



RESEARCH  
PROGRAM ON  
Water, Land and  
Ecosystems

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## **New compost plant to aid the greening of Ghana’s economy by recycling waste and delivering a safe nutrient-rich fertilizer for food production**

**ACCRA, GHANA** (11 May 2017) – To deliver a solution that meets urgent demands from both the city and countryside, an alliance of public and private sector partners launched today the JVL Fortifer Compost Plant in the community of Borteyman in the Greater Accra area. Based on research carried out by the International Water Management Institute (IWMI), the plant will contribute importantly to improving urban sanitation, while at the same time helping boost farm productivity.

“The establishment of this plant represents a bold move to confront with one blow two challenges that Ghana and other African countries face – on the one hand, inadequate handling of domestic waste, which threatens human and environmental health, and on the other, fragile food security, due in large part to low soil fertility,” said Josiane Nikiema, the IWMI scientist leading this work.

Over the next year, the plant’s operator, Jekora Ventures Ltd., is committed to producing and marketing 500 tons of a new organic fertilizer named Fortifer™. The private company will invest US\$90,000 of its own funds in plant operations and maintenance as well as product commercialization. Made through processing of human and other organic waste, the product is a safe, nutrient-rich compost, which the plant will sell in powder and pellet forms. This is the country’s first public-private enterprise dedicated solely to producing an affordable fertilizer of this type.

As demonstrated by extensive field trials, Fortifer™ improves the yields of common grains, like maize and rice, as well as vegetable crops, including okra, tomatoes, pepper, cabbage and lettuce. To manufacture the product, the plant will treat 12,500 cubic meters of fecal sludge – waste contained in the septic tanks of household and public toilets. This is the amount generated annually by up to 100,000 people. As part of the process, the plant will also recycle 700 tonnes of organic food waste.

The final product, technical process and public-private business approach resulted from more than a decade of IWMI research, which in recent years has advanced this work through the CGIAR Research Program on Water, Land and Ecosystems (WLE), which IWMI leads. Working with local and international partners, IWMI started the research with a pilot plant in Kumasi, Ghana, culminating in development of the certified Fortifer™ product. This work received support through grants from partners in France, Switzerland and other countries, including most recently the Bill & Melinda Gates Foundation, governments of Canada, the UK and Ghana as well as the CGIAR Fund.

“The compost plant does not require sophisticated or expensive technology and expertise,” said Pay Drechsel, who leads IWMI’s Urban-Rural Linkages Program. “Its success depends on a viable business model, which we and our partners have refined over the years at our research-for-development hub in Ghana. We are also now promoting it in Asia, as part of a wider effort to achieve more circular economies in the developing world.”

Taking human and other household waste, the plant filters and dries this material on beds of sand. Next, the dried sludge is mixed with organic food waste or sawdust and “co-composted” for 3 months. This involves regular heaping and turning of the material as it decomposes. Heat generated in the process kills any pathogens in the waste, giving a product that meets the safety standards set by the World Health Organization (WHO) for reuse of human excreta.

“The production of Fortifer™ will offer this city and the whole country multiple benefits – including new jobs, better human health, a cleaner environment and more nutritious diets, with less dependence on imported food and chemical fertilizer,” said Solomon Noi, director of the Waste Management Department of the Tema Metropolitan Assembly (TMA).

TMA provided land for the treatment plant and will ensure steady supplies of fecal sludge, while also monitoring plant operations. In addition, working with the Ghanaian NGO TREND (Training, Research and Networking for Development), it has helped engage with public authorities to obtain environmental permits, approval by the Ministry of Food and Agriculture, and certification of the fertilizer product.

“The launch of this plant is a key milestone in the long road we have travelled with a pioneering group of public and private sector partners to find a viable business model,” said Jeremy Bird, IWMI’s director general. “Building on our joint achievement, IWMI’s research pays greater attention now to the food and resource links that connect cities with the countryside. In a rapidly urbanizing world, this is where we can find novel development solutions that lead to green economies.”

“Farmers participating in our research have consistently expressed a willingness to buy a locally produced organic fertilizer, so we believe there is strong potential for expanding this product’s market share in Ghana,” said Nikiema. Pilot trials suggest that the waste recovery process can generate enough income to earn a profit. This should attract further public and private investments to help cover the costs of waste treatment, creating more benefits for society benefits through reduced pollution.”

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The **International Water Management Institute (IWMI)** is a non-profit, scientific research organization focusing on the sustainable use of water and land resources in developing countries. Headquartered in Colombo, Sri Lanka, with its Africa regional office in Accra, Ghana, the Institute works with governments, civil society and the private sector to develop scalable agricultural water management solutions that have a real impact on poverty reduction, food security and ecosystem health. [www.iwmi.org](http://www.iwmi.org)

The **CGIAR Research Program on Water, Land and Ecosystems (WLE)** combines the resources of 11 CGIAR Research Centers, the Food and Agriculture Organization of the United Nations (FAO) and numerous national, regional and international partners to provide an integrated approach to natural resource management research. <http://wle.cgiar.org>

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