



# A new approach, balancing

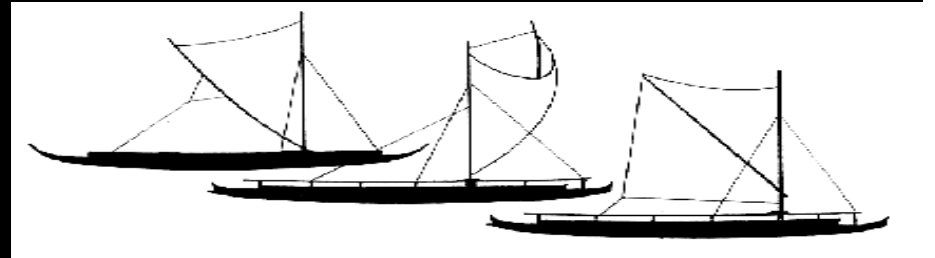
Economic value



Environmental value



Cultural value



Educational value

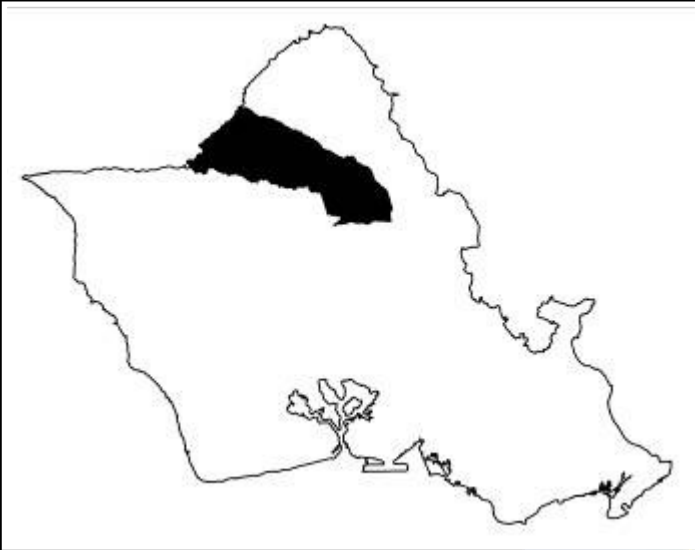


Community value





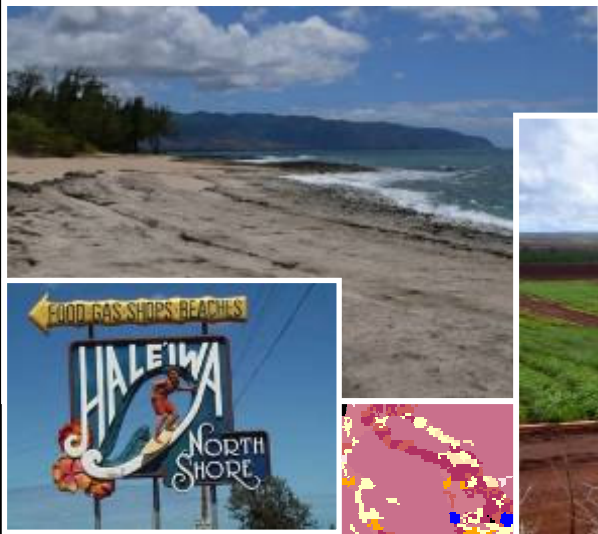
# Kamehameha Schools Land Use Planning



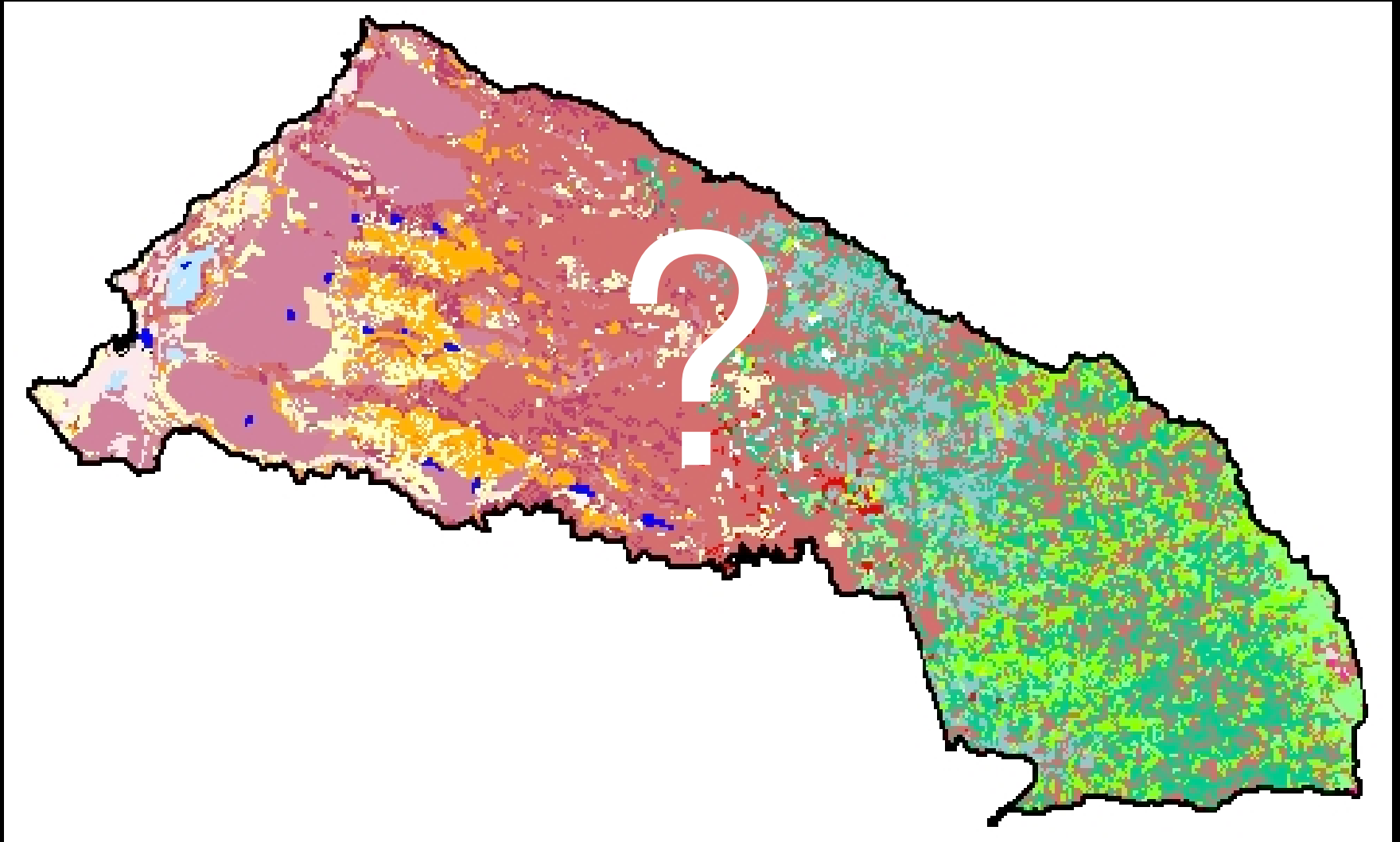
Island of O`ahu



# Current Landscape



But, what should this landscape look like in the future to balance these goals?

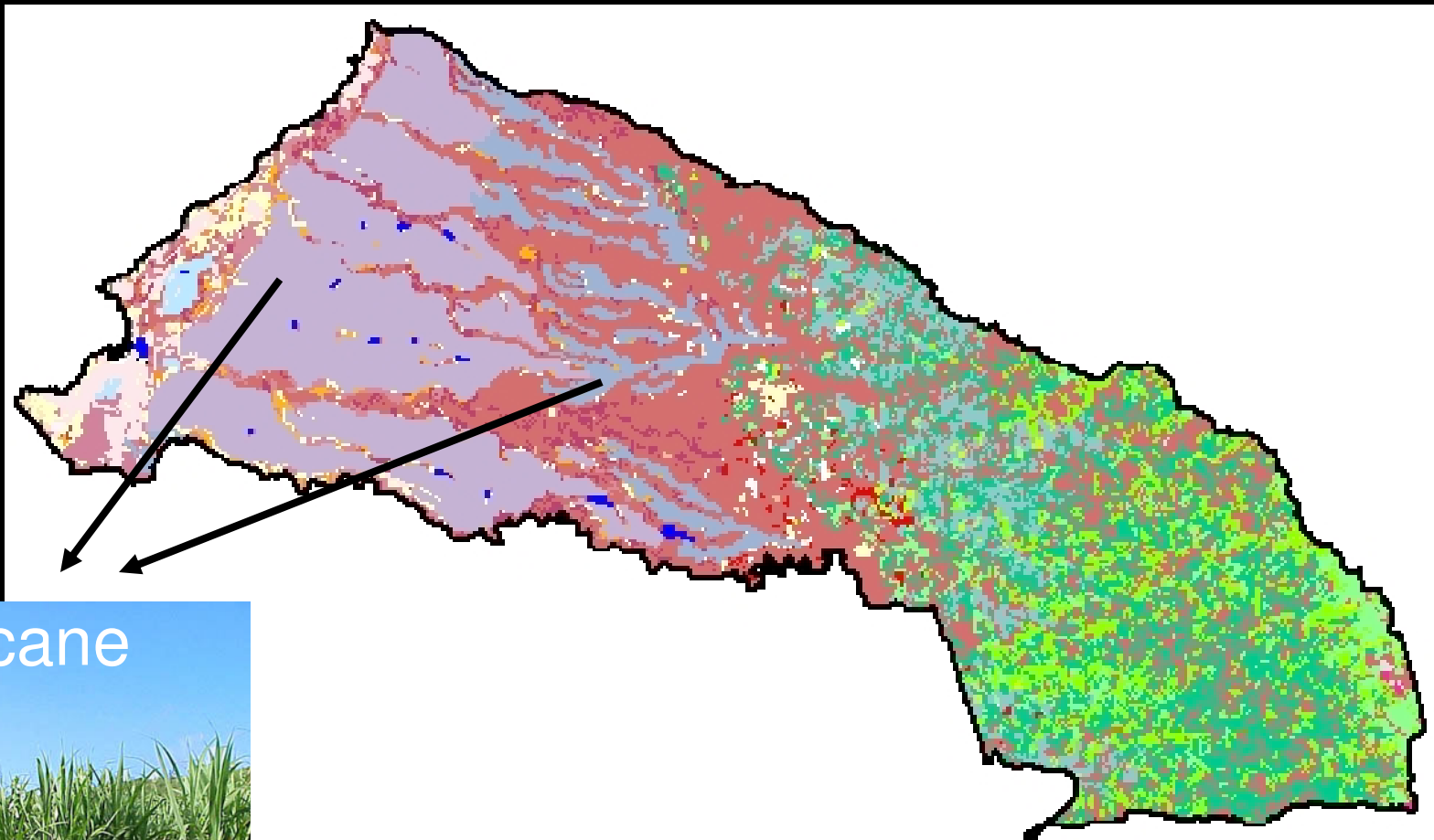


# Developing scenarios





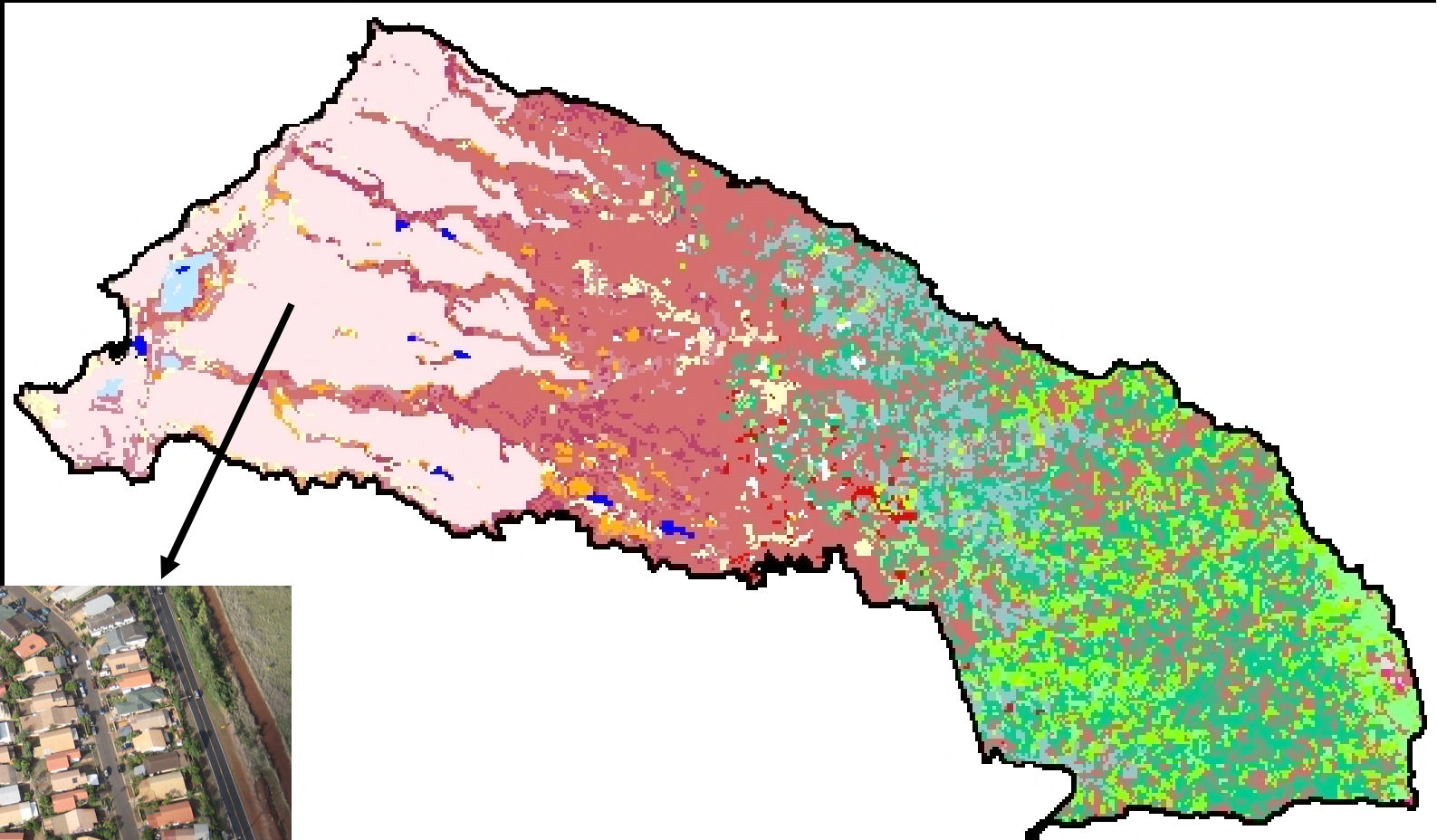
# Growing a biofuels feedstock



Sugarcane



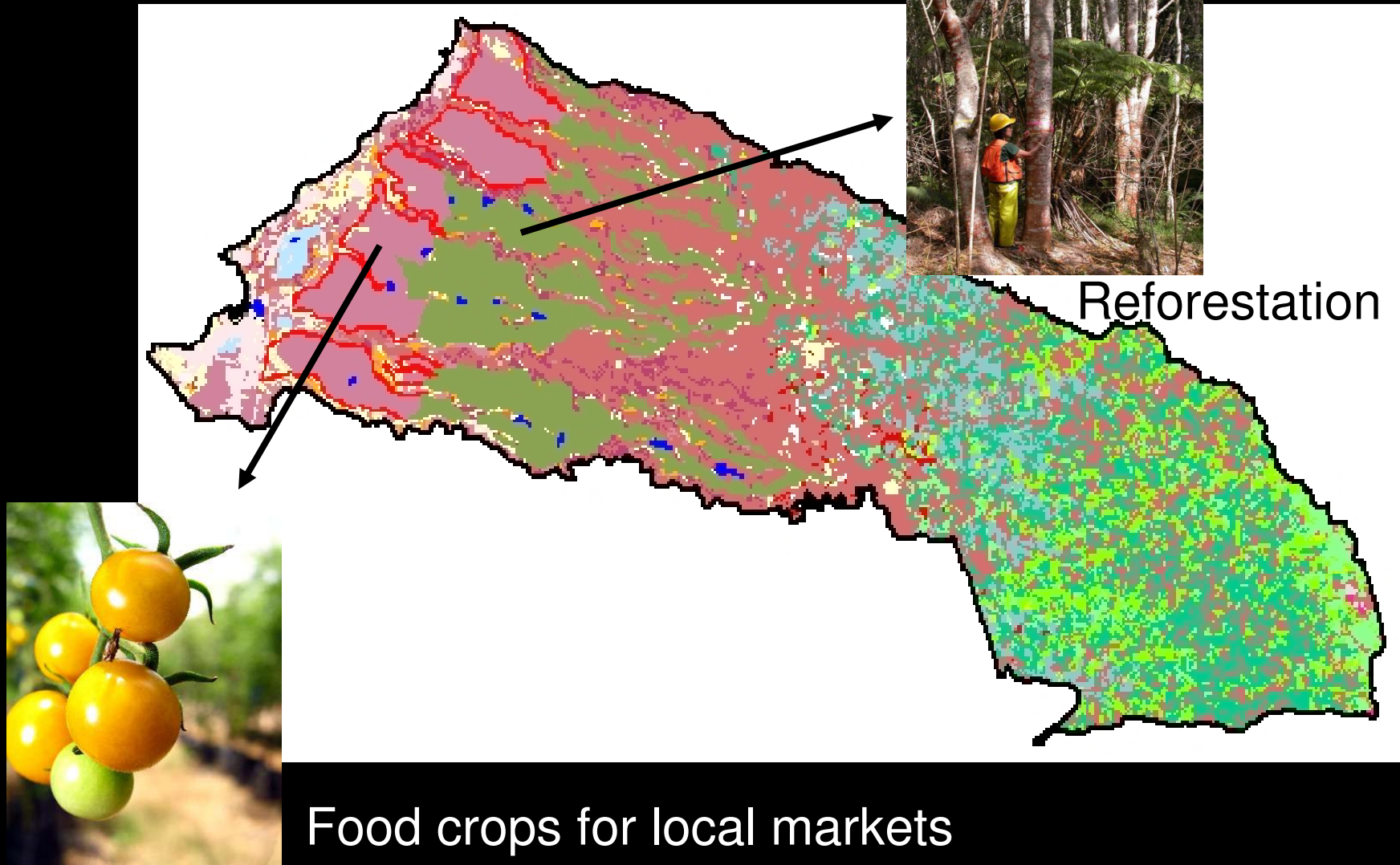
# Expanding residential development



Housing



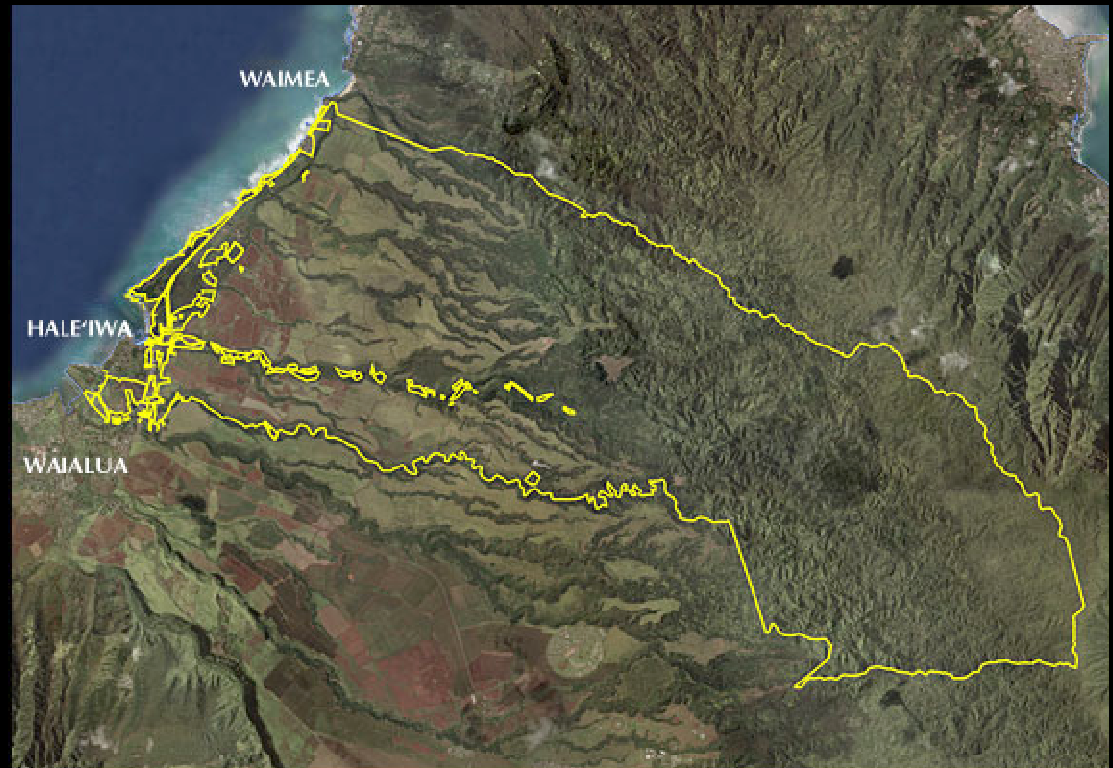
# Diversified agriculture & forestry



# Questions for InVEST

What is the flow of ecosystem services on today's landscape?

