

## Waterford's Amazing Permaculture Garden!!!

In line with its Green Policy (the school wants to be carbon neutral by 2020), Waterford Kamhlaba United World College of Southern Africa, embarked on permaculture gardening. According to *babe Ginindza* who is responsible for the garden, the word permaculture means “permanent Agriculture” in the sense that the whole point behind permaculture garden is the circular economy. “This is how it works: we use cardboard or even leaves to cover the soil in the garden and as these rot down, they make a fertile dark soil full of beneficial micro-organisms to feed our vegetables. These prevent nutrients being eroded away by wind and rain. Now, as we use the cardboard to cover and feed the soil we establish rich loamy beds full of worms to turn the soil, and make it fertile. This cover also suppresses weeds,” explains *babe Ginindza*.

Furthermore, nothing gets thrown away in the permaculture gardening process. The food remains from the college's kitchen gets into the bio-digester and is used to produce gas that gets back to the kitchen to be used as heat for cooking. The bio-digester, as it produces the gas, also produces fertilizer for the garden, thereby maintaining as much energy within the system without increased external inputs. The produce from the garden is sold to the kitchen and staff as a revenue generator. “That is the circular economy we are talking about,” says *babe Ginindza*.



Babe Ginindza explaining the gardening process

The food remains from the kitchen have an embedded energy and associated carbon cost in calculating a detailed carbon footprint and these carbon emissions get accounted for by the college. *Babe Ginindza* says, “In order to mitigate these emissions, the establishment of organic permaculture gardens is essential.”

Waterford's form 3 students work the garden on weekly basis as part of the Creativity, Activity and Service (CAS) class. Basically, the students learn how the garden works, and they do this under the supervision of *babe Ginindza*. Some of the things they learn include:

### **Production of Fertilizer from food remains**

Instead of throwing away some buckets from the kitchen, these buckets are painted in



Form 3 students working in the garden under the supervision of babe Ginindza

black to absorb more heat and food remains are put inside the buckets. Once the buckets are closed, fermentation process occurs and the food remains produce some water that is then poured onto small containers to be used as fertilizer for the garden.

### **Chasing away of Birds from the Garden**

Old CDs are hung on top of the vegetables using hooks and used to chase away birds. "Once the birds see the CDs moving on top of the vegetables, they get distracted and go away, and the vegetables don't get to be eaten by the birds," explains *babe Ginindza*.

### **Production of nutrients-rich water from Weed**

Weed is removed from the garden and the small plants (weed) put inside a container. Water is then poured inside the container and the water gets all the nutrients from the weed. This water is rich in nutrients because the weed has been eating away nutrients from the soil. This water is used to water the vegetables.



Weed and water put inside a container that is used to produce the water that is rich in nutrients

The students get to learn about this process and how everything is useful for gardening and other things. The point is: nothing gets thrown away, everything is used productively. The process goes on and on like that, hence "permanent agriculture" or permaculture.