

# FFI Karst Education in Vietnam

As Part of the ARCBC karst training course on  
“Capacity Building for Protected Area Staff in Karst Conservation areas ”



**FFI - Coastal Biodiversity Support Project (CBSP)**



# Karst Education - Introduction

What is Karst Education?

Karst Education – EE criteria & Approaches

Why do we need Karst Education?

What Karst education is being conducted in Vietnam?

Karst Education for the public

Karst Education for students – Halong curriculum

Karst Education for tourism – Cat Ba & Halong

Karst Education for policy makers – CPPL Mapping

Karst Education –Future



# Karst Education

FFI sees karst systems as part of the total environment and karst education as a component of Environmental Education (EE) – as such an understanding of EE is necessary.

There are many definitions for EE, however the most widely used is **TBILISI (1977)**: “Environmental education (EE) is a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems, and which has the knowledge, attitudes, motivation, commitment, and skills to work individually and collectively toward solutions of current problems and the prevention of new ones.”



# Karst Education – EE Criteria

## EE FOCUSES ON FIVE CRITERIA WHICH ARE:

### *Knowledge:*

EE provides individuals and communities with a basic knowledge and understanding of the environment and the inter-relationship between humans and the environment.

### *Awareness:*

EE promotes awareness and a sensibility in individuals and communities about the environment and its problems

### *Attitude:*

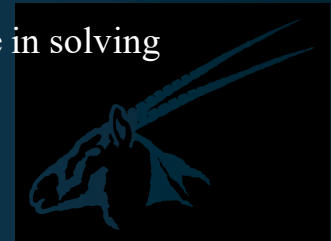
EE encourages individuals and communities to value the environment and consider it important and tries to inspire participation in the process of improving and protecting the environment

### *Skills:*

EE provides people with skills to identify, predict, prevent and solve environmental problems

### *Participation:*

EE provides individuals and communities with the chance to actively participate in solving environmental problems and to make educated decisions



# Karst Education – EE Approach

## APPROACHES TO EE ARE OFTEN TERMED “IN ABOUT AND FOR” THE ENVIRONMENT:

- Education in the Environment uses the natural environment as a teaching tool – a natural laboratory to provide knowledge and hone skills to protect it. This component helps develop values and creates positive attitudes.
- Education about the Environment provides learners with practical knowledge about the environment and the impact humans have on it
- Education for the Environment develops a consciousness and deep concern about the living environment and promotes responsibility for taking care of and protecting it. The objective of this component is to develop attitudes and levels of understanding, which influence people to take collective action that will positively benefit the Earth.



# Why do we need Karst Education?

- Karst systems are unique and need specific types of understanding and management
- Education can reduce negative environmental & cultural impacts and promote more effective management.
- Explanation of karst provides an opportunity to educate the public on water resource shortages and vulnerabilities
- Learn about appreciating the beauty and the mystery of karst



# Karst Education - Public

- Hai Phong exhibition on environment included a specific display focusing on karst in the area
- Facilitate journalists to produce TV, radio and newspaper coverages on environmental issues in Halong – Catba area



# Karst Education - Schools

## Halong World Heritage Curriculum

### ◆ Khu vực Vịnh Hạ Long chứa nhiều dạng địa hình Karst

- Các khe nứt núi đá vôi.
- Dạng địa hình Karst hình nón và dạng tháp: đó chính là các hòn đảo đã phân bố rất dày, quần tụ và rải rác trên Vịnh.
- Phễu Karst: dạng địa hình Karst giống như chiếc phễu, nhưng ở Vịnh Hạ Long, các phễu karst thường bị nước biển làm chìm ngập tạo nên những chiếc hồ nước mặn giữa biển như hang Luồn, hồ Ba Hầm.
- Cảnh đồng Karst: là những vùng trũng có đáy rộng phẳng nằm trong vùng Karst. Ở Vịnh Hạ Long, các cảnh đồng Karst thường bị chìm dưới đáy biển.
- Dạng karst ngầm: đó chính là những hang động trên Vịnh Hạ Long mà hiện nay được phát triển thành những điểm du lịch rất lý thú trên Vịnh.



Một thí dụ về núi đá vôi ở Vịnh Hạ Long (Nguồn: FFI).

