Health Professions Council of Zambia

CORE COMPETENCIES REFERENCE MANUAL FOR ENVIRONMENTAL HEALTH TECHNOLOGISTS TO PRACTICE IN ZAMBIA

CORE COMPETENCIES & MINIMUM STANDARDS

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QUALIFICATION AND RESPONSIBILITIES

Title of the programme: Diploma in Environmental Health (Dip.EH) or its equivalent

Key accountability for the job: Identify and correct various environmental health issues that have impact on the health of the public using public and environmental health regulations.

Primary roles and responsibilities:

- Inspecting of business premises for health and safety, food hygiene and food standards
- Following up complaints and investigating outbreaks of food poisoning and infectious disease
- Collecting environmental samples and examine them for contaminants
- Investigation of complaints about different environmental infractions
- Maintaining all records related to different environmental issues
- Ensuring that all environmental and public health laws are adhered to

1.0 INTRODUCTION

The Health Professions Council of Zambia (HPCZ) is a statutory body that was established by the Health Professions Act No. 24 of 2009. The Act renames and continues the existence of the Medical Council of Zambia established by the Medical and Allied Professions Act of 1977. The Health Professions Act No. 24 provides for the registration of health practitioners and regulation of their professional conduct; provides for the licensing of health facilities and the accreditation of health care services provided by health facilities; and provides for the recognition and approval of training programmes for health practitioners.

Following the issuance of the guidelines for introduction of licensing examinations for health professionals registered with the Health Professions Council of Zambia, this bulletin provides an outline of the core competencies and minimum standards for registrants who have completed the Diploma in Environmental Health (Dip.EH) seeking registration as Environmental Health Technologists (EHTs) in Zambia.

2.0 EXIT EXAMINATIONS AND AWARD OF THE DIPLOMA IN ENVIRONMENTAL HEALTH TECHNOLOGY BY TRAINING INSTITUTIONS

Training institutions, private or public (local and foreign), approved/recognised by the Health Professions Council of Zambia are mandated to examine and graduate their students under their own seal and authority. The Diploma in Environmental Health Technology award is designated as the primary qualification of the practitioner and it is a pre-requisite requirement for eligibility for non-specialist environmental health technology practitioner licensing examinations. Accordingly, a holder of the Diploma in Environmental Health or its equivalent will be required to take and pass the HPCZ licensing examination to qualify for registration with the Council as an Environmental Health Technologists.

3.0 LICENSURE EXAMINATION BY THE HEALTH PROFESSIONS COUNCIL OF ZAMBIA

A person shall not practise as a health practitioner, unless that person is registered as a health practitioner in accordance with the Health Professions Act No. 24 of 2009. In the exercise of its functions under this Act, the 2nd Council and the 3rd Council of the Health Professions Council of Zambia instituted Licensure Examinations to help maintain standards given the emergence of multiple private and public training institution. This “Bulletin provides Information on the Core competencies and Minimum Standards for the Licensing Examinations for Medical Practitioners to Work in Zambia” binds all parties regulated under this Act. Examination fees for licensure

examinations, as prescribed by the Council, are payable to the Health Professions Council of Zambia as part of the eligibility to sit for licensing examinations.

The HPCZ Licensing Examination assesses an Environmental Health Technologist's ability to apply knowledge, concepts, and principles, and to demonstrate fundamental Environmental Health Technology centered skills, that are important in health and disease prevention and that constitute the basis of safe and effective environmental health care. The HPCZ Licensing Examination includes, but is not limited to, theoretical and practical examinations which complement each other and the other components. No component is a stand-alone in the assessment of readiness for Environmental Health Technology practice in Zambia.

The candidate will be assessed under three domains, namely:-

1. Knowledge
2. Skills
3. Attitude

The above domains will be assessed by means of a theory exam comprising of multiple choice questions followed by a composite objective practical examination.
The six (6) main subject areas (assessed under all three (3) learning domains**)** for Environmental health technologists in Zambia are:

1. Environmental pollution control
2. Occupational health and safety
3. Food safety and hygiene
4. Community health
5. Built environment
6. Overarching skills

The overall expected outcomes for the Environmental Health Technology licensure examination is to ensure that the candidates will meet the minimum standards for the role as an Environmental Health Technologists in charge of identifying and correcting various environmental health issues using public and environmental health regulations.

4.0 COMPETENCE OUTCOME GUIDELINES

The curriculum must have identified attributes in each educational domain (knowledge, skills and attitude) and present them to guide student learning and assessment by examiners. HPCZ directs EHTs to be equipped with adequate knowledge and skills and apply the principles of environmental health in the execution of professional duties. EHTs have a responsibility of interpreting and advising on aspects of human health that is determined by physical, biological social and psychosocial factors in the environment. At the end of the programme the candidate should be able to demonstrate and exhibit adequate knowledge, skills and attitudes towards environmental health practise.

