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## Improving soil nutrients by planting Jack Bean

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The Mafie family, Kaneli and Happiness, visited ECHO East Africa for the first time in March of 2016 to inquire about the use of slurry from biogas as a fertilizer. When visiting ECHO they were shown around the compound and learned various techniques of conservation agriculture that could help improve their farm, one technique being to use green manure/cover crops. The Mafie's left ECHO with a variety of fruit tree seeds and one kilo of Canavalia seeds, a cover crop that is highly encouraged to farmers for increasing nitrogen levels in the soil and providing shade for the soil.

Fast forwarding to present day, the Mafie family wanted to invite ECHO staff to see the success in their farm since using Canavalia as a cover crop. Niel Miller, Charles Bonaventure, and Malvery Begley of ECHO East Africa visited the couple and their farm located near their home in Njeku village of Arumeru District. The farm is located on an incline at the foothills of Mt. Meru. Mr. and Mrs. Mafie's farm consists primarily of coffee and bananas however they also have a corn field intercropped with beans, 60 vanilla vines, beds of spinaches, hot peppers, passion fruits and papaya trees.

When entering the coffee and banana farm it is obvious to see that the soil is well covered by Canavalia. The two say that Canavalia has helped reduce top soil erosion during strong rains. They also tried testing within their maize farm what the impact of Canavalia would be on the open area. They found that Canavalia was able to cover the soil, instead of it being open and bare and the canavalia was causing greater moisture retention and therefore healthier maize. The Mafies' continue to show neighbors and other farmers their success in using Canavalia. Kanaeli and Happiness hope that within their community the use of Canavalia will expand and a market among smallholder farmers can develop.

ECHO staff present was told by Mr. Mafie that the one kilo of Canavalia seeds from ECHO was divided in half among another farmer; the half kilo of seeds planted has now produced just over ten kilos. From their first harvest of ten kilos, they re-planted seven kilos and successfully sold the other kilos to local farmers. The harvest from the seven kilos planted is pictured below together with individually packaged half kilos to sell to local farmers.

The couple says that they are continuously harvesting Canavalia and are expecting to continue using and performing more trials on how Canavalia can further support their farm. For more information, request the seeds through this [easeeds@echonet.org](mailto:easeeds@echonet.org)



Mr. & Mrs. Mafie show off their Canavalia pods and seeds which they harvested