### ◆ Tầm quan trọng của địa hình Karst trên Vịnh Hạ Long

- Đá vôi vừa là khoáng sản, vừa tạo cảnh quan đặc sắc cho khu vực Vịnh. Chính cảnh quan độc đáo có giá trị thẩm mỹ cao đã giúp Hạ Long được công nhận là DSTG.
- Karst cũng là môi trường sống của rất nhiều loài thực vật và động vật. Người ta đã tìm thấy những loài thực vật chỉ sống ở vùng núi đá vôi của Hạ Long mà không tìm thấy ở một nơi nào khác (7 loài thực vật đặc hữu của Hạ Long), bên cạnh đó cũng có nhiều loài động vật thích nghi với điều kiện núi đá vôi trên Vịnh Hạ Long như: chim, khỉ, chuột, mèo rừng và một số loài côn trùng. Ngoài ra trong hang động cũng có nhiều loài động, thực vật sinh sống. Tất cả những loài vật sống trên địa hình Karst Hạ Long đã tạo nên một hệ sinh thái độc đáo – đó là hệ sinh thái trên núi đá vôi, hệ sinh thái này làm tăng thêm cảnh quan độc đáo cho Vịnh.
- Những ngọn núi đá vôi trên Vịnh Hạ Long còn là nơi lưu giữ lại rất nhiều di chỉ khảo cổ, di tích lịch sử và cả bài thơ từ nhiều thế kỷ trước – đó là những di vật quý giá về lịch sử và văn hoá địa phương.

Việt Nam là nơi hội tụ của nhiều thắng cảnh Karst kỳ thú, nhưng độc đáo nhất vẫn là cảnh quan Karst ở Vịnh Hạ Long!





# Karst Education - Tourism

## CAT BA NATIONAL PARK

Cat Ba – karst specific interpretive signage at National park lookout highlighting:

- Cat Ba's Karst Landscape: A threatened ecosystem with surprising values for humans
- Green Pyramid Peaks: How they came to be



# Karst Education – Tourism (cont.)

## Halong Bay

- Much of the education tourist guides interpreting the caves focuses on the cultural stories of the caves and lacks environmental links.
- The Halong Bay Management Department is now moving into environmental management such as litter control for Halong Bay and FFI is supporting this.







