

## The Horticulture CRSP Trellis Fund 2011-2012

### Engaging U.S. Graduate Students in International Development

#### Extension Services for Lake Victoria Wetland Farmers for Improved Horticultural Production

**Developing-World Partner:** Eco Finder

**U.S. Student:** Michael Wolff, MS in International Ag. Development and PhD candidate in Soil Science

**Country:** Kenya

**Project Summary:** This project aims to enhance the horticultural productivity of small farms among the Lake Victoria wetland villages. Eco Finder is utilizing the local radio and theatre groups to conduct seminars on health and nutrition and they are training 186 wetland farmers in sustainable organic farming practices. Eco Finder is also promoting the use of their already established eco-sanitation toilets that generate night soil for soil fertility on small farms in the region. The enhanced productivity will increase household consumption and trade in the already existing markets, where demand for horticultural products frequently outstrips supply. Michael Wolff is employing his research skills to examine the benefits and food safety issues of night soil in the wetlands of Kenya.



Wetland farmers learning new planting techniques at demonstration plots

#### Postharvest Handling and Processing for Pear, Apple and Apricots

**Developing-World Partner:** Rushnoi

**U.S. Student:** Eduardo Gutierrez-Rodriguez, PhD candidate in Horticulture & Agronomy

**Country:** Tajikistan

**Project Summary:** The majority of farmers in the Rasht Valley sell their crops on the fresh market. During periods of harvest, competition is fierce and the prices are low. When farmers store their harvest, they typically lose 30% to spoilage. In this project, Eduardo Gutierrez-Rodriguez is working with the local agricultural NGO, Rushnoi, to train local farmers in improved postharvest handling practices. The farmers are learning about new techniques in harvesting, storing and processing at the household level.

#### Promotion and Expansion of Organic Tomato Growing in Kira Town Council, Wasiko District, Uganda

**Developing-World Partner:** Environmental Conservation and Agriculture Enhancement Uganda (Eco-Agric)

**U.S. Student:** Gina Garland, MS candidate in Horticulture & Agronomy

**Country:** Uganda

**Project Summary:** This project aims to promote farmer adoption of new technologies and facilitate the formation of a marketing association. In the first half of the project, the agronomists at Eco-Agric conducted 15 trainings that were attended by 258 farmers. Their training program included sessions on: tomato nursery establishment and management, improved production practices, pest and disease control, soil fertility management and postharvest handling. The participant farmers have already established 20 tomato nurseries as a result of this project. Their graduate student partner, Gina Garland, is connecting them to new information on the main diseases affecting the farmers, Tomato Bacterial Wilt and Tomato Blight.



Nepalese farmers implementing new pest-management techniques

#### Improving Pest Management Practices in Passion Fruit Cultivation

**Developing-World Partner:** Randa United Farmers Group (RUGF)

**U.S. Student:** Ariana Rundquist, MS candidate in International Ag. Development

**Country:** Uganda

**Project Summary:** Over 90 percent of the population in the Bududa District lives on less than a dollar per day. Passion fruit growers benefit from a strong local demand, but need more training in production, postharvest and marketing in order to increase their profits. RUGF is training farmers and school children in passion fruit cultivation and organic farming methods. RUGF has experience working in passion fruit production, and has developed new methods for combating pests and diseases. Besides providing supplemental expertise, Ariana Lundquist is assessing, measuring and testing the effectiveness of traditional and novel pest management practices.

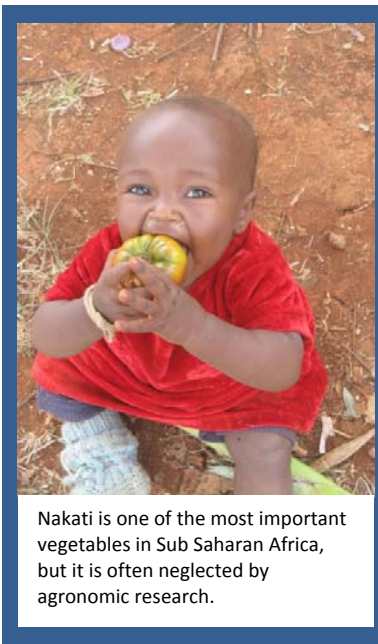
#### Economic Enhancement of the Ethnic Community of Kyamin Vdc in Tanahu, Nepal

**Developing-World Partner:** Sustainable Agriculture Development Program Nepal (SADP)

**U.S. Student:** Allison Ferry, PhD candidate in Plant Pathology

**Country:** Nepal

**Project Summary:** Agriculture is the mainstay of the Nepalese economy, providing a livelihood for three-quarters of the population and accounting for about one-third of GDP. Offseason tomato cultivation is an important source of income for smallholder farmers. Despite the importance of the industry, tomato growers lack information about improved cultivation practices and the management of pest, such as insects, powdery mildew and bacterial wilt. Allison Ferry is working with SADP to extend new pest management techniques to local tomato growers.



