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Using Integrated Pest Management to Turn Beans into Bricks

Julius Riongu and his wife Janet Gatwiri are typical farmers in a village far from the river in Kenya's Chuka County. They have farmed together for years, and figured they would remain at a subsistence level like their neighbors and families. When the government established an irrigation project in their area they wondered if they would have a chance to save some money and build a better life for their growing family. Unfortunately, the first few years of the irrigation project were not a success. Like their neighbors, they tried growing tomatoes, and the crops were virtually destroyed by the tomato leaf-miner (*Tuta absoluta*) as well as bacterial wilt disease. It didn't make sense: they did what the agro-dealer told them to do, using the standard pesticide approach to pest and disease problems and applying 10 to 20 pesticide sprays per season. And still the crops failed. It looked like reliable irrigation water was not going to raise their standard of living.

Two years ago, Dr. Jesca Mbaka and colleagues at the Kenya Agricultural and Livestock Organization (KALRO) met with farmers in Julius and Janet's village to discuss ways to improve their farming and marketing methods. The farmers organized as the Mbuiru-Mwanjati group and received training from KALRO scientists through the East Africa Vegetable Crop Integrated Pest Management Innovation Lab (IPM-IL) project, sponsored by the U.S. Agency for International Development (USAID) and directed by scientists at KALRO and Ohio State University.

Their training included identification and management of plant diseases and insect pests, focusing on tomato, kale, and French beans. In addition, the KALRO scientists established



Janet Gatwiri shows off French beans grown using IPM methods and without pesticides.

participatory field studies on Mr. Riongu's farm, where he and Janet learned to use IPM technologies, including a raised-bed nursery, solarized soil, netting, resistant varieties, and threshold-based neem applications. They use biopesticides like *Trichoderma* and a botanical (neem-based) insecticide. KALRO has also helped them connect to a market that is interested in buying vegetables of high quality and no pesticides for local and export markets.

A social scientist from KALRO, Dr. Beth Ndungu, also led the group in business management and leadership training. The Mbuiru-Mwanjati group is now incorporated and can sign contracts and market as a group for local sales or for export.

Now Julius and Janet stand proudly on a pile of bricks they have been able to purchase using profits from vegetable sales. The bricks will be used to build a new house for the family. Janet credits the IPM training they received from KALRO: “This has been possible because we grow and sell French beans without any pesticide and they fetch a good price. We have turned our beans into bricks. And with these bricks we will build a new house.”

With profits from marketing French beans and other vegetables through the Mbuiru-Mwanjati farmers group, Julius and Janet are set to build a new home.

