



ProAct
network



Local Inception Workshop

Using Vegetation for Protecting Against Shallow Landslides. An Ecosystems Protecting Infrastructure and Communities (EPIC) Project

*Invitation to attend the EPIC project China launch, and participate in the
“Vegetation and slope management for the reduction of slope stability hazards and
climate change adaptation” workshop.*

Date: March 20th, 2014 (1:30-17.00)

Venue: Room 101, Kunming Division, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, 88, Xuefu Road, Kunming, Yunnan 650223, China

中国科学院西双版纳热带植物园昆明分部

云南省昆明市学府路 88 号

Organizer: Dr Alexia Stokes, French National Institute for Agronomy (INRA), Montpellier, France

Chair: Dr. Zhang Jiaolin, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences

Participants: Local Universities and academic institutions, local government, international non-governmental organizations, interested private sector and civil society

Note: The workshop will be conducted primarily in the Chinese language with simultaneous translation English/Chinese.

Background:

Reference is increasingly being made to the protective role given by certain ecosystems such as coastal forests or floodplains in response to storm surges or flooding. Yet, much of this evidence remains anecdotal. There remain significant gaps in our knowledge on **the role of ecosystems as protective barriers against climate induced hazards** and the effectiveness of simple ecosystem-based practices in reducing direct and indirect hazard risks.

The [Ecosystems Protecting Infrastructure and Communities \(EPIC. http://www.epicproject.net/\)](http://www.epicproject.net/) is an international project involving 6 countries launched in 2013 in response to the recognized gaps in information and capacity to consistently apply ecosystem-based approaches to disaster risk reduction and climate change adaptation. EPIC is a five year initiative funded by the Germany Federal Ministry for the Environment, Nature Conservation and Nuclear Safety's International Climate Initiative (BMU-ICI).

The project is being coordinated by [IUCN](#) and [ProAct Network](#) and building on their experience - together with its partners in EPIC - evidence-based science will be gathered and assessed from a range of situations. This project deliberately seeks to address some of these knowledge gaps through five case studies and to then use this information to inform others, particularly planners, decision- and policy-makers.

Knowledge will be compiled from a range of sources, primarily communities exposed to, or at-risk from, climate-related hazards to better understand their past vulnerabilities and exposure as well as to help them prepare for future shocks.

Undertaking five inter-related sets of field projects - and linking this with other materials from the literature - empirical and applied science will be collated for different ecological, geographical and social scenarios. Based on this, capacity building will be carried out to enhance ecosystem based risk reduction thinking and practice in the selected countries.

EPIC in China:

The main objective of the EPIC@China project is to determine long-term, ecological engineering solutions for vegetating and managing degraded hillslopes prone to shallow landslides and erosion. The approach employed is via the analysis of different plant species - how they grow over time and occupy space on a slope which is potentially unstable. There are three key questions which we aim at answering:

- 1) **What is the mass wasting problem?** Three major types of problems exist concerning soil and slope stability (i) soil particle run-off and wind erosion, (ii) shallow landslides due to a lack of vegetation cover, (iii) erosion by water due to heavy rains and floods (which can also lead to landslides). The answer to the question "which problem" will be a determining factor for the management strategies to be developed and must take into account temporal and spatial scales.
- 2) **What is the process?** Vegetation on slopes can be studied by considering three distinct processes: (i) anchorage efficiency of the plant (ii) modification of physical and mechanical properties of the soil (iii) adaptive processes of plant growth on unstable and degraded soils. We wish to learn which factors influence root development and which plants present an adaptive development improving soil strength at the same time.
- 3) **Which vegetation?** As well as life-form, ecological niche and appearance in succession phases (pioneer or climax vegetation) will play an important role in how a plant can fix soil on slopes. Ecosystem services such as food, medicinal uses, animal fodder etc also need to be taken into account.

The study will be carried out in Nujiang, County, Salween River valley, which lies on the border between China and Myanmar. The Salween River valley is one of the world's richest areas in terms of plant biodiversity but slope degradation through recent road building is leading to massive soil runoff and landslides. Our work will include (1) field site characterisation and description of ecosystem services provided by vegetation (2) morphological characterisation of plant root types on site (3) characterisation of mechanical soil-root interactions and (4) development of models to simulate slope stability over time with different spatial patterns of vegetation.

Ecosystem-based disaster risk reduction measures offer enormous potential, with multiple benefits possible for many parts of society - social, economic and environmental. Not only do such measures have the potential to provide cost-effective and environmentally friendly infrastructure for risk mitigation, they also sustain the services which provide benefits for human security - such as livelihoods and carbon sequestration

Inception Workshop Objectives:

- To launch the EPIC project in Yunnan by informing and building awareness of its goals amongst interested parties
- To exchange information on the reduction of slope stability hazard and climate change and the role ecosystem-based adaptation with interested parties, with the goal to support future networking, collaboration and synergies
- To introduce how vegetation can be used to prevent shallow landslides and erosion, thus protecting local communities and infrastructure
- To establish connections with partners - government agencies, NGOs, communities - in terms of learning lessons that will be applied in both practice and to help inform policy during the latter part of the project.

Agenda

1:00-1.30	Registration (free)
1.30- 14.00	Opening of the workshop
	Introduction to XTBG-CAS and its research and conservation activities 版纳植物园及其科研和保护活动介绍 By Dr. Zhang Jiaolin 张教林博士
14.00 – 14.25	Presentation on project’s background and activities: “Vegetation and slope management for the reduction of slope stability hazards and climate change adaptation” by Alexia Stokes, (INRA, France)
14.25 – 14.50	“IUCN in China: Organization, Programmes and Linkages with EPIC” (世界自然保护联盟在中国：机构、项目和对 EIPIC 的支持) by Zhang Yan, Programme Coordinator, IUCN China 张琰，世界自然保护联盟中国代表处项目总监
14.50 – 15.15	“Ecosystem-based Approach” by Dr. David Stone, Director of ProAct Network-Switzerland
15.15 – 15.45	Tea / Coffee Break
15.45 – 16.10	(XTBG, 中国科学院西双版纳热带植物园) 物种种源演替等级对森林修复的影响 “Effect of successional status of source species on forest restoration” by You-Xin Shen 沈有信, Dr. and Associate Prof. 博士 副研究员
16:10 – 16:35	TO BE CONFIRMED
16:35-17:00	Discussion and Closing
17:00	Banquet for participants

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