

# Tanzania

## Integrated Pest Management Innovation Lab country profile



Map courtesy CIA World Factbook

**Population:** 51 M

**GDP per capita:** \$2,700

**Feed the Future country?** Yes

**Involvement in this country since:** 2006

### Challenges:

- Chemical pesticide misuse and overuse
- Seasonal production and value chain issues
- Biodiversity loss
- Low productivity
- Low sensitivity to environmental issues

### Related Projects:

1. **Biological Control of Invasive Weed *Parthenium hysterophorus* in East Africa**  
Dissemination of knowledge and information has led to environmental safety awareness, reduced malnutrition (especially among women and children,) and higher economic benefits as a result of reduced pesticide applications.
2. **Vegetable Crops IPM for East Africa**  
Focuses on implementing and disseminating IPM strategies to combat pests of vegetable crops in East Africa, such as tomato, onion, African eggplant, cabbage, chilies, and beans.
3. **IPM for Rice, Maize, and Chickpea in East Africa**  
Focuses on implementing and disseminating IPM strategies to combat pests of staple crops rice, maize, and chickpea in East Africa.

### Previous Accomplishments:

1. **Increased environmental and human health:** Dissemination of knowledge and information led to environmental safety awareness, reduced malnutrition (especially among women and children,) and higher economic benefits due to reduced pesticide applications.
2. **Improved tomato production and value:** IPM-IL team developed a high tunnel tomato production package that contributed to sustainable intensification and food security, increasing tomato value by US \$8.8.
3. **Developed technology:** Grafting technology was introduced to combat bacterial wilt disease in tomato, high tunnels reduced pest infestation, and fungus *Trichoderma* was introduced for controlling soil-borne fungal pathogens.
4. **Built short term capacity:** Scientists were trained on virus indexing and pest diagnostics at Ohio State University and Nairobi, new invasive species in Ethiopia and Senegal, and biopesticides in India and Nepal.
5. **Enhanced diagnostics support:** Effectiveness of IPM strategies was enhanced by training farmers and agricultural agents in disease identification diagnostics.



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Farmers apply mulch to their field (left), and researchers evaluate pest management treatments on-station (right)

### **Fighting insect pests and diseases with integrated pest management**

In Tanzania, insect pests (like whiteflies, mites, and thrips), diseases, and weeds pose major threats to tomato production, sometimes decimating crop fields completely. Traditionally, farmers have relied upon excessive pesticide applications including mixtures of insecticides and fungicides. IPM researchers have been experimenting with mulching to improve the post-harvest quality and shelf-life of staple crops like tomatoes. Studies are also being conducted on the effect frequent weeding has on the pests of onion. Onion thrips, onion grub, and purple blotch are the most serious pests of onion in Tanzania. The experiments have shown that weeding had a significant effect; onion yields more than doubled with one weeding, and tripled with three weedings.

#### **Relevant Websites :**

<http://www.oired.vt.edu/ipmil/our-work/projects/parthenium-in-east-africa>  
<http://www.oired.vt.edu/ipmil/our-work/projects/vegetable-crops-for-east-africa>  
<http://www.oired.vt.edu/ipmil/our-work/projects/rice-maize-and-chickpea-in-east-africa>

#### **Local Implementers:**

Tanzania Ministry of Agriculture, Food Security, and Cooperatives

#### **Principal Investigators:**

Wondi Mersie, Virginia State University  
John Cardina, Ohio State University  
Tadele Tefera, International Centre of Insect Physiology and Ecology

#### **Contact Info**

Director, IPM Innovation Lab: Muni Muniappan,  
Email: [rmuni@vt.edu](mailto:rmuni@vt.edu)  
Phone: (540) 231-3516

