**Innovative Cold Storage Technologies for Horticultural Farmers**

The **'Innovative Cold Storage Technologies: Research, Training and Demonstration Unit'**at the field station has been established through a research grant awarded to Prof. Jane Ambuko from the National Research Fund (NRF-Kenya). The initial NRF funding has attracted other partners including Foundation for Food and Agricultural Research, FFAR (supporting the Consortium for Food Loss and Waste Reduction), Innovate UK (supporting SOLCOOL’ - Solar Powered Cold Food Chains For Food Waste Reduction and Value Addition Project) and D-Lab (Massachusetts Institute of Technology). The innovative cold storage technologies installed at the unit include the Zero Energy Brick Cooler (an improved version of the original model); an improved evaporative charcoal cooler (walls made from fibre glass) and the Coolbot Cold room. An additional technology, refrigeration box based on Phase Change Materials (PCM) is due for installation in October. The key feature in all the technologies (except the Coolbot cold room) is that they do not require electricity. Therefore, they are suitable and appropriate for rural areas where most of the horticultural production takes place. The Coolbot cold room which requires electricity, but it is a low-cost alternative to conventional cold rooms. These technologies have been adapted and tested for effectiveness by the University of Nairobi Postharvest Research team and are ready for scale up. The design and fabrication of the technologies has been made possible through collaboration with the Department of Agricultural Engineering – Dr. Duncan Mbuge and Mr. Eliakim Mwachoni

The unit will be used for research and experiential training of our students. It will also be used for demonstration and outreach activities targeting potential users of the technologies.

So far, through partnership with the World Food Program (WFP) some of the technologies (Zero Energy Brick Cooler and the Evaporative Charcoal Cooler) have been installed at Kalobeyei Market in Turkana County to benefit traders most of whom are refugees who have been settled by WFP. The technologies have also been installed for two groups of smallholder horticultural farmers in Embu County and Machakos under the YieldWise initiative supported by the Rockefeller Foundation. In Kiambu County, with funding from NRF-Kenya, the Evaporative cooling technologies have been installed at Ngoliba Market.

The goal of this initiative is to scale up and enhance adoption of the technologies by relevant group as part of the efforts to reduce postharvest losses in horticultural value chains.