



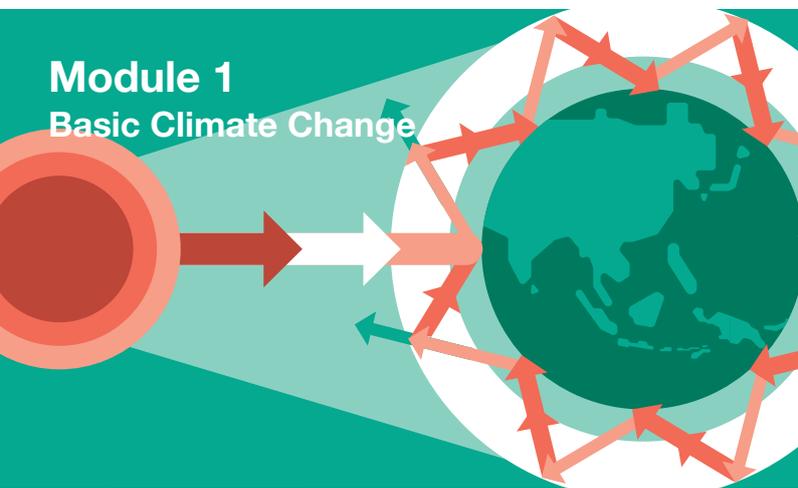
**USAID**  
FROM THE AMERICAN PEOPLE

**leaf** LOWERING EMISSIONS  
IN ASIA'S FORESTS



# Climate Change Curriculum Development

Preparing the Next Generation of Climate Change Experts



 **1**  
Curriculum

 **4**  
Modules

 **3**  
Years

 **6**  
Countries

 **60**  
Universities

 **700**  
Professors

 **30,000**  
Undergraduates

 **730**  
Graduates

## Training Needs Assessment

- Conducted with universities and partners
- Relevant topics prioritized to develop climate change curriculum
- Four module teams formed
- Module outlines developed

 **12** professors  
 **8** universities  
 **4** countries: Thailand, Laos, Cambodia & Vietnam

## Refining Curriculum

- Active learning exercises created
- Training scenarios designed
- Lesson plans, lecture notes, key messages developed
- Teaching demo conducted
- Feedback provided for module improvement
- Curriculum materials refined

 **56** professors & climate change experts  
 **12** universities  
 **6** targeted countries

## Curriculum Rollout in Vietnam

- Strong leadership by Vietnam Forestry University, Da Lat University and Vinh University
- An inter-disciplinary team of professors established to advance climate change education
- Curriculum initiative supported by USAID Vietnam Forests & Deltas
- Interactive seminars organized in five locations: Hanoi, Da Lat, Vinh, Thanh Hoa and Long An

 **245** professors & governmental officers  
 **13** universities & schools  
 **5** locations in **Vietnam**

**Oct 2012**  
Bangkok

**Aug 2013**  
Bangkok

**Jan & May 2014**  
Bangkok

**Aug 2014**  
Kuala Lumpur

**Jun, Aug & Dec 2014**  
Vietnam

**Dec 2014**  
Bangkok

## Materials Development and Curriculum Testing

- Module teams expanded
- Learning objectives defined
- Necessary knowledge, skills and attitudes identified
- Four packages of module materials developed
- Test training on four modules conducted

 **60** professors & climate change experts  
 **12** universities  
 **6** countries: Thailand, Laos, Cambodia, Vietnam, Malaysia & Papua New Guinea

## Training of Trainers for the Asia-Pacific

- Intensive Training of Trainers for the Asia-Pacific conducted
- Four parallel interactive trainings delivered
- Innovative ideas exchanged across four modules
- Series of active learning activities applied

 **100** professors & climate change experts  
 **14** universities  
 **6** targeted countries plus **India**

## Curriculum Rollout in Thailand

- Curriculum initiative led by three universities: Kasetsart, Chiang Mai and Phayao
- Competent team of inter-disciplinary master trainers established
- Interactive seminar delivered for a network of 16 universities
- Additional support by USAID LEAD and RECOFTC

 **50** professors & climate change experts  
 **16** universities in **Thailand**

## Curriculum Rollout in Cambodia

- Curriculum initiative led by the Royal University of Phnom Penh and the Royal University of Agriculture
- Committed team of master trainers created to advance climate change education
- Support provided by the US Embassy Phnom Penh
- Interactive seminar delivered to 8 universities

 **80** professors, governmental officers & practitioners

 **8** universities in **Cambodia**

## Curriculum Rollout in Laos

- Strong leadership by the National University of Laos
- Solid team of master trainers created to advance climate change education
- Support provided by the US Embassy Vientiane
- Interactive seminar delivered for a network of 6 universities