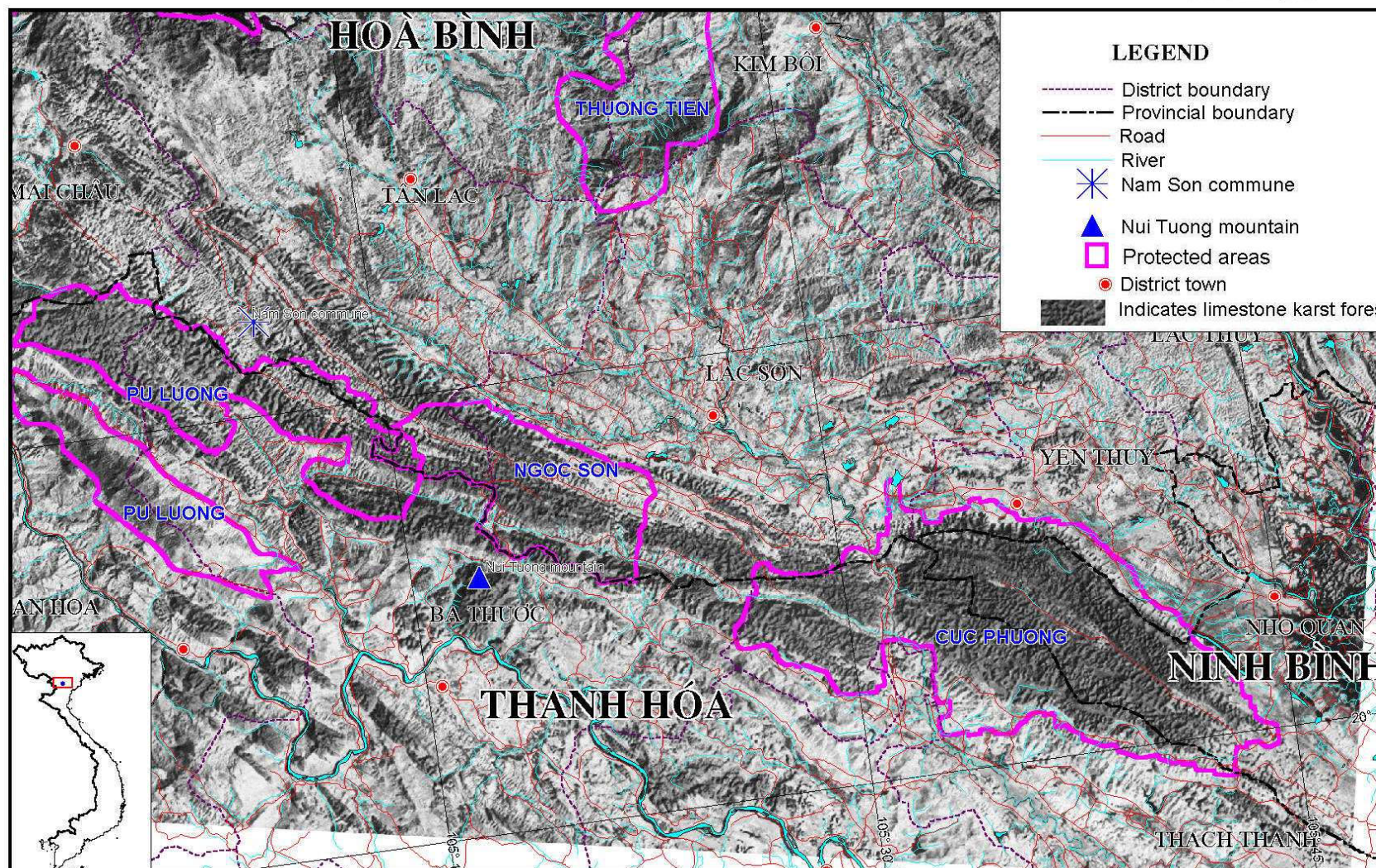


Annex 1:

## MAP OF PROJECT FOCAL AREA



Scale 1:320,000





# Karst Education - Policy

## **Pu Luong – Cuc Phuong Limestone Range: A Landscape Map**

The Pu Luong – Cuc Phuong Limestone Landscape comprises a belt of limestone karst that runs east to west from Ninh Binh province to the Son La plateau. It encompasses three provinces, numerous districts and dozens of communes.

### **Overall Aim:**

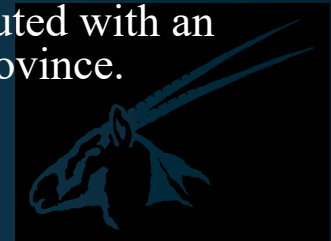
- To promote awareness of the existence of the limestone karst range as a distinct and unique landform within the greater landscape of north-central Vietnam.