How might these service flows change in the future?

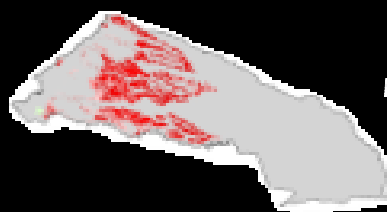


# Changes in Ecosystem Services

Biofuels



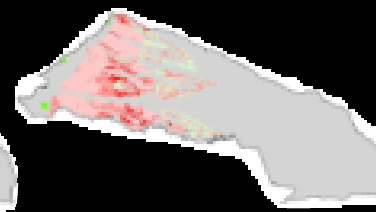
Carbon Storage



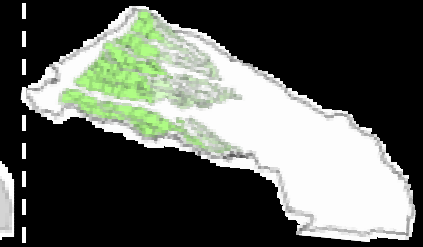
Water Quality



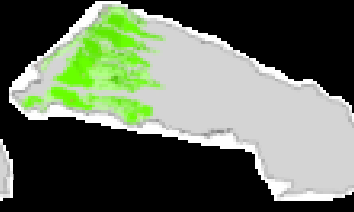
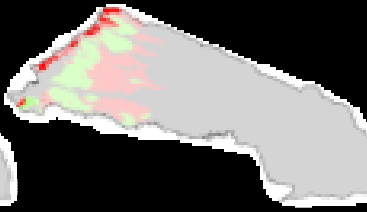
Water Yield



