



JC-WISE
Water Initiative on
Sustainability and Engagement

賽馬會惜水・識河計劃

“My River, My Community” Scheme

Workshop and Guided field-trip to Lai Chi Wo River Catchment

16 March 2019

How to conduct fieldwork in Lai Chi Wo River catchment

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About Lai Chi Wo River Field Study

Relevance to the DSE GEOGRAPHY curriculum

- This field study is related to ‘Managing Rivers and Coastal Environments – A continuing challenge’ (Compulsory Part)

Objectives

- To examine the agricultural landscape in the Lai Chi Wo drainage basin
- To investigate how the drainage of Lai Chi Wo River help the sustainable development of the agricultural settlement

Background Information: About Lai Chi Wo River

- Headwater: at Tiu Tang Lung (吊燈籠)
- Main stream: flows NE into the gentle river valley, joins major tributary near Lai Chi Wo village
- Length of the river: ~ 2.6 km
- Catchment area: ~ 2.7 km²



Background Information: About Lai Chi Wo River

- An over 300-year old traditional Hakka village
- Main stream: flows NE into the gentle river valley, joins major tributary near Lai Chi Wo village, enters Double Haven (印洲塘).



Lai Chi Wo River: The field sites

A

- Estuary

B

- Hakka Walled Village

C

- Fung Shui Woods

D

- Chu Mun Tin

E

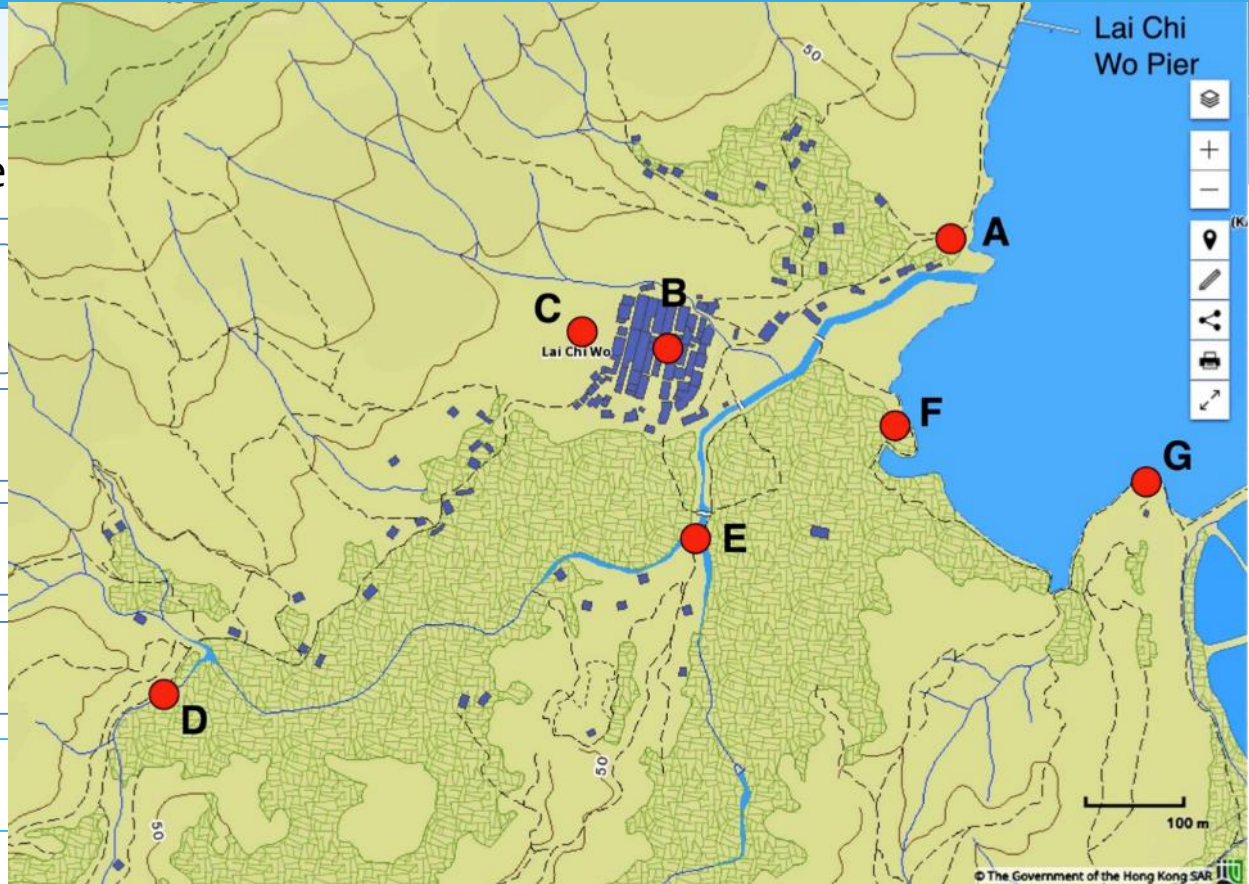
- Weir

F

- Coastal Heritiera and
Derris Fore

G

- Viewing Point



Enquiry question:



**Sustainable development of
the Agriculture in Lai Chi Wo**

The enquiry question for the field study of Lai Chi Wo River is:

How does the drainage of Lai Chi Wo River help the sustainable development of the agriculture and the settlement in the area?

Pre-requisite knowledge:

Sustainable development

Knowledge Recap:

What is sustainable agriculture?

Sustainable agriculture can be defined in many ways, but, in short sustainable agriculture is:

