFUND.

In the mean time, the MLGRD should, as a matter of priority, set up a special fund within its own sources specifically for the development of the schools.

4 Conclusions and recommendations

To achieve the objectives set in Ghana's environmental sanitation sector in the face of existing challenges, basic training should equip all graduates – both technical and sub-technical – with a basic technical competence, social marketing and community mobilisation, reporting and basic computing skills. In addition, the training of technical officers should equip them with planning and budgeting abilities, administrative and management skills, and effective communication and lobbying abilities. Developing countries, in general, should adopt this multi-disciplinary approach to the design of the curriculum for basic training since the sanitation sector in most developing countries fails to attract personnel with high-level specialised training, leaving those with basic training at the helm of affairs especially in decentralised districts and municipalities.

Beside classroom tuition, the training methodology should include laboratory work, supervised field studies, educational trips, project work or long essays, and regular seminar and oral presentations.

Furthermore, an institutional framework which would ensure, among others things, attraction of high quality candidates for training and recruitment, resolution of problems of promotion after upgrading, development of capacities of training institutions and sustainable funding of training programmes is a prerequisite to effective manpower training in a developing country like Ghana. Given the low-income levels in developing countries and the difficulty faced by most households in providing financial support to their wards beyond secondary education, an institutional framework which offers financial incentives to students in the SHOs and similar academic institutions will go a long way to attract high quality students for training and recruitment into the sanitation sector.

As an indication of the way forward, the following recommendations are made for the effective training and supply of manpower for the efficient delivery of environmental health and management services in Ghana:

- 1 Steps should be taken to review the curricula of the SHOs to make them responsive to sector objectives and existing constraints.
- 2 Sponsorship packages should be provided to students to attract high quality candidates for training and recruitment.
- 3 As a long term plan, the Ho and Tamale SOHs should be upgraded to diploma-awarding institutions to produce more technical staff in order to satisfy the minimum training requirements enshrined in the NESP.
- 4 Practical steps should be taken by the Ministry of Local Government, Rural Development and Environment in conjunction with higher academic institutions in

the country to open up opportunities for further training of EHOs to the professional category while, at the same time, plans are pursued to improve facilities at the SOHs to secure the necessary accreditation for the certificate and diploma in environmental health programmes.

- 5 The scheme of the civil service should be revised to resolve problems of promotion after upgrading. After obtaining a diploma in environmental health, admission to the professional grade should be open to a wider scope of related fields such as environmental science and environmental management in order to raise more professionals to head the sanitation departments in the district assemblies, taking cognisance of the fact that the potential of university undergraduate education alone to attract confidence in heads of departments and shed away inferiority complex cannot be ignored.
- 6 Steps should also be taken to transfer the SOHs from the MoH to the MoESS where it would be eligible to receive support from the GETFUND. Also a good proposal should be written to solicit funding from development partners for capacity building in the SOHs.
- 7 Finally, the MLGRD should be more involved in the running of the SOHs.

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Glossary of abbreviations

CBG	Carl Bro Group
DFID	Department for International Development
EHA(s)	Environmental Health Assistant(s)
EHO(s)	Environmental Health Officer(s)
EHSD	Environmental Health and Sanitation Directorate
EHT(s)	Environmental Health Technologist(s)
GETFUND	Ghana Education Trust Fund
HRD	Human Resource Development
MLGRD	Ministry of Local Government and Rural Development
MoESS	Ministry of Education, Science and Sports
MoH	Ministry of Health
NESP	National Environmental Sanitation Policy
SOH(s)	School(s) of Hygiene
UNDESA	United Nations Department for Social and Economic Affairs
UNSD	United Nations Department for Sustainable Development