OVERALL COMPETENCE OUTCOMES

1. **Environmental Health and Safety**
   - Identify current and potential health hazards and risks
   - Apply various strategies to address current potential hazards and risks
   - Promote occupational health and safety at work places
   - Collaborate with community to promote public health activities

2. **Environmental Health Promotion Programmes**
   - Conduct a situation analysis in a community
   - Implement health promotion programmes

3. **Environmental Health Services**
   - Monitor the construction of buildings and appropriate technologies according to public health standards
   - Apply relevant policies and legislation for the provision of environmental health services
   - Implement policies and legislation for environmental health services
   - Apply set criteria for development control
   - Apply appropriate disease prevention and control measures

4. Food Safety, Water Supply, Sanitation and Hygiene Programmes

- Apply food safety, water quality, sanitation and hygiene principles
- Conducts food premises inspections in line with prescribed Public Health and Food Safety guidelines
- Implement food and water sampling activities to prevent the spread of diseases
- Communicate food safety results in an appropriate format

5. Interpersonal Relations and Professional Behaviour (Ethical Code)

- Communicates strategies to improve environmental health services
- Communicate verbally, in writing and electronically according to requirements to all stakeholders
- Interpret and apply code of ethics in implementing the code of practice for environmental health practitioners

5.0 CORE COMPETENCIES: ENVIRONMENTAL HEALTH TECHNOLOGY

Table 1: Core Competencies of Environmental Health Technologists

DOMAIN	COMPETENCY STATEMENT	COMPETENCY	SUBCOMPETENCIES
KNOWLEDGE	Environmental Health Technology graduate (EHT) should be able to demonstrate knowledge in the science and art of preventing disease, prolonging life and promoting physical, social and mental well-being.	Environmental Health Knowledge	1. Demonstrates knowledge in inspections of premises and report writing 2. Explains the animal anatomy and physiology for food animals 3. Explains and demonstrates knowledge in meat inspection and zoonosis 4. Explains the steps of conducting community health diagnosis 5. Demonstrates knowledge in communicable and non-communicable diseases 6. Demonstrates knowledge in disease prevention and control, Occupational Health and Safety and Environmental Pollution Control 7. Demonstrates knowledge in water supply and sanitation and management of solid and liquid waste 8. Demonstrates knowledge in food safety and hygiene principles 9. Explains and demonstrates food and water sampling procedures. 10. Demonstrates health education and health promotion activities.

DOMAIN	COMPETENCY STATEMENT	COMPETENCY	SUBCOMPETENCIES
			1. Demonstrates knowledge in various public health nuisances. 2. Explains the various Public Health (National and international) and relevant legislations and court processes 3. Demonstrates knowledge in Public Health law enforcement 4. Demonstrates knowledge in built environment and building safety 5. Demonstrates basic knowledge in research
SKILLS	The EHT graduate should be able to assess, correct, control and prevent those factors in the environment that can potentially or adversely affect people's health.	Practical based learning and application	1. Demonstrates skills in inspections of premises 2. Demonstrates skills in meat inspection and identification of pathological conditions in food animals 3. Demonstrates and applies skills in port health inspections, disinfection, pest and vector control methods 4. Conducts appropriate inspections of food premises and promotion of food safety and hygiene 5. Demonstrates ability to collect food and water samples for analysis 6. Conducts occupational health and safety inspections in different work places 7. Demonstrates skills in investigating food borne illnesses and food poisoning outbreaks

DOMAIN	COMPETENCY STATEMENT	COMPETENCY	SUBCOMPETENCIES
			1. Conducts and applies remedial measures in addressing public health nuisances 2. Demonstrates skills in scrutinizing of building plans 3. Demonstrates skills in prevention and control of infectious diseases
ATTITUDES	The EHT graduate must be able to demonstrate a commitment to carryout professional, responsibilities, adherence to ethical principles in order to deliver quality and effective environmental health services as close to the family as possible.	Professionalism	1. Demonstrates ethically sound practice 2. Practices informed good decision making 3. Respects and collaborates with the community in handling public health matters 4. Demonstrates adherence to code of practice 5. Upholds professional behavioral ethics and standards of practice 6. Demonstrates accountability to the general public and the profession 7. Responds with sensitivity to diverse community perceptions regardless of gender, age, culture, race, religion or disabilities
	The EHT graduate must demonstrate a work integrated learning / professional placement in order to provide public health care that is of optimal value at workplaces and the community	Team Work and Collaboration	1. Engages and communicates with partner organizations, community, fellow professionals and other stakeholders 2. Works in a multidisciplinary team of health and related professionals

DOMAIN	COMPETENCY STATEMENT	COMPETENCY	SUBCOMPETENCIES

6.0 BLUEPRINT WEIGHTING

Table 2: Blueprint Weighting in the Licensure Examination

SUBJECT AREA	WEIGHTING
ENVIRONMENTAL HEALTH KNOWLEDGE	40%
• Built environmental	10
• Community health	25
• Environmental pollution control	20
• Food safety and hygiene	20
• Occupational health and safety	20
• Overarching skills	5
Total	**100%**
PRACTICAL	60%
• Community health	20
• Environmental pollution control	30
• Food safety and hygiene	30
• Occupational health and safety	20
Total	**100%**

7.0 CORE PROCEDURES

The following are the minimum core procedures for Environmental Health Technologists the full list could be found in the curriculum