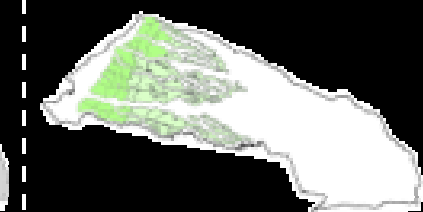
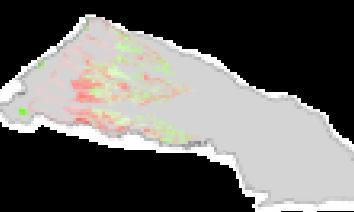
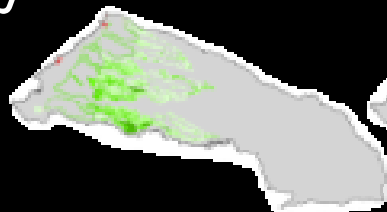
Income



Subdivision




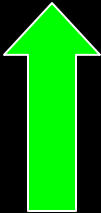



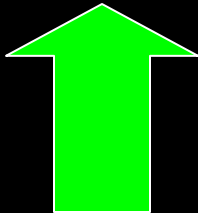
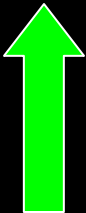
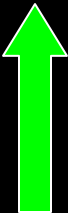

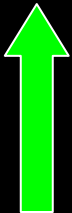


Ag & Forestry





# Changes in Ecosystem Services

Scenarios		Carbon Storage	Water Quality	Water Yield	Income
Biofuels	Subdivision				
	Agriculture & Forestry				
					



Diversified agriculture & forestry  
~ the desired balance, with income,  
climate control and clean water benefits.

# State Climate & ES Policy





# Water Funds in L. America

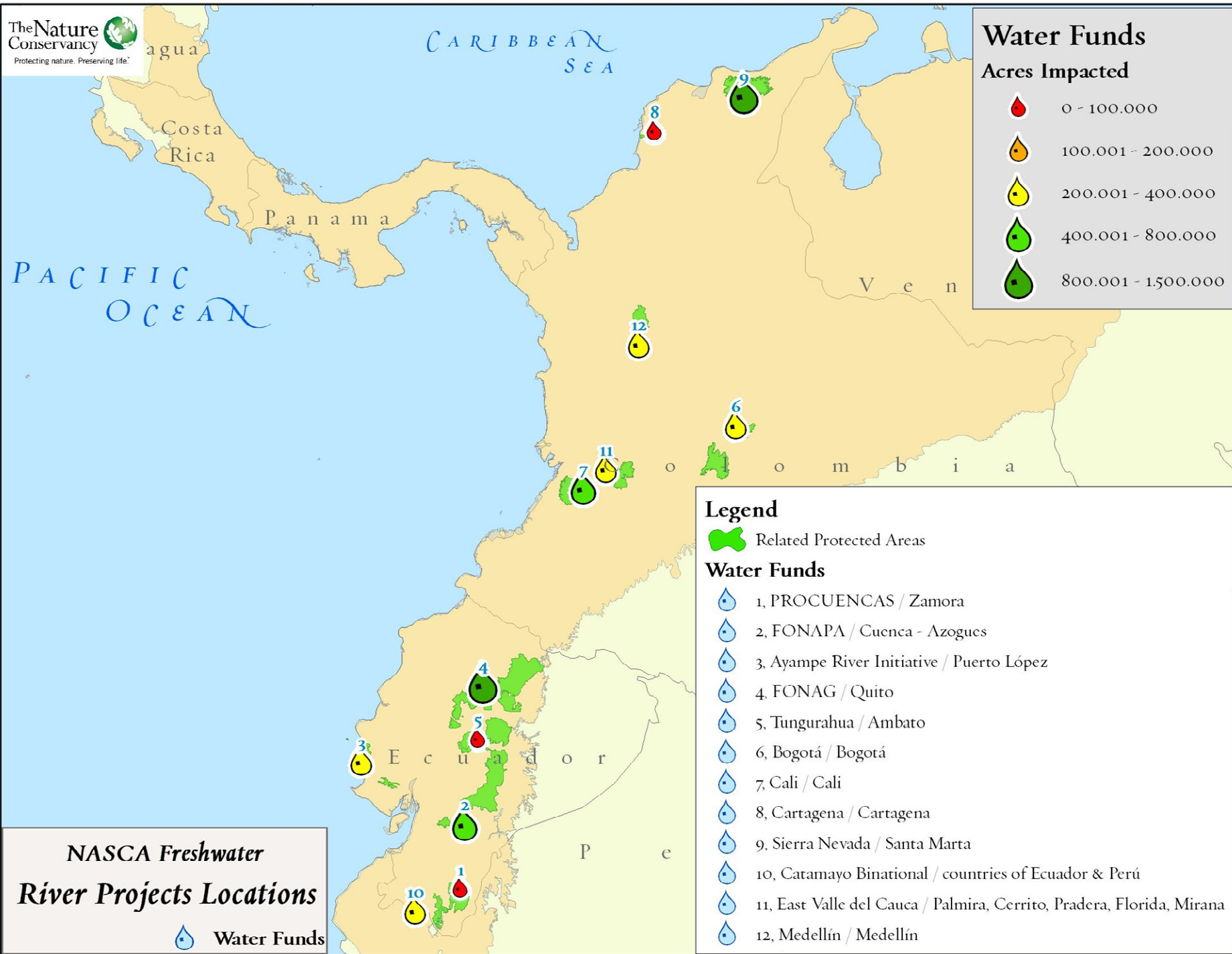


STANFORD  
UNIVERSITY



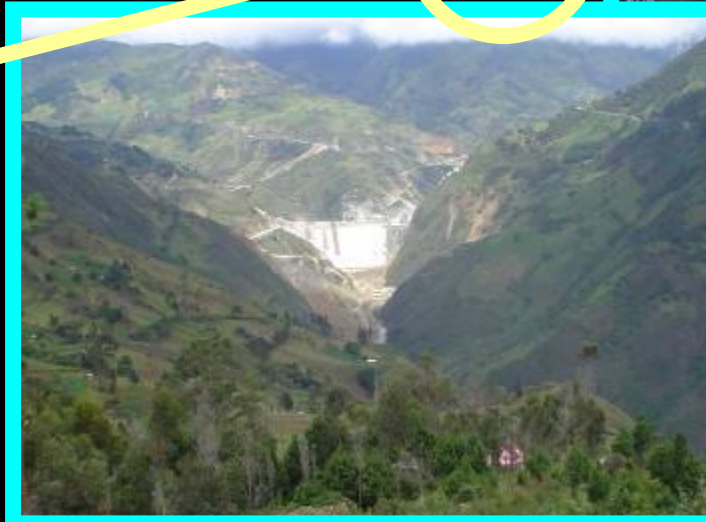
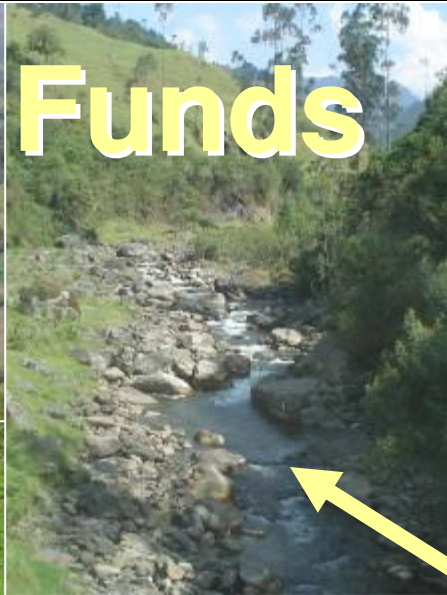
Replicate & scale water  
funds

1. New finance & policy mechanisms
2. Targeting of activities





# Water Funds





# Resource Licensing



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Colombia



1. Target resource use & conservation

2. New offset & mitigation policies

# Colombia's Ministry of the Environment

mining



agriculture



transportation



and other major sectors.

