

# Cambodia

## Integrated Pest Management Innovation Lab country profile



Map courtesy CIA World Factbook

**Population:** 15.7 M

**GDP per capita:** \$3,300

**Feed the Future country?** Yes

**Involvement in this country since:** 2009

### Challenges:

- General lack of technical expertise in agriculture
- Weak agricultural extension system
- Institutional constraints for commercialization of biocontrol agents
- Water management
- Universities lack faculty members with training in IPM disciplines

### Related Projects:

#### 1. Vegetable Crops and Mango IPM in Asia

Implementing ecologically-based, participatory integrated pest management of insect pests, pathogens and weeds, focusing on tomato, eggplant, cabbage, cauliflower, beans, cucurbits, and onion.

#### 2. Rice IPM for Cambodia

Optimizing existing biotic and abiotic interactions in Cambodian rice fields to enhance pest regulation and minimize pre-harvest yield loss while protecting health of rural communities and their environments through reduced pesticide use.

### Previous Accomplishments:

1. **Using a beneficial fungus in compost:** Project personnel discovered a local strain of *Trichoderma*, a beneficial fungus, which is being promoted as a low-cost, environmentally friendly means of combating fungal diseases. Farmers mix it into compost, which is then applied to crops at planting.
2. **Providing training to other NGOs:** Training for on-farm production of *Trichoderma* is a key element of the technology transfer being done in Cambodia. The IPM Innovation Lab has trained employees of other NGOs as well as selected, high-performing farmers who have then spread the practices to others.
3. **Training in plant diagnostics:** The project has conducted trainings in plant diagnostics, and is exploring establishing central plant disease diagnostics labs at Battambang University and the Ministry of Agriculture.
4. **Capacity building.** The project has sponsored Cambodian participation in IPM workshops conducted in India, Nepal, Indonesia, and the Philippines. These workshops have addressed a variety of IPM strategies that are applicable in Cambodia and for which Cambodia needs to develop local expertise.
5. **Providing input for other USAID Projects.** The IPM Innovation Lab has provided IPM tactics that are being used by the large USAID value chain project (HARVEST) and by other IL projects in Cambodia.



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Agriculture in Cambodia is a labor-intensive business (left). An ability to accurately diagnose diseases and pests can greatly help farmers in their efforts to successfully combat these challenges. At right, a lady beetle gets ready to feast on some aphids attacking a bean plant—an example of biological control.

### **Training farmers develops valuable skills**

Farmer participatory research and demonstrations are conducted in each province, where IPM tactics are compared side-by-side with the farmer's traditional, chemical-based practice. The focus is on vegetable crops including eggplant, tomato, bitter melon, cucumber, chilies, and crucifers. IPM tactics emphasize the use of a local strain of *Trichoderma*, a beneficial fungus, which has shown positive results across a wide array of crops. It is incorporated in compost that is used at planting and applied by aerial application during growing. Local activities are managed by the field staff of the General Directorate of Agriculture. Training for the on-farm production of *Trichoderma* is a key element of the technology transfer being conducted in Cambodia. The pure strain is provided by the General Directorate of Agriculture, and selected farmers then propagate the material to share with others. This effort is being augmented by providing training and materials to other NGOs so that they can also incorporate the use of *Trichoderma* in their vegetable farming activities.

#### **Relevant Websites :**

<http://www.oired.vt.edu/ipmil/our-work/projects/phase-v-projects/vegetable-crops-and-mango-ipm-in-asia/>  
<http://www.oired.vt.edu/ipmil/our-work/projects/phase-v-projects/rice-ipm-for-cambodia/>

#### **Local Implementers:**

International Rice Research Institute (IRRI)  
ASEAN Sustainable Agrifood Systems  
General Directorate of Agriculture, Cambodia  
Cambodian Agricultural Research and Development Institute  
Cambodian Center for Study and Development in Agriculture  
iDE Cambodia

#### **Regions/provinces:**

Siem Reap Province  
Battambang Province

#### **Principal Investigators:**

George Norton, Virginia Tech  
Buyung Hadi, International Rice Research Institute

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