Nigeria Agriculture Policy Activity

September 2021 **NAPA Highlights #6**

Impacted by USAID's NAPP Motto of "TRAIN ONE TO TRAIN ALL"

I am Orkuma Ferdinand, an MSc. student of J. S. Tarka University (formally University of Agriculture), Makurdi, Nigeria. I was one of seven students who participated in the USAID Feed the Future Nigerian Agricultural Policy Activity (NAPA) Soil Productivity Index (SPI) rating project for Benue State. NAPA is a successor of the USAID Nigerian Agricultural Policy Project (NAPP). In this second phase of the SPI project, we focused on seven Local Government Areas (LGAs) comprising twenty-seven council wards in Benue State. I was also part of the team that took samples for the first phase of the SPI project conducted under NAPP and I am so happy with my continuing participation in a worthy capacity building effort.

COLLECTING SOIL SAMPLES (OBI AND USHONGU LGAS)

The LGAs were purposefully selected because of their high maize productivity and their big challenges with erosion. The selection process was carried out in conjunction with the Directorate of Planning Research and Statistics, Benue State Ministry of Agriculture and Natural Resources, Makurdi (BS-MANR), headed by Mr. Edache Enyikwola.

Selected LGAs for the sampling were Guma, Ushongo, Konshisha, Kwande, Apa, Okpokwu and Obi. To ensure inclusiveness, it was verified that the LGAs fell within the three senatorial districts of the state. Another criteria was that the LGAs selected were in no way a troubled hot- spot from farmer herder clashes as the security of the team was considered . Three wards in each LGA were sampled. In Guma LGA, the three wards sampled were Daudu, Udei and Abintse, while in Ushongo LGA, Mbaaka, Agir and Lessel were selected. In Konshisha LGA, wards sampled were, Mbatser, Mbanor and Mbake. In Kwande we sampled Adikpo, Gube and Mbaiwen. For Apa LGA, wards sampled were, Iga, Ojope, and Edikwu. For Okpokwu LGA, Eke, Amejo and Ugbokolo wards were sampled and lastly, Odiapa, Okpokwu and Ikwokwu wards were sampled in Obi LGA. In each ward, 10 farmer fields were sampled at random and at three depths (0-30, 30-60 and 60-90(cm) using the soil auger or the soil probe, when the sub-soil was hard and lateritic. Core sampler was used in collecting soil samples for bulk density at the defined depths. In some areas, samples were collected at two depths due to a hard pan reducing the effective depth of the soil. A sensor machine was used to collect soil parameters on the spot for some physical and chemical parameters such as moisture content, electrical conductivity, PH and PK at the various depths.

Sampling lasted for one week. Thereafter, a one day training was conducted at the University Teaching and Research Farm for the 300, 400, 500 and 600 level

students by Dr. (Mrs.) B. I. Agada. The 400 level students were in the majority as they were undergoing their student industrial training work experience scheme (SIWES). The SIWES Coordinator, Dr. Okoh, gave the opening remarks and admonished all the participating students of the importance of the training. He thanked Dr. Agada for finding the University worthy of such opportunity and further prayed for more to come. Students were given lectures on the importance of soil testing. Different soil sampling methods including simple random sampling, and stratified sampling, were demonstrated. Equipment used for sample collection, including soil auger, soil probe, and hand trowel were demonstrated and left on display. Students learned to identify the tools with the tasks they could accomplish. Good agronomic practices and general site-specific nutrient management was also taught. I was thrilled to provide support in demonstrating to the undergraduate students, how to collect soil samples. Some of the students were thereafter given the opportunity to practice what they had learned. The students were extremely happy with the practical opportunity and experience as well as the knowledge gained on how to relate practice to theory covered in class. Refreshments were served and students were encouraged to ask more questions and interact as until the end of the day's activity. Indeed, it was a very memorable day for us all!

AIR-DRYING SOIL SAMPLES AT UNN SCREEN HOUSE

Next was preparing the samples for analysis. Samples were 1) air dried, 2) pounded into fine grains with a mortar and pestle, 3) sieved using a 2mm sieve, 4) sorted and arranged. Then the analysis of the samples for total organic carbon and percentage nitrogen commenced. 25 - 50 samples were analyzed on each day and analysis continued for 5 days to end an unforgettable week of exposure, skills acquisition and learning.

I am very grateful to the organizers of the NAPA SPI rating project and pray that this kind of training opportunity continues as so many lives are being impacted in exactly the same way I was. My participation in this SPI activity was accorded me because my thesis supervisor, Dr Agada, was a NAPP Scholar, and is committed to promoting the Motto of NAPP "Train one to Train All". Her enthusiasm and commitment have rubbed off on me and I know I will pass it all on!

SORTING AND ARRANGING SAMPLES IN THE SOIL SCIENCE LABORATORY.

By Orkuma Ferdinand

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