# Land Use Decisions in China



1. Delineate Ecosystem  
Function Conservation  
Areas

2. Embed InVEST in  
Master Planning

3. Evaluate policy  
interventions





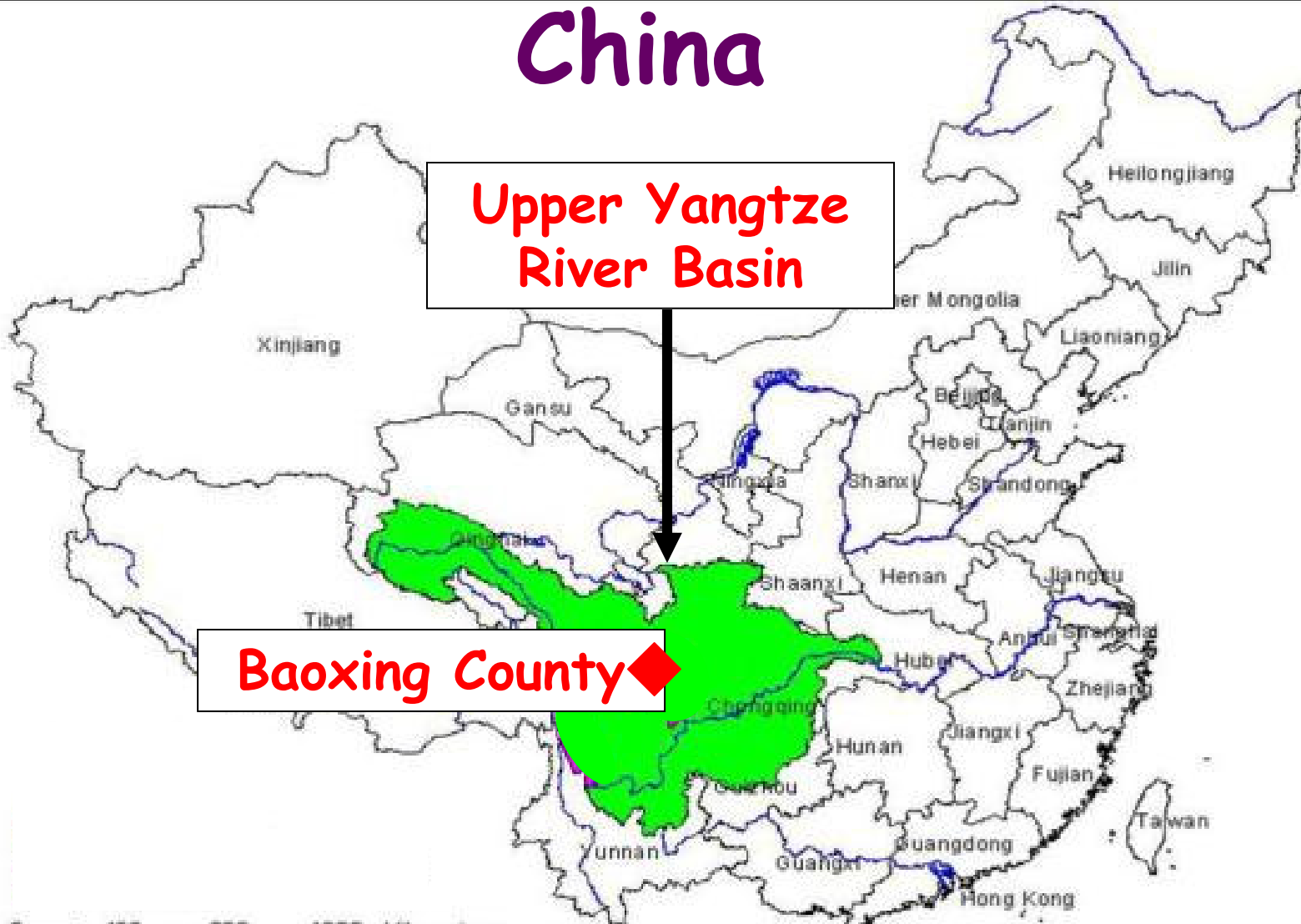
# China

Upper Yangtze  
River Basin

Baoxing County

Hainan Island

0 400 800 1200 Kilometers



# Baoxing County



Giant panda



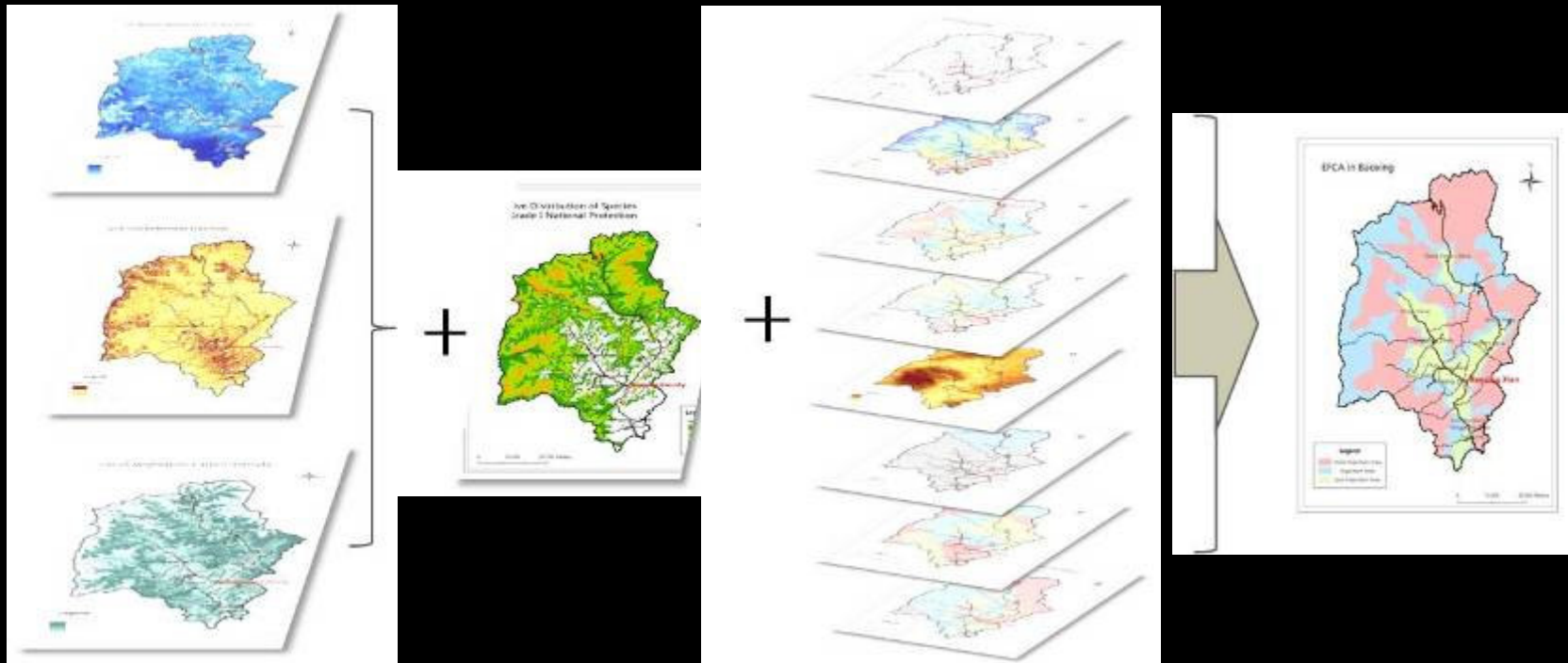
Red panda



alib

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# Baoxing EFCA Mapping with InVEST