 **60** professors & governmental officers in Laos

 **6** universities in **Laos**

## Success Stories in Climate Change Education in the Asia-Pacific

- Success stories in advancing climate change in the Asia-Pacific
- Success stories and lessons learned documented and shared
- Key messages sent to university leaders and development actors
- Planning ways forward

 **7** countries: Thailand, Vietnam, Laos, Cambodia, Malaysia, Papua New Guinea & Ethiopia

 **63** universities & colleges

 **700** professors

 **30,800** students

**Jan 2015**  
Phnom Penh

**Feb 2015**  
Bangkok

**Apr 2015**  
Vientiane

**May 2015**  
Bangkok

**Aug 2015**  
Bangkok

**Sept 2015**  
onward

## Regional Training on LELUP Role Plays

- A series of dynamic trainings on LELUP role plays conducted
- Realistic set of common circumstances and challenges in a complex context of land use planning created and tested
- Strategies on how to teach LELUP role plays designed

 **27** professors & experts

 **12** universities

 **6** targeted countries

## Advanced Training on Climate Change Curriculum in Thailand

- Intensive Training of Trainers for the Asia-Pacific conducted
- Four parallel interactive trainings delivered
- Innovative ideas exchanged across four modules
- Series of active learning activities applied

 **40** professors & climate change experts

 **15** universities in **Thailand**

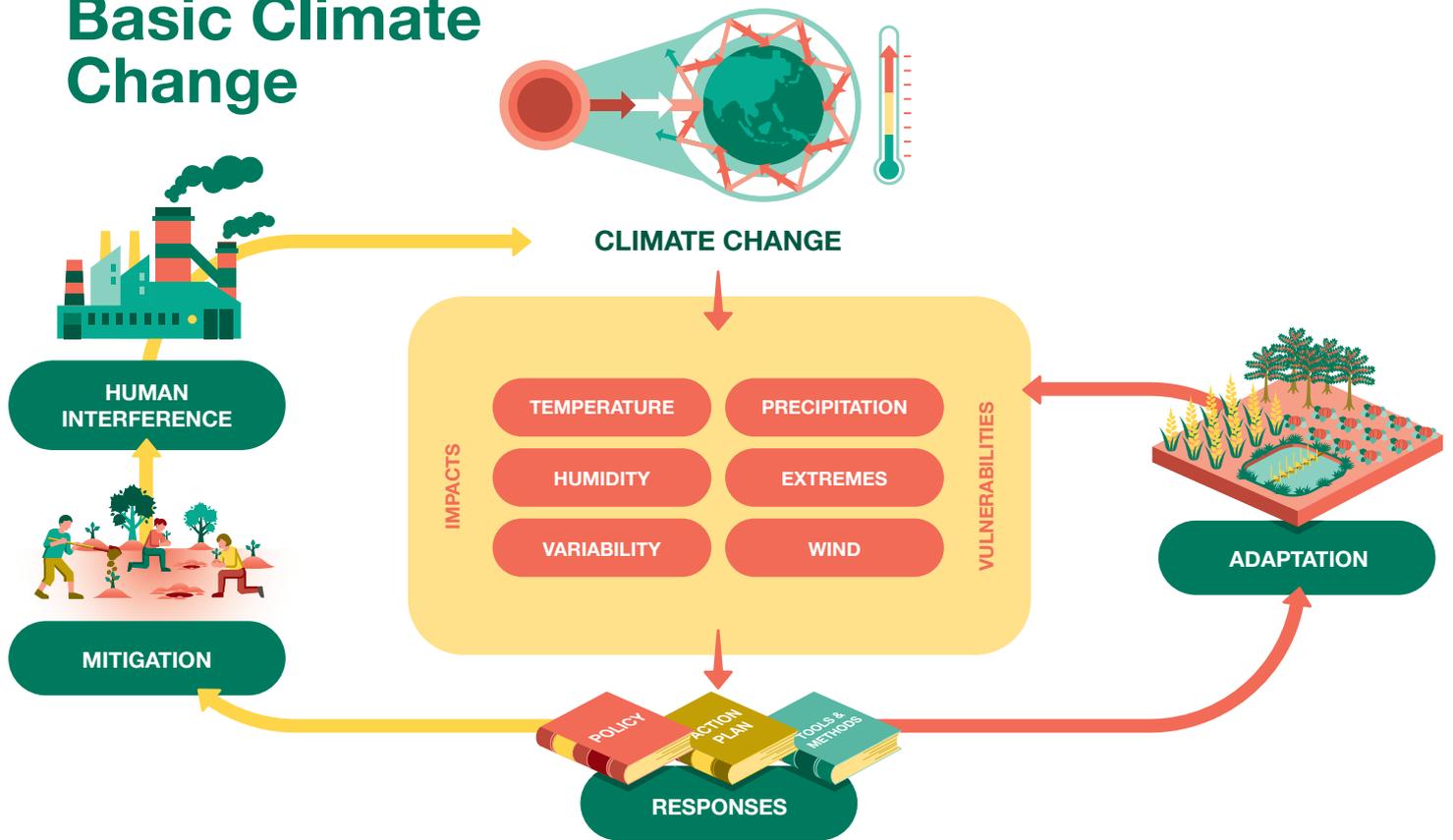
## Next Steps

- E-learning platform developed
- Curriculum materials including presentations, lecture notes and reference materials published online at:  
[leafasia.org/curriculum](http://leafasia.org/curriculum)  
[courses.recoftc.org](http://courses.recoftc.org)
- Curriculum promoted at USAID/Washington's [climatelinks.org](http://climatelinks.org) website

 **Worldwide outreach**

## Module 1

# Basic Climate Change



## Key Messages

Given the significance of climate change for people and the environment, students need broad knowledge on climate change topics.

