

Utilization of organic waste in agricultural production in Ga West Municipality (UOWAP) project progress report

Project Experimentation

1 Project progress

1.1 General progress

The second phase is also termed the project experimentation/research phase. This experimentation phase is designed to be conducted within 8 months period maximum and involves project awareness creation among key stakeholders(traders, farmers and youth groups), Youth recruitment, training modules development, compost technology experimentation, training for waste collection, and compost making demonstrations, and others as indicated by the attached work plan

1.2 Details of Intervention

So far project experimentation has began with project awareness creation, youth recruitment, collection of organic waste, compost making demonstration, extension officers and farmers engagement, planning for training activities, training module development among others.

1.2.1 Project awareness creation

Project awareness creation has been initiated in various fora among key stakeholders. These include farmers, extension services, market traders and youth groups. Most of the activities have been in focus group discussions and one on one interaction. Waste segregation campaigns using peers, local megaphone mounts, community radio is about starting soon.

1.2.2 Waste collection experimentation

Four identified youth groups were visited within selected communities where focus group discussions were held. Project implementation strategies were discussed and youth were given the opportunity to present their opinions and interest in the project. While many indicated the usefulness of the project, not many of them expressed interest in waste collection aspect of the project mainly because they were unsure of the monetary reward for participating in collection. So far three women have indicated interest in collection. . We have therefore reorganized to recruit persons with *interest* in the project rather than limiting to only youth



Youth and Interest group engagement and recruitment

Waste collection experimentation was initiated with research assistants of the Institute for Environment and Sanitation Studies (IESS) and 3 women volunteers living in Ga-West in lieu of finalization of *interest persons*' engagement. This was to facilitate setting up of the waste collection system to which engaged waste collectors will be enrolled into. Market traders were sensitized to separate organic waste from other waste generated to be collected twice weekly. The market trader sensitization was done firstly by meeting with the market leaders and on one on one visit with the traders. This strategy was possible because selected markets were relatively small with average number of traders of 70. An agreed (with traders) designated point was located in the market where all organic waste is dumped prior to collection. The project team has delayed provision of bins due to safety issues. There is anecdotal evidence of having bins stolen in public places if left overnight. In the meantime, bin security strategies are being discussed with traders and municipal assembly authorities. In order to motivate separation of waste, organic waste disposal at the designated point is at no cost to the waste generator. On the average 300kg of waste is collected at each collection time and transported to compost demonstration sites.





Collection of organic waste from markets



General observations and Challenges

So far the dumping of organic waste at designated point has been consistent since the initiation of the experiment. However, some traders continue to dispose mixed waste instead of pure organic waste. Traders also expect to be paid for the organic waste they provide.

Due to the volume of organic waste needed for the compost making demonstration, the waste collection was also extended to some food processing factories in the Municipality, notable Vitallis Fruits Processing Company. Waste from the company is mainly made up of pineapples and pawpaw, which is also collected once every week to the compost demonstration sites.



Removal of plastics collected from market waste in a compost demonstraion site on a rice farm

1.2.3 Engagement of Extension Officers and Farmers

The project team identifies the need to engage Extension officers in reaching out to farmers on soil conservation techniques and to incorporate composting in their routine program of work. As such there has been an initiation of engagement of agricultural extension officers in the form of meetings to discuss their involvement and role in training farmers on methods of soil conservation and the most appropriate methods for the district, considering the topography of the area. Two meeting have been held so far to strategize how to carry out these effectively. At the two meetings, it been agreed that open farmers school will be organize at each zone where farmers will be trained on soil conservation with demonstrational hand-on section on compost production. There will be a follow up on the training to see how farmers are using the technology they have learn. Farmers will be encourage to apply these compost to their farms with special monitoring of the selected

farmers whose fields will be monitored with measurement and recording of growth parameter of the crop and yield at harvest.

A training workshop for extension officers has also been undertaken. Extension officers were taken through a training section on methods of soil conservation with practical hand-on section on compost production. The extension officers as part of their program of work will then reach out to the farmers by organising open field day in collaboration with researchers to train farmers on the methods of soil conservation. A day will be schedule for each zone for these training.



