During the dry season the south of Grenada, in particular the Grand Anse Area, suffers from severe water shortages which result in the cessation of gardening activities and crop die out. This water shortage can be attributed to the changing climate as a result of global warming coupled with non-climatic factors such as urbanisation. Starting as a small backyard farmer at my village and being involved in a farming co-operative, agriculture has always been something dear to my heart. Being attached to the Grand Anse School for special education and having responsibility for the 4H group, I was always inspired to do more. I envisioned the possibility of doing more within the Agricultural sector at the school with the aim of providing the students with the produce required to attain and maintain a balanced diet.

My journey to the implementation of the Rain-Water Harvesting (RWH) system started in March 2014 when the school received some farming tools from the Zero Hunger Initiative Challenge. Though I was grateful for receiving these items, I was now faced with the challenge of sustaining a garden with wonderful tools, but limited water resources. Therefore, I approached the Permanent Secretary with responsibility for Agriculture to discuss the possibility of obtaining two black tanks which would be used to store water for the garden’s irrigation system. At no point did I ever visualise the possibility of getting so much more than just two black tanks since months had passed since the discussion with the Permanent Secretary about the need for two black tanks, and the idea had left my mind. I thought that nothing was going to be done to help the school out. However, at the start of the new school term that same year the 4H coordinator came, as a saving grace, to inform the school that a rainwater harvesting and drip irrigation system was going to be installed in the school.

This required a series of consultations among the United Nations Development Programme Integrated Climate Change Adaptation Strategies (UNDP ICCAS) team, teaching staff, and technical personnel who came to explain the process of the project development which included: water collection, drip irrigation, tank location, and solar panel water pump installation. After much ado the ICCAS project award ceremony took place in November of 2015, and the school for special education received a cheque in excess of XCD $67,000. The construction of the tank commenced in December 2015 and ended in January 2016. During the construction phase I was excited and elated, but there was some reluctance from other members of the teaching staff. Their concerns were with regards to the construction site and the students being in close proximity to the site, even though there was a fence between the school and the construction work. Nevertheless, the construction was conducted swiftly and there were no issues. As a result, the smooth installation of the drip irrigation system and the solar panel water pump system.
A seedling supplier was paid to provide the school with cauliflower, cabbage, lettuce, and kale. However, although he was paid in advance for the supplies, he provided them to the school at a snail’s pace. To date, the supplier still has not provided all plants and therefore a key lesson learned is that suppliers should be paid upon the delivery of material to avoid further losses.

After the installation, I thought to myself that prior to the ribbon cutting ceremony we should have some crops in the ground. This is when the idea came to mind for the renovation of a small abandoned chicken house which could be used for seed germination. Added to this, the tardiness of the seedling supplier gave more reason for the justification of the start of the seedling house. The first seedlings sown were Pakchoi and some cucumber were done straight on the beds. The UNDP provided seeds (including lettuce, cabbage, watermelon, and eggplant), fertilizer, potting soil, seedling trays, and a wheelbarrow as starting materials for the project.

After the ribbon cutting ceremony on June 23rd, plants which were transplanted prior to the launch were harvested on June 29th. During this time members of staff were not as eager as I anticipated to support the school’s business of agriculture, either through purchasing items or marketing the activity. However, as time passed, gardening activities were created for both junior and senior students to develop an appreciation for all stages of gardening from nursery to bedding to transplanting and molding as well as fertilizing, harvesting and marketing. One can say that best practices were attained in composting, with even the cooks cooperating with regular garbage selection from provision peels. This compost material was
eventually utilised in the beds to increase productivity. The students gainfully engaged mostly with the sowing of seeds which produced seedlings regularly, and the garden was able to supply the school’s kitchen with produce to provide better nutrition for the students. A wide variety of crops were grown including: sorrel, tomatoes, lettuce, pakchoi, cucumber, seasoning peppers, celery, parsley, corn, rosemary, beet, sweet potato, chive, and thyme. The excess produce were sold to communities and markets, including Real Value Supermarket and the Grenadian by Rex Resorts.

Some noted benefits of the project are that student’s involvement have improved as this gave them an increased appreciation for the different stages of gardening. Given that this is now one of the important aspects of life skills that students are being taught, this gives them a chance to obtain improved knowledge about these technical skills. Also, more nutritious and healthy foods were incorporated in the School Feeding Program. This allowed the provision of new dishes such as conkies, spinach bread, pumpkin bread, and spinach cakes -all of which were made from produce from the garden. There were also financial gains by the school from the selling of surplus were used to assist with contributions to other school activities. The monies generated also helped maintain the drip irrigation system and therefore promoted sustainability of the project when the project funding was completed. The project also provides contributions to environmental protection with the use of bins for composting which reduced the amount of organic waste that is sent to the landfill. This also includes more efficient use of water due to the presence of the drip irrigation system. From a social dimension, there has been an improved relationship with the surrounding community.

These benefits did not come with no challenges. Some that should be mentioned include the fact that the teachers used the garden as a way of punishment for students who behaved badly. So having to change the mindset of the students and teachers towards agriculture was a challenge. Also, the market to sell crops were a bit of a challenge, in times where everyone was selling the same crop the value of crops dropped as well as some supermarkets and hotels were not willing to take crops. Finally, consistency of drip irrigation line posed a problem as some beds were larger than other resulting in some beds getting more water than other.

Looking back at the project and the processes, the following could have improved the delivery of the project:

- More consultation with specialists, particularly the drip irrigation technician, would have provided greater knowledge and understanding about the system and the setup of the dispensers on the
beds. This would have allowed us to use more appropriate dimensions for beds as some contained more dispensers than others causing inadequacies of the system in some cases.

- Short course or workshop in bookkeeping or accounting to assist in the business management aspect of the project would have been beneficial.
- Extension officers should visit the site regularly to provide guidance and feedback that would aid in the improvement and increased productivity of the project.
- More consultation can be done with both staff and parents through Parent-Teacher Association meetings to educate persons about the project, the importance and then get them more involved to alleviate the stress of one person having to do everything.