## PRODUCTION:

- Water Retention
- Soil Retention
- Carbon Storage
- **Biodiversity**

## DEMAND:

- Hydropower
- Flood Mitigation
- Irrigation
- Agriculture, Mining

Draft  
EFCA  
Map

# Upper Yangtze EFCA Mapping with InVEST

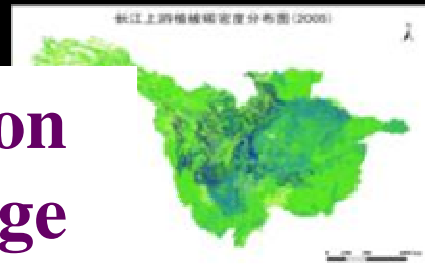
**Water  
Retention**



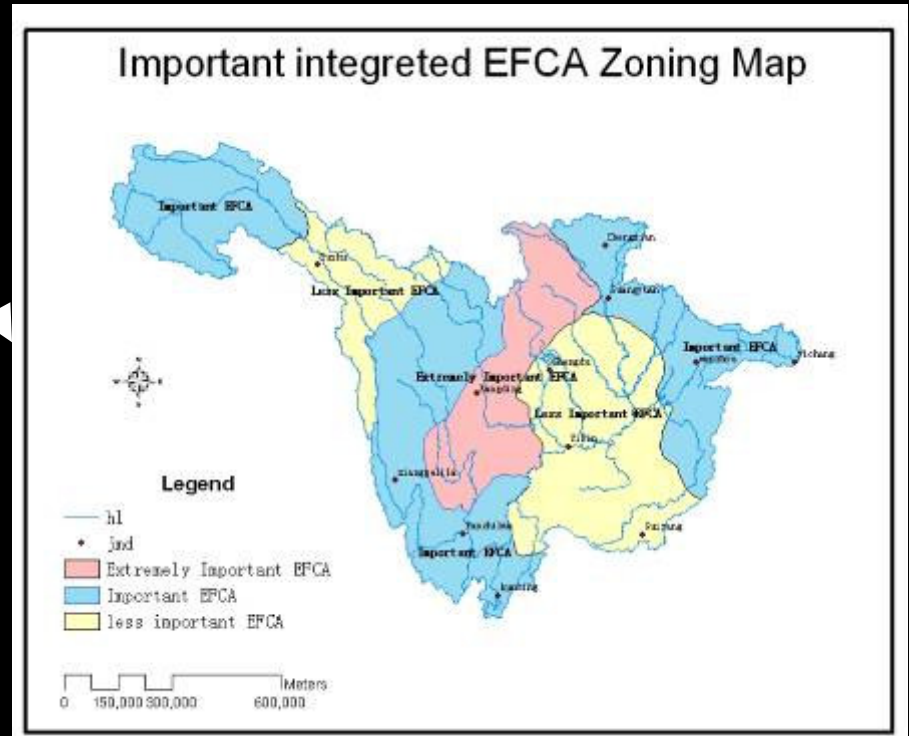
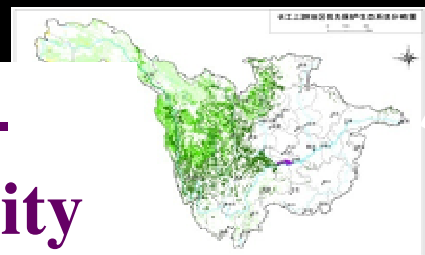
**Soil  
Retention**



**Carbon  
Storage**



**Bio-  
diversity**





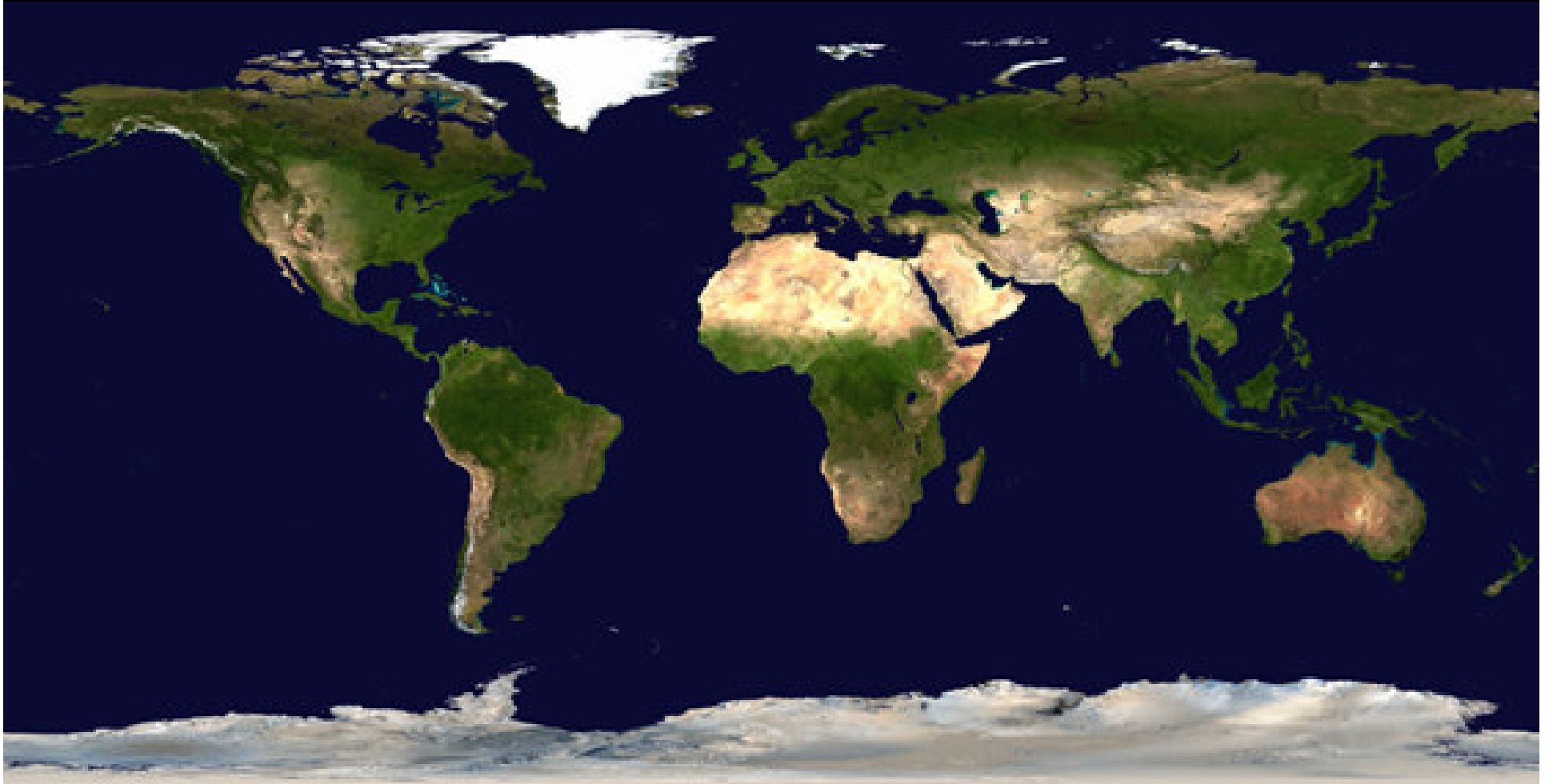
# Policy Evaluation

Program success?