Engagement meeting with agricultural extension officers

Awareness creation of farmers

1. The objective of this is to create the awareness of degradation of the environment (soil) as results of the activities of farmers.
2. To create awareness among

farmers on the project and the need to introduce compost in methods of soil conservation and improvement on soil fertility.

Although farmers are yet to be train on method of soil conservation, two meetings have been held, one at Isakina zone and the other at Kotoku zone to synthesize farmers on the level of soil degradation taking place in the district and the need to conserve and improve on the level of soil fertility to increase crop productivity. Farmers raised issues of on reliable rainfall due to climate change.

Encroachment of estate developers on farm land and sand wining activities in some areas.

There is ongoing engagement with chiefs and elders of the communities about the implication of the sale of agricultural land to estate developers on food security.



Engagement meetings with farmers on awareness of soil degradation in the Municipality

1.2.4 Compost demonstration

The initial activities for this phase were geared towards the idea that knowledge on composting within the project area is low, in spite of a demonstrated potential in the production, use and marketing of organic manure largely due to the resource availability.

Activities carried out were therefore to enable some members of a few communities including some youth, farmers, extension officers and interested groups, have a firsthand observation of the composting process. This is to engender an appreciation of the whole process and its impact on management of waste, as well as soil management.

The initial steps involved extensive interactions with youth groups from Ayikai Doblo and Ofankor communities to introduce them to the process and its impact on agricultural productivity through soil property enhancement. During these interactions various views and concerns regarding the process and the overall project objectives were shared. A similar exercise was carried out for some agricultural extension officers at the precincts of their offices at Pokuase.

This compost making demonstration activity is meant to introduce communities in the study area to this waste management option and get them interested. The project has so far conducted this “outreach composting” in 3 communities, Ayikai Doblo, Ofankor and Pokuasi. The idea is to arouse the interest of those actually willing to take composting as an income generating activity while managing waste as outlined by the goals of this project. It is intended that formal training and demonstration of the process would begin with these people who had gone through this “outreach” processing exercise and demonstrated the enthusiasm to take it further. These people would then be recruited and trained in the organic waste value chain.

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The research team also visited one of the few composting processing establishments in the municipality to acquaint itself with their operations. This establishment, Blue Skies Company Limited, processes fruits like pineapple and orange into juice and fruit chunks.

These interactions were consummated with the setting up of compost piles at the two communities, employing the aerobic stack pile method. Compost processing at these sites is on-going, as final product would be used for on-farm application and demonstration exercise later in the project. Other waste materials added to the agricultural waste included waste from animals like pig and cattle and wood-shavings from saw-mills in the municipality.



Collection of Saw dust for compost demonstration the exercise



Collection of pineapple waste from Fruit Processing Company for composting

It is pertinent to note that waste materials were sourced from waste segregation activities set up in the Amasaman market involving market vendors, who actively set aside their organic waste for collection and processing.

Other composing methods would be demonstrated as the project progresses.



Segregated market waste for composting



Rice Straw waste being gathered to be processed into compost

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Rice straw waste co-composted with pineapple and market waste with animal waste



Covering completed stack to decompose

The “outreach” has been impressive with the general show of willingness and goodwill of the communities to participate in the project. Sorting and processing of waste has attracted the interest of a few these people and the hope is that more people would get into it in the next phases of the project.

It is expected that few more informal or outreach programs will be organized before the more formal training and demonstrations. Compost produced from initial demonstrations will be used in the demonstration of application and use of compost as an effective soil additive and nutrient source. Further majority of farmers, especially animal and vegetable farmers, identified during baseline studies are yet to be contacted. These farmers will be contacted and involved in the outreach activities before the more formal stages of the project.

1.3 Capacity Building

The project has engaged two MPhil students to undertake their thesis research. The proposed thesis titles are;

1. Composting and compost utilization as a sustainable strategy for waste management in Ga west municipality.
2. Integrating solid waste segregation into solid waste management system: the case of ga west municipal assembly