Nakati is one of the most important vegetables in Sub Saharan Africa, but it is often neglected by agronomic research.

**Promoting Nakati Production in Central Uganda**

**Developing-World Partner:** National Agricultural Research Organization (NARO – MUZARDI)

**U.S. Student:** Juliet Braslow, MS candidate in International Ag. Development and Horticulture & Agronomy

**Country:** Uganda

**Project Summary:** Nakati, *Solanum aethiopicum*, is one of the most important vegetable crops in Sub-Saharan Africa. Despite nakati’s importance to the African diet, little research has been conducted on its production. One of the main problems that farmers face in growing nakati is its low germination rate. NARO-MUZARDI is promoting Nakati production in central Uganda by training smallholder farmers in improved agronomic practices. The farmers are also learning innovative on-farm Nakati seed production and processing techniques. Juliet Braslow is conducting literature reviews on nakati and using her seed propagation expertise to help NARO-MUZARDI create a more informed extension program.

**Planting Seeds: Zambia AIDS Clinic Garden Projects**

**Developing-World Partner:** Development in Gardening (DIG)

**U.S. Student:** Larisa Jacobson, MS candidate in International Ag. Development

**Country:** Zambia

**Project Summary:** DIG’s mission is to improve the nutrition and health of HIV-affected and at-risk populations through sustainable gardening. DIG trains people in agriculture and nutrition in order to empower communities to meet their own needs. For individuals that suffer simultaneously from HIV/AIDS, poverty, and malnutrition, more than just antiretroviral therapy is needed. By

building community gardens with HIV/AIDS support groups, DIG has created a sustainable model to increase nutrition, improve physical health, increase community capital, and raise involvement in hospital activities. Larisa Jacobson is providing technical agriculture expertise for this project through monthly consultations. Together, they are developing horticultural curricula and a garden manual.

**Promoting Orange-Fleshed Sweetpotato in Northwest Ghana**

**Developing-World Partner:** Ghana institute of Horticulturists (GhIH)

**U.S. Student:** Kate Fuller, PhD candidate in agricultural economics

**Country:** Ghana

**Project Summary:** The goal of this project is to develop a cost-effective and sustainable system for continuous multiplication and timely distribution of quality orange-fleshed sweetpotato (OFSP) planting material. The project also has a postharvest component that aims to develop small-scale value addition and commercialization systems for OFSP in the Northwest regions of Ghana. GhIH is training growers in improved agricultural practices and teaching members about the nutritional value of OFSP. Kate Fuller is helping GhIH conduct value-chain analyses of OFSP and working to improve the profitability of OFSP farming and the availability of OFSP products in the market.



Malawian farmers growing disease-resistant tomato cultivars on trellises

**Promotion of Improved Tomato Technologies among Smallholder Farmers in Malawi**

**Developing-World Partner:** Bvumbwe Agricultural Research Station, Malawi

**U.S. Student:** Mark Lundy, MS in International Ag. Development and PhD candidate in Horticulture & Agronomy

**Country:** Malawi

**Project Summary:** Tomato growers in the Thyolo district of Malawi lack access to modern tomato-production technologies. The Bvumbwe Agricultural Research Station is introducing improved varieties and modern production practices to 180 smallholder farmers in the district. Mark Lundy is helping develop educational materials that are being distributed by local agronomists at farmer field days and extension meetings. The organization is also establishing several demonstration plots.

**Empowering Rural Women with Drip Irrigation and Modern Agricultural Practices**

**Developing-World Partners:** Chepkiolel University, Ministry of Agriculture, and Kenya Plant Health Inspectorate Services (KEPHIS)

**U.S. Student:** Jenna Rodriguez, MS candidate in Hydrological Sciences

**Country:** Kenya

**Project Summary:** While horticulture is the fastest growing industry in Kenya’s agricultural sector, water resources are becoming more and more limited. Agronomists at Chepkiolel University are promoting drip irrigation among 180 women farmers in order to increase their water use efficiency and their profits. The project leaders are establishing demonstration plots, conducting farmer field days and drip irrigation training sessions. They are also helping the farmers acquire the necessary capital by facilitating saving and credit cooperatives among the groups of women famers. The goal of the project is for each farmer to install drip irrigation on a quarter acre of her field. Jenna Rodriguez is utilizing her vast experience on California farms to help these women develop low-cost drip irrigation systems.