Table 3: Minimum Core Procedures for Environmental Health Technologists

SUBJECT AREA	PROCEDURE
Environmental Pollution Control	Conduct air sampling and testing
	Conduct water sampling and testing
	Conduct soil sampling and testing
	Noise measurement
	Interpret environmental monitoring results
Occupational Health and Safety	Monitor the levels of occupational exposures e.g. heat, dust, noise etc.
	Inspect workplaces for compliance to health and safety standards
Food Safety and Hygiene	Conduct inspection of food products and premises
	Conduct meat inspection and certification of meat products
	Advise on disposal of condemned food products

	Interpret food laboratory results from the food analyst report
Community Health	Conduct periodic water quality and monitoring tests
	Conduct community diagnosis
	Conduct health education and promotion activities
Built Environmental	Scrutinize building plans
	Conduct stage inspections of buildings

8.0 REFERENCES MATERIALS

Table 4: Reading Materials

SUBJECT AREA	READING LIST NOT EXHAUSTIVE
Built Environment	Allen, E. and Iano, J., (2013). *Fundamentals of building construction: materials and methods*. John Wiley & Sons.
	Blankenbaker, E.K., (2013). *Construction and building technology*. The Good heart willcox Company, Illinois.
Community Health	Edelman, C.L., Mandle, C.L. and Kudzma, E.C., (2017). *Health Promotion Throughout the Life Span-E-Book*. Elsevier Health Sciences.
	Hawker, J., Begg, N., Blair, I., Reintjes, R. and Weinberg, J., (2008). *Communicable disease control handbook*. John Wiley & Sons.
	Naidoo, J. and Wills, J., (2000). *Health promotion: foundations for practice*. Elsevier Health Sciences.
	Park, K., (2015). *Prevention and Social Medicine*. M/s Banarsidas Bhanot Publishers, Jabalpur, India: ISN: 978-93-82219-05-7
	World Health Organization (2011). *Guidelines for drinking-water quality*. Geneva: WHO Press.
	World Health Organization, (2006). Pesticides and their application: for the control of vectors and pests of public health importance.
Environmental Pollution Control	Farmer, A., (2002). *Managing environmental pollution*. Routledge. New York
	Rangwala, S.C., Rangwala, K.S. and Rangwala, P.S., (2007). *Water supply and sanitary engineering*. Charotar. ISBN: 81-85594-79-1

SUBJECT AREA	READING LIST NOT EXHAUSTIVE
	World Health Organization, (2005). *Management of solid health–care waste at primary health care centers: decision making guide*. Geneva: World Health Organization Press.
Food safety and hygiene	Collins, D. S. and Huey, R.J. (2015). *Gracey's Meat hygiene.* 11th Edition. John Wiley and Sons. London. ISBN 978-1-118-65001-1
	FAO, (2008). *Risk-Based Food Inspection Manual.* Rome: FAO Publications
	FAO/WHO, (2001). *Food Standards Programme.* Codex Alimentarius – Food hygiene – Basic texts. 2nd Edition. Rome: FAO/WHO Publication
	Wilson, W.G., (2008). *Wilson's practical meat inspection*. John Wiley & Sons. ISBN:9781405124935; ISBN:9780470753200
Occupational Health and Safety	Afubwa, S. O. and Mwanthi, M. A. (2014). *Environmental Health and Occupational Health and Safety.* Nairobi: A crocodile Publishing.
	Elgstrand, K. and Petersson, N.F., (2009). *OSH for development: occupational safety and health for development*. KTH Royal Institute of Technology.
Laws	GRZ (2001). Food and Drugs Act, CAP 303. Lusaka: Ministry of Justice
	GRZ, (2001). Public Health Act, CAP 295. Lusaka: Ministry of Justice
	GRZ, (2010). Occupational health and safety act. Ministry of Justice.
	GRZ, (2011). Environmental Management Act Number 12. Ministry of Justice.
Research	Roger R.D. Peng and Dominici F. (2008). *Statistical methods for environmental epidemiology*. New York: Springer-Verlag
	Kirkwood, B.R. and Sterne, J.A., (2010). *Essential medical statistics*. John Wiley & Sons.
	Rothman, K.J., (2012). *Epidemiology: an introduction*. Oxford university press.
General Environmental Health Knowledge	Bassett, W.H., (2004). *Clay's Handbook of Environmental Health*. London: Spon Press.
	Bassett, W.H., (2007). *Environmental health procedures*. Routledge.

SUBJECT AREA	READING LIST NOT EXHAUSTIVE
Professionalism	Banda S.B. Healthcare Ethics and Professionalism Course. https://virtualsityacademy.com/
	HPCZ, (2014). *Professional code of ethics and discipline: Fitness to Practice*. HPCZ Lusaka
	HPCZ, (2016). *Patients' rights and responsibilities.* HPCZ Bulletin, Lusaka
	HPCZ, 2016. Guidelines *for good practice in the Healthcare profession – Generation and management of patient records*. HPCZ Lusaka
	HPCZ, (2016). *Guidelines for good practice in the Healthcare profession – Maintaining Patient Confidentiality*. HPCZ Lusaka