For people & nature



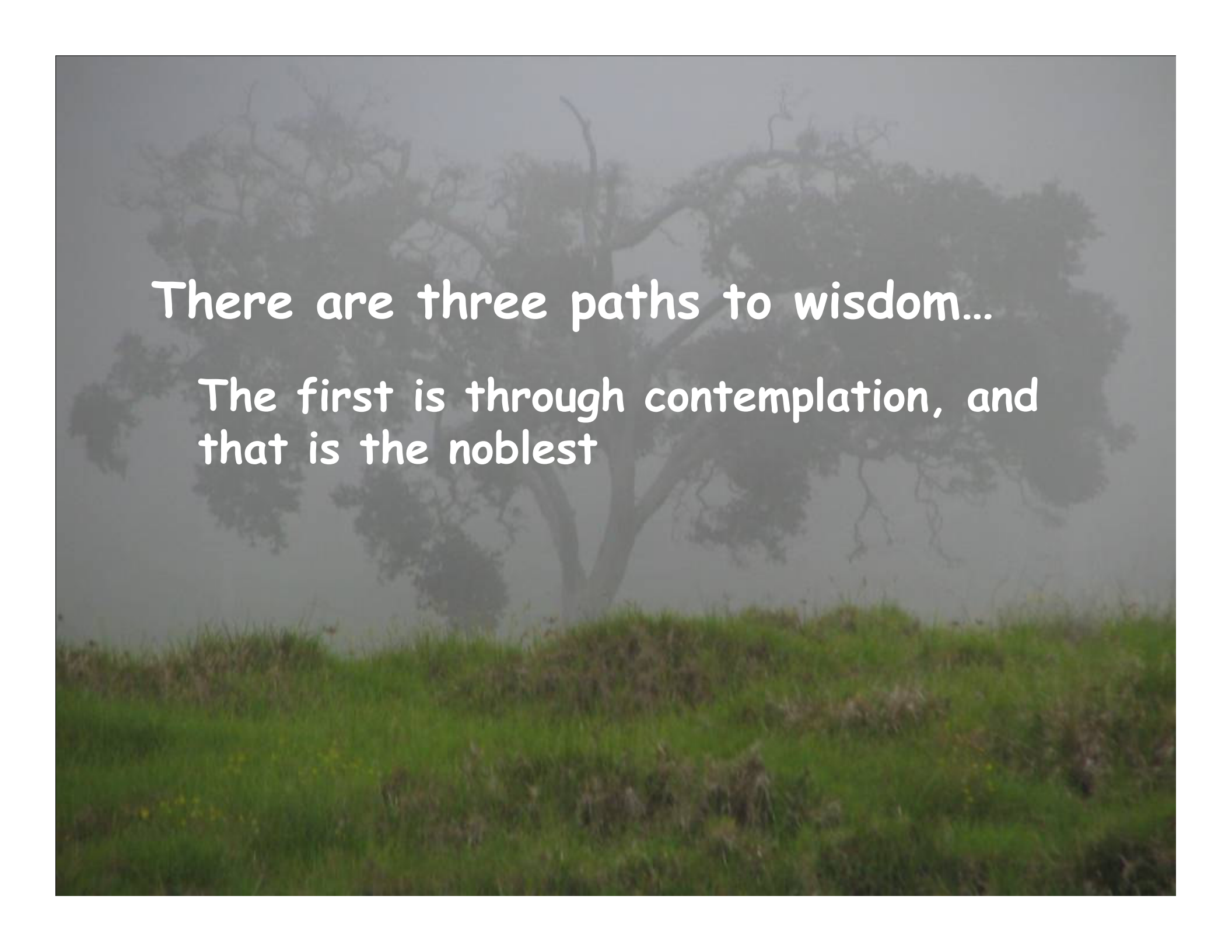
Looking ahead...





A large, leafy tree stands on a grassy hill under a foggy sky. The tree has a thick trunk and many branches with green leaves. The grass is green and slightly overgrown. The fog is thick and grey, covering the background and the sky. The text "There are three paths to wisdom..." is written in white, serif font across the middle of the image.

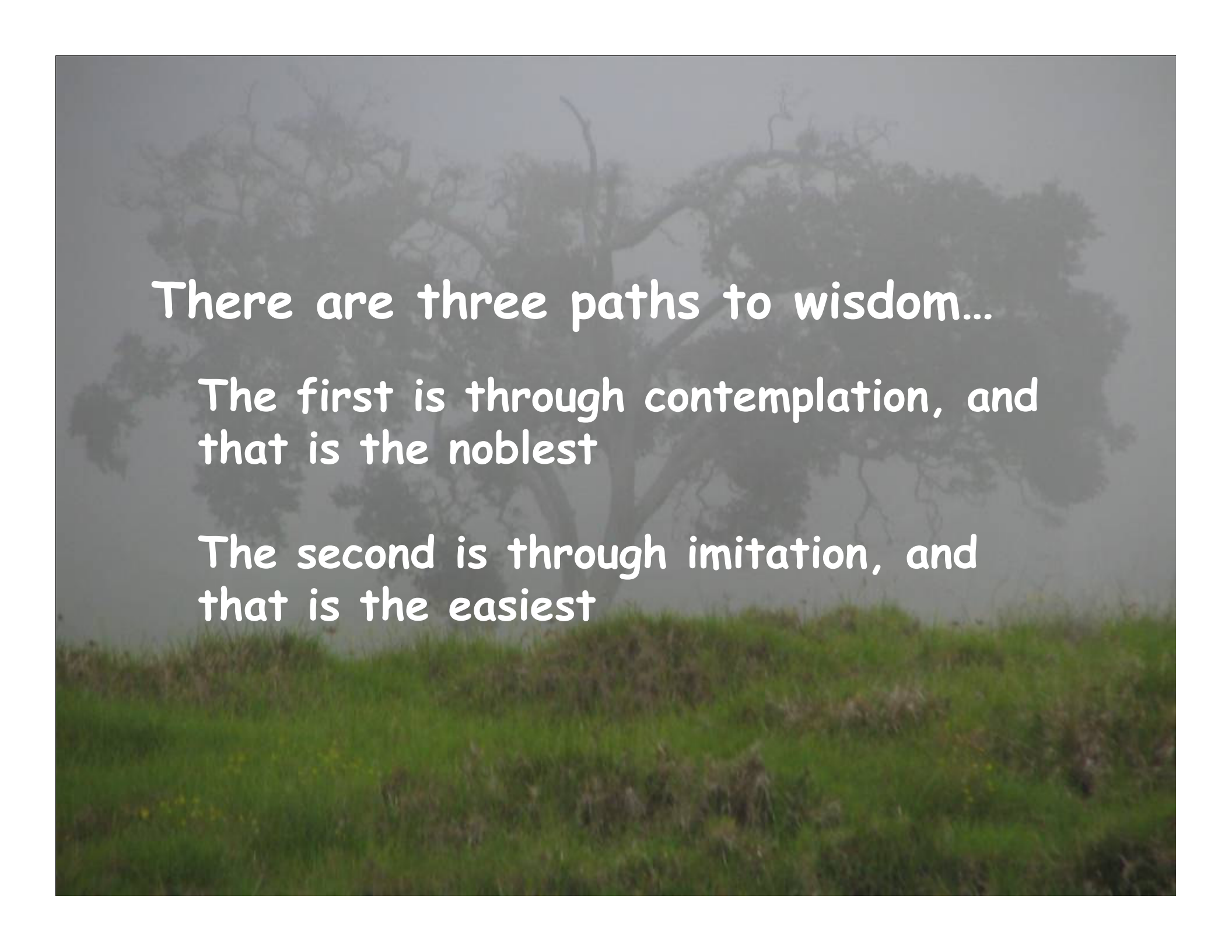
There are three paths to wisdom...

A large, leafy tree stands on a grassy hill under a foggy sky. The tree's branches are spread wide, and its leaves are a vibrant green. The hill is covered in lush green grass, and the background is a soft, hazy grey, suggesting a misty or foggy day. The overall mood is serene and contemplative.

There are three paths to wisdom...