### **Approach:**

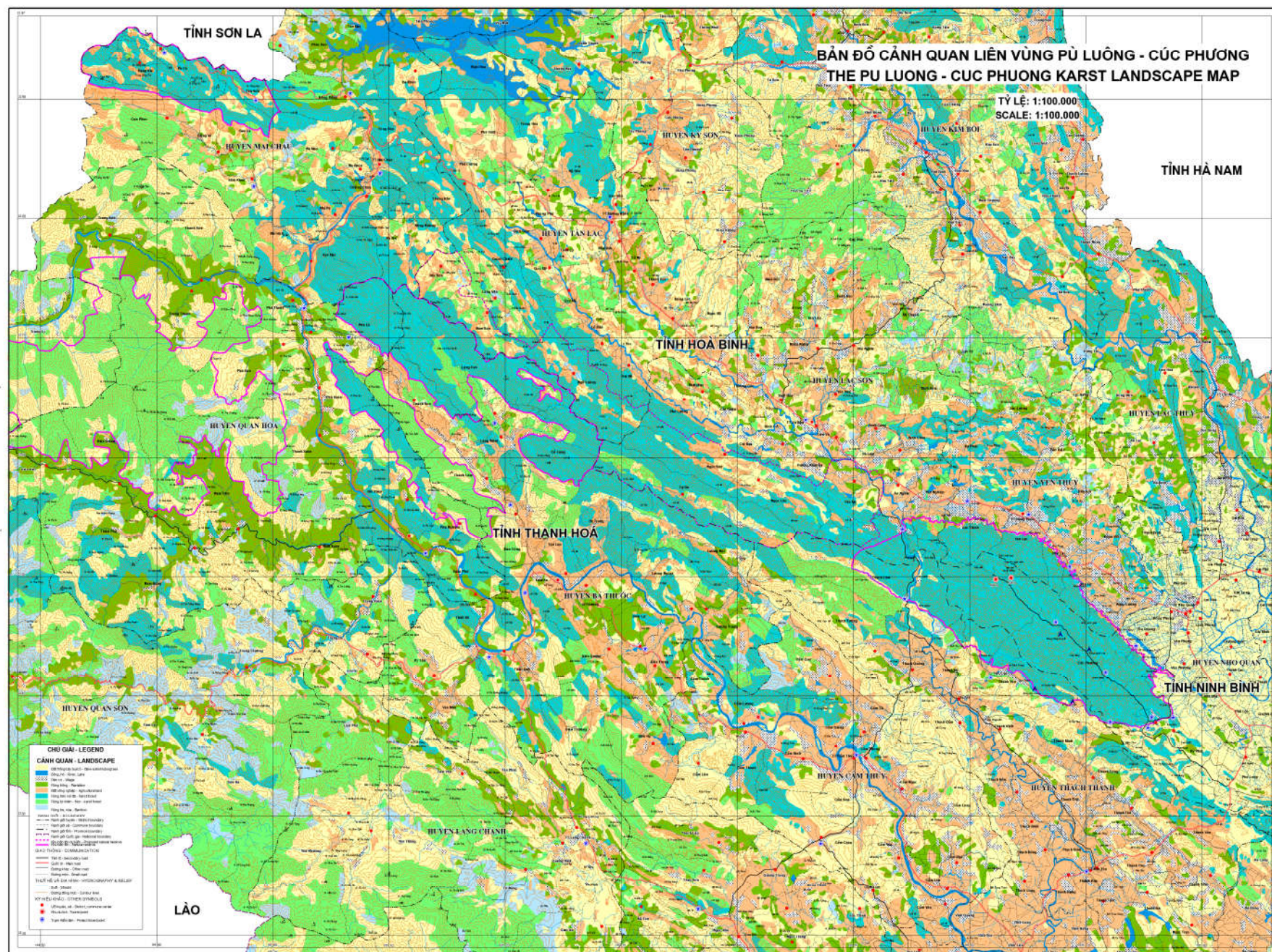
- Undertaken as a collaborative exercise between the Forest Protection Departments of the three provinces.

### **Result:**

- A map showing the karst landscape in its entirety, which will be distributed with an explanatory leaflet to raise awareness at all levels, from commune to province.









# Karst Education - Policy

## Planning Atlas for Pu Luong - Cuc Phuong Limestone Range

**Goal** - ‘To support the capacity of planning agencies in the Pu Luong - Cuc Phuong limestone landscape to plan at the landscape level and integrate natural resource management and conservation into planning processes.’

### Main Activities

- Collaborative development of database on the natural resources of the Pu Luong –Cuc Phuong limestone landscape and integration of this with a landscape level GIS Atlas for the area.
- Distribution of the database/atlas among relevant parties at the commune, district and provincial levels.
- Providing training in its use so that the Atlas can be effectively used and kept up to date.

### Outputs

- Improved use of natural resource management information in planning decisions at all levels.
- Strengthened awareness of the landscape concept and increased reference to landscape level issues in planning activities.
- Greater awareness of and reference to protected areas and biodiversity amongst planning authorities in the landscape.



# Karst Education - Future

- Links to cultural heritage – for example at Cat Ba there are stories of the ‘Green Pyramids’ at Halong there is the story of the ‘Descending Dragon’.
- Poster and educational materials to highlight geology and biodiversity of karst areas
- Potential for documentary on karst area of Vietnam
- Guide training to expand caves education from existing cultural emphasis to include more geological and biological information.
- Increasing levels of knowledge within karst areas will help to develop better educational materials





# Karst Education – future

Any approaches to Karst Education require good planning and cooperation for them to be successful.



Karst Education is an important tool in the management of karst ecosystems.

