

# THE ADA BIODIGESTER CONSTRUCTION & INSTALLATION TRAINING CENTRE

GAMA SWP  
**FIELD  
NOTE**  
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**GAMA** SANITATION AND  
WATER PROJECT



*1st group of trainees graduated in May 2024*

## INTRODUCTION

The Ministry of Sanitation and Water Resources (MSWR), through the World Bank Funded GAMA Sanitation and Water Project (GAMA SWP), established a Biodigester Construction and Installation Training Centre (BCITC) at the Ada College of Education in March 2024. This document describes the objectives for establishing the centre, how the centre is managed and operated, what a typical training session covers, and its expected benefits to the sanitation sector in Ghana.

## BACKGROUND

The GAMA Sanitation and Water Project has been principally implemented by the MSWR in the Greater Accra Metropolitan Areas since 2015 and extended to the Greater Kumasi Metropolitan Area since 2021. The main focus of the project is to provide access to improved household sanitation and access to water in low-income urban communities and institutional sanitation mainly in schools and healthcare facilities. The project also implements other environmental sanitation services including improvement in drainage systems. As part of its core mandate, the project provides institutional capacity development support nationwide. It is within this scope that the project agreed to set up the BCITC at the Ada College of Education.

## OBJECTIVES FOR ESTABLISHING THE CENTRE



***High-level dignitaries at the official commissioning of the Ada BCITC***

The main objective for establishing the BCITC is to equip artisans, and anyone interested in biodigester construction with the needed skills. This will serve as an avenue to create jobs while solving the sanitation problems. This is against the background that several artisans are developing interest in the biodigester construction business, while there are no officially certified training institutions to oversee and coordinate them. The danger is that many of such artisans may provide sub-standard

toilets to households and rather aggravate the sanitation situation in the country. The BCITC will therefore pursue a vision where projects will phase out non-certified artisans in the system in order to ensure that only standard facilities are provided to customers and beneficiaries. It is a follow-up to the development of a Biodigester Construction Manual in 2021 all with the objective of reducing the unregulated spread of sub-standard biodigester toilets in the country.

## WHY SELECT THE ADA COLLEGE OF EDUCATION?

The selection of the Ada College of Education for the establishment of the first BCITC was driven by demand from the school and other considerations including the high rate of open defecation in the Ada area. The Ada area, even though part of the Greater Accra Region, did not benefit from the GAMA SWP since the focus of the project was on urban districts. It was therefore agreed to set-up a centre in the school to provide the needed training for any interested persons and institutions nationwide, while contributing to improvement in access to household toilets in the area.

## HOW THE CENTRE IS MANAGED AND OPERATED

The centre is currently run as a special program under the college until it becomes necessary to register it as a separate entity. It is governed by a Management Board and is managed by a Coordinator appointed by the school for at least a three-year term, renewable based on performance. The coordinator oversees the day-to-day operations of the Centre and is responsible for promoting the Centre and registering trainees. She engages and supervises qualified resource persons for each training in consultation with the Board. She ensures that Manuals and all necessary training equipment are available to trainees. Training is currently organized twice in a year with a maximum of fifty participants per session. The frequency will be modified with time. Trainees are charged a fee and any financial benefits from the training is used to expand and promote the Centre. The GAMA SWP currently supports the centre with necessary resources for the training sessions and provides technical support. This initial support will continue until the Centre becomes self-sustaining.

## WHAT A TRAINING SESSION COVERS



*A typical classroom session at the Ada BCITC*



*A practical field session by a trainee*

This curriculum is designed to enable artisans to effectively build and install bio-digester toilets, ensuring they are functional, sustainable, and comply with standard practices. A session has a total duration of 34 hours spread over five days (excluding assessments). Modules covered include classroom theory and practical field operation sessions as follows:

<b>MODULE 1:</b> <b>Introduction to biodigester technology</b>	<b>MODULE 2:</b> <b>Types and principles of biodigesters</b>	<b>MODULE 3</b> <b>Pre-construction activities</b>
<ul style="list-style-type: none"> <li>• Background and development of bio-digester toilets.</li> <li>• Advantages and disadvantages of bio-digesters.</li> <li>• Role of bio-digesters in improving sanitation.</li> </ul>	<ul style="list-style-type: none"> <li>• Types of digesters: Aerobic and Anaerobic.</li> <li>• General principles of bio-digester toilets' operation.</li> </ul>	<ul style="list-style-type: none"> <li>• Site selection and evaluation.</li> <li>• Identifying waterlogged areas and poor draining soils.</li> <li>• Bio-digester sizes and the number of users.</li> </ul>
<b>MODULE 4:</b> <b>Construction of biodigester toilet system</b>	<b>MODULE 5:</b> <b>Effluent management</b>	<b>MODULE 6</b> <b>Operation, maintenance, and troubleshooting</b>
<ul style="list-style-type: none"> <li>• Tools and materials list.</li> <li>• Steps for constructing pre-fabricated components.</li> <li>• Installation of bio-digester components.</li> <li>• Common mistakes to avoid during installation.</li> </ul>	<ul style="list-style-type: none"> <li>• Effluent disposal options.</li> <li>• Constructing soak-pits, box drain fields, and pipe drain fields.</li> </ul>	<ul style="list-style-type: none"> <li>• Daily operations and recommended practices.</li> <li>• Routine maintenance checks and procedures.</li> <li>• Troubleshooting common problems and solutions.</li> </ul>
<b>MODULE 7:</b> <b>Health, safety, and environmental considerations</b>	<b>MODULE 8:</b> <b>Marketing, Customer Relationship, Entrepreneurship, User Education and Branding</b>	<b>MODULE 9:</b> <b>Practical field project</b>
<ul style="list-style-type: none"> <li>• Personal protective equipment (PPE) and safety measures.</li> <li>• Environmental considerations and sustainability practices.</li> </ul>	<ul style="list-style-type: none"> <li>• Sales and Promotion</li> <li>• Training the customer on how to use the biodigester</li> <li>• Creating, Sustaining and Growing a Business</li> <li>• Importance of branding to business growth and development</li> </ul>	<ul style="list-style-type: none"> <li>• Construction and installation of a bio-digester toilet in a community or training facility.</li> </ul>

## ASSESSMENT AND CERTIFICATION

- Written examination covering all modules.
- Practical examination involving the construction or maintenance of a bio-digester toilet.
- Certification to indicating their competency in constructing and installing bio-digester toilets.





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## EXPECTED BENEFITS FROM THE CENTRE TO THE SANITATION SECTOR

The Centre will help provide households with safely managed toilet facilities in the country. This will help to reduce open defecation and improve the health of the people. The overall benefit of this Centre to the sanitation sector is to help achieve the SDG 6 which is 'clean water and sanitation for all'. The Centre will also help to create jobs for individuals to improve their standard of living and contribute to poverty reduction in the country. At the very first call for registration in May 2024, the Centre registered 31 trainees, most of them with sponsorship from development organizations operating in the country. This was a sign of acceptance of a service that stakeholders have been waiting for.

## MOBILE OPERATIONS SERVICE

The Centre has a Mobile Operations Service (MOS) which reaches out to prospective trainees anywhere in Ghana. This means that prospective trainees will enjoy the services in or close to their own location rather than travel to Ada. Through the MOS, district, regional, or even institutional level training sessions can be organized, and resource persons deployed to conduct the session and certify them.

### Contacts for further information

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*Compiled by Emmanuel Addai for the GAMA Sanitation and Water Project (May 2024)*

*Photos: Emmanuel Lamptey/Bernard Bonti*