The first is through contemplation, and  
that is the noblest

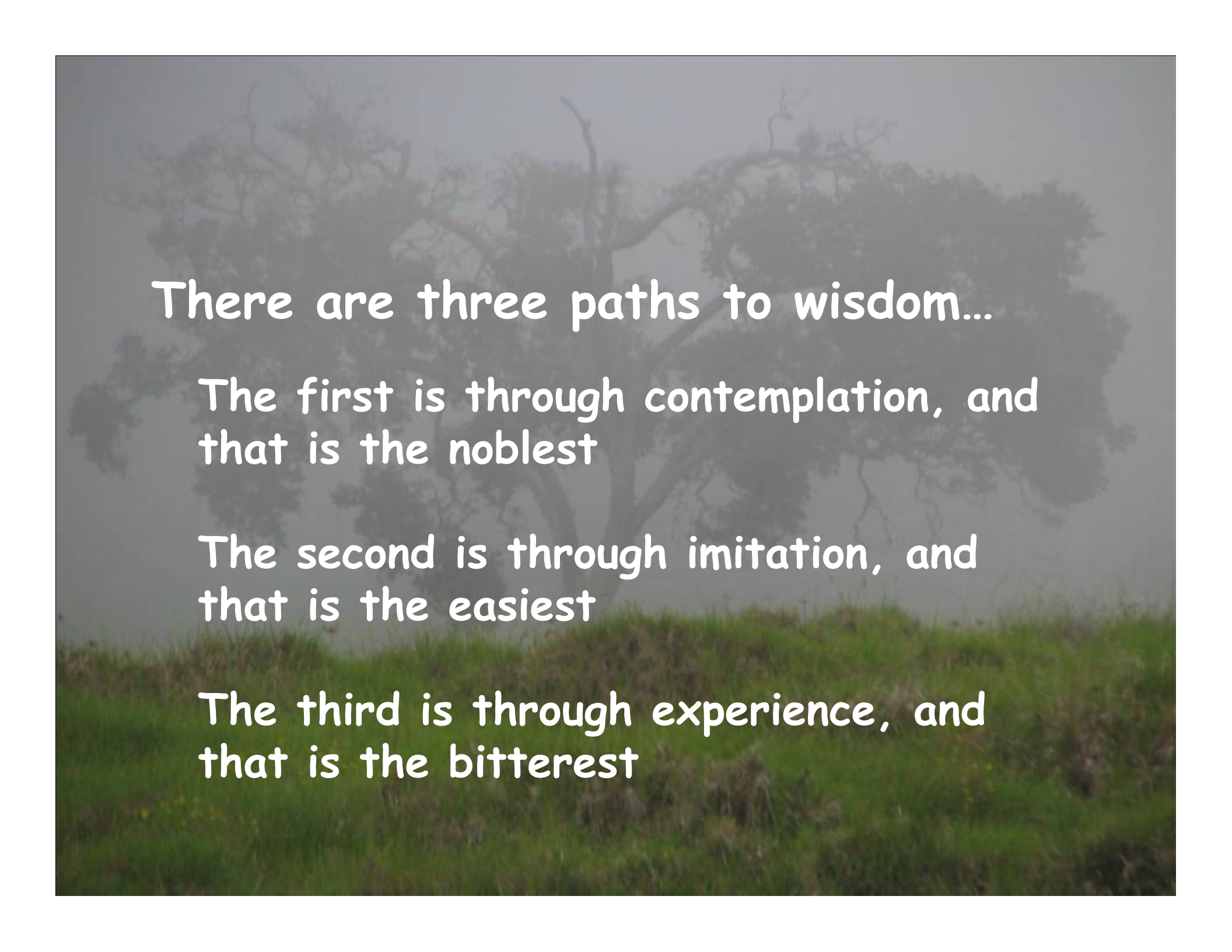




There are three paths to wisdom...

The first is through contemplation, and  
that is the noblest

The second is through imitation, and  
that is the easiest



There are three paths to wisdom...

The first is through contemplation, and  
that is the noblest

The second is through imitation, and  
that is the easiest

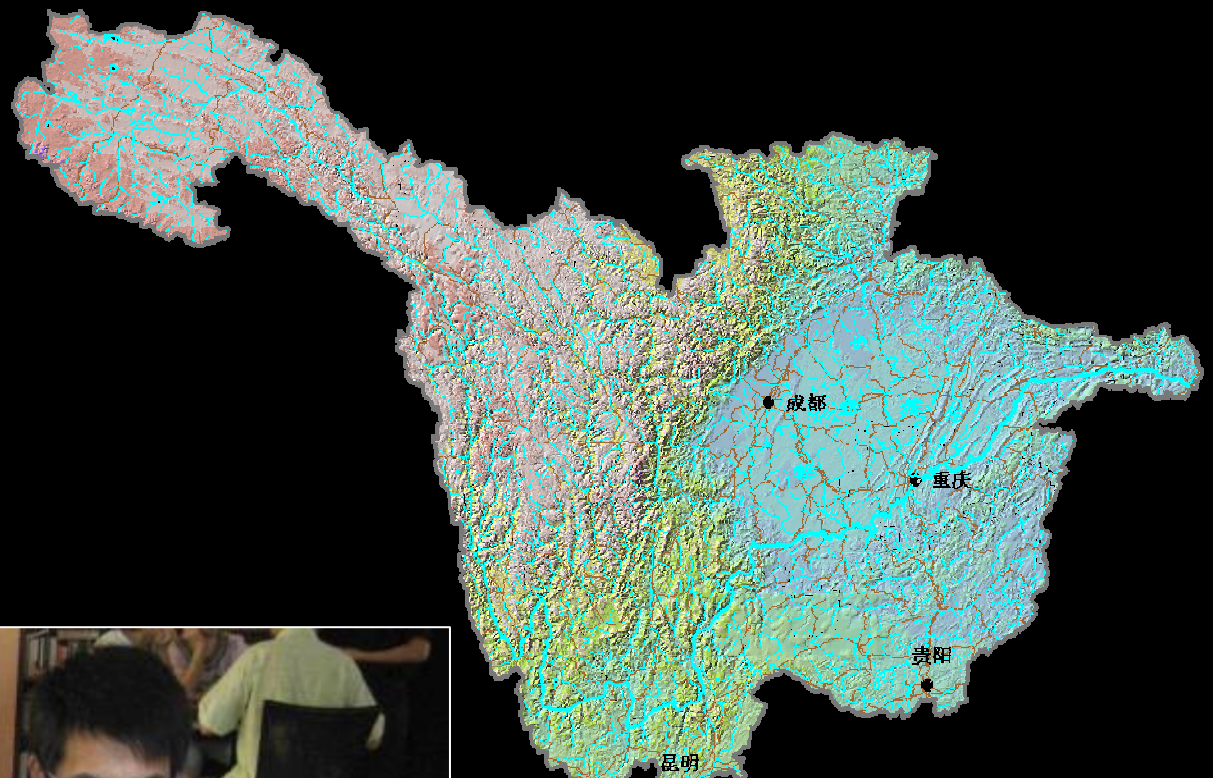
The third is through experience, and  
that is the bitterest



*Thank you*



# Driving Science Innovation



# Driving Science Innovation





# Practical Tools for Moving from Knowledge to Action





# Engaging Leaders





# Quito Water Fund

## Activities

- 65 jobs
- 3,500,000 trees planted
- Environmental education for 42,000 children
- Capacity building
- Monitoring and modeling

## Who Pays?

- Hydropower electricity firm
- Andina Beer Co.
- Municipal water supplier
- Quito residents
- Current value USD\$ 4.9 mil



# New Water Funds





# Looking ahead

- Great potential for ecosystem service approaches to harmonize nature & people
- Work underway: poverty alleviation, health
- New frontiers: institutional design to ensure benefits for nature and people