Learning about climate change is relevant for students in many disciplines, including natural and social sciences.

This module covers a broad range of climate change topics, including causes and effects; mitigation and adaptation; and effective communication.



Taking early action on a 2014 decree by the Vietnam Ministry of Education in capacity building on climate change in the education sector, Da Lat University introduced a mandatory course, 'Introduction to Climate Change', to more than 8,000 students in 2015 with great success.

**Dr. Lam Ngoc Tuan**, Dean of the Faculty of Environment and Natural Resources, says, "In the near future, Da Lat University will expand the climate change course to different target groups and adapt the training design to specific disciplines and localities."

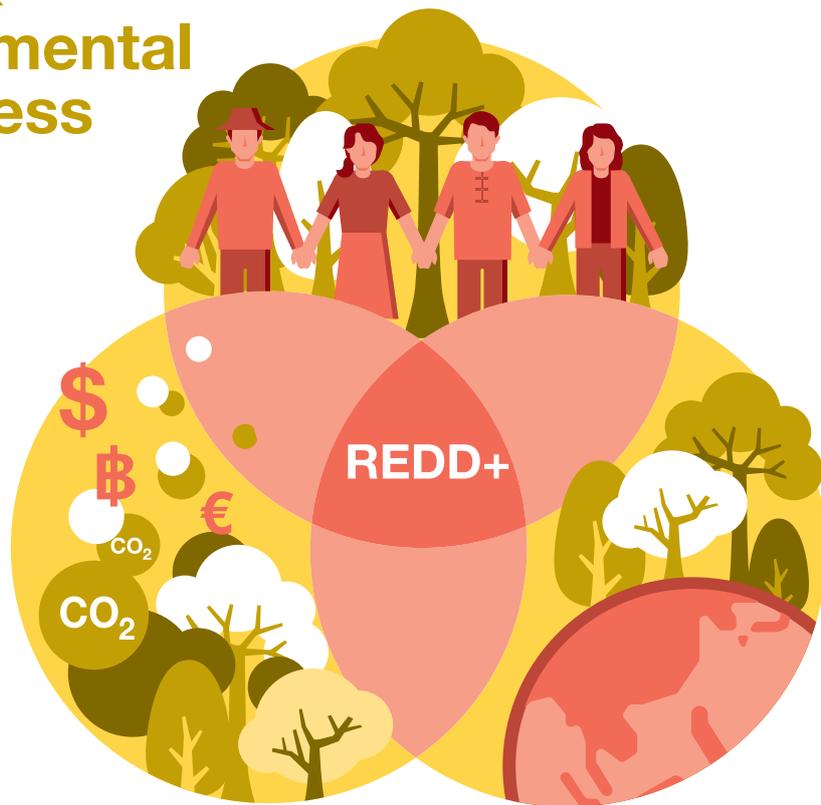


**Dr. Somvang Phimmavong** of the National University of Laos is using the USAID LEAF curriculum materials for online classes at the ASEAN Cyber University and the Faculty of Forest Sciences has designed a new master's degree program on Forest Resource Management for Climate Change Mitigation and Adaptation.

"Not only are my students more engaged, but developing these materials with professors and instructors from so many different universities has enriched climate change education in Laos," Dr. Somvang says.

## Module 2

# Social & Environmental Soundness



### Key Messages

Knowledge on social and environmental soundness can optimize human and environmental well-being beyond boundaries of climate change mitigation and adaptation.

Much of the course material is relevant to any climate change action realized through on-the-ground projects.

This module covers a broad range of social and environmental soundness topics, focusing on core underlying principles as well as REDD+ project application.



Since implementing the USAID LEAF climate change curriculum at the School of Natural and Physical Sciences at the University of Papua New Guinea, **Mr. Freddie Alei** has had more students enroll in his course, increasing from 100 to 260. He also adapted the curriculum for a new course entitled 'Social and Environmental Soundness in the Pacific (SESP)', for fourth year students in the Environmental Science & Geography Discipline.

"When I introduced these new materials at the university, it was fantastic because everybody started attending the course and they really like it because the materials were updated, the references and everything were updated," Freddie says.



**Dr. Tran Thi Thu Ha** of Vietnam Forestry University updates the curriculum with local evidence of climate change impacts relevant to the audience. Her students are very active in classroom activities by bringing in authentic examples of climate change impacts and discussing adaptation and mitigation measures for a specific area.

"In the scenario about climate change in Thanh Hoa province and how the people there try to adapt and mitigate climate change effects on the people, I think the important thing is whether you train academics at the university level or train people at the local level, you must adapt the material," explains Dr. Thu Ha.

## Module 3

# Low Emission Land Use Planning



## Key Messages

A changing climate is increasing demand and competition for increasingly scarce land resources and low emission land use planning plays an important role in balancing competing needs.

This module explores five critical steps to help land use planners and policy makers find the balance of social, economic and environmental needs.

A set of five role plays facilitates interactive learning of complex low emission land use planning concepts.



After being trained by USAID LEAF, **Mrs. Somvilay Chanthalounnavong** of the National University of Laos feels more confident delivering her courses. She explains, “It’s easier for me to prepare lessons because the material is ready to use. There are examples, case studies and guides for the instructor about how to explain the concepts and how to use the material.”

Mrs. Somvilay uses role plays in her classes, which stimulate active learning and facilitate discourse about the complexity of technical land use planning. She takes early steps to prepare future policy makers in Laos to gradually shift from traditional to adaptive land use planning with emphasis on emission scenarios.



Teaching at the Faculty of Environmental & Natural Resources Management at Vietnam’s Da Lat University, **Ms. Cao Thuy Anh** is excited to share how satisfied her students are with the rich materials in the USAID LEAF curriculum.

“We have a lot of information as well as examples from different countries. Based on the curriculum materials, I add other examples from Vietnam and so the students really like it. Another part is that the slides are very interactive. We have a lot of diagrams, pictures, and not a lot of words like we used to prepare for the slides so the students really enjoy it,” Ms. Thuy Anh says.

## Module 4

# Carbon Measurement & Monitoring



### Key Messages

Forests play an important role in regulating earth's climate. Increasing forest area and avoiding deforestation and forest degradation are key components of climate change mitigation.

The UNFCCC has called for transparent, reliable and accurate inventories of carbon emissions and stocks at regional and national scales from all signatory countries as a first step towards climate mitigation.

This module provides an overview of forest carbon stocks and change and also introduces methodologies for forest carbon measurement and monitoring.



**Dr. Modh Zaki Hamzah**, Deputy Dean of Forestry at Universiti Putra Malaysia, is very proud that two faculties from the university are involved in the USAID LEAF curriculum development.

At the university, his team is revising the curriculum by integrating materials from the USAID LEAF curriculum. Satisfied with his curriculum revision work, Dr. Zaki says, "We are revising our curriculum under the Bachelor of Forestry Science program for three minors, which are Forest Management, Wildlife Ecology and Management and Urban Forestry Management."



At Kasetsart University in Thailand, **Dr. Sapit Diloksumpun** is applying standard operating procedures for carbon measurement in the field. Her students really enjoy learning systematic methods and useful tools.

"Everyone is concerned with climate change in Thailand now, including universities," says Dr. Sapit. "USAID LEAF has prepared very good teaching materials and integrating them into Thai universities is important for the future of climate change education in Thailand and across the region."

Courses available at: [courses.recoftc.org](http://courses.recoftc.org)



**Module 1**  
**Basic Climate Change**

**Module 2**  
**Social & Environmental Soundness**

**Module 3**  
**Low Emission Land Use Planning**

**Module 4**  
**Carbon Measurement & Monitoring**

**The e-learning platform will:**

- Ensure sustainability of the climate change curriculum
- Provide a mechanism to receive user feedback and updates
- Introduce new target groups to the climate change curriculum
- Facilitate sharing of case studies and success stories by educators and practitioners
- Strengthen the network of academic institutions and stakeholders engaged in climate change education

**Key participating universities**



“

*I think one of the most successful things USAID LEAF has done that I am thrilled about is the curriculum materials. USAID LEAF did it right because they got the universities involved from the outset and got them enthused. They have bought into it and are invested in it. It's an invaluable resource for future generations of climate change study.”*



*Dr. Sandra Brown*  
Lead Scientist, Winrock International  
2007 Nobel Peace Prize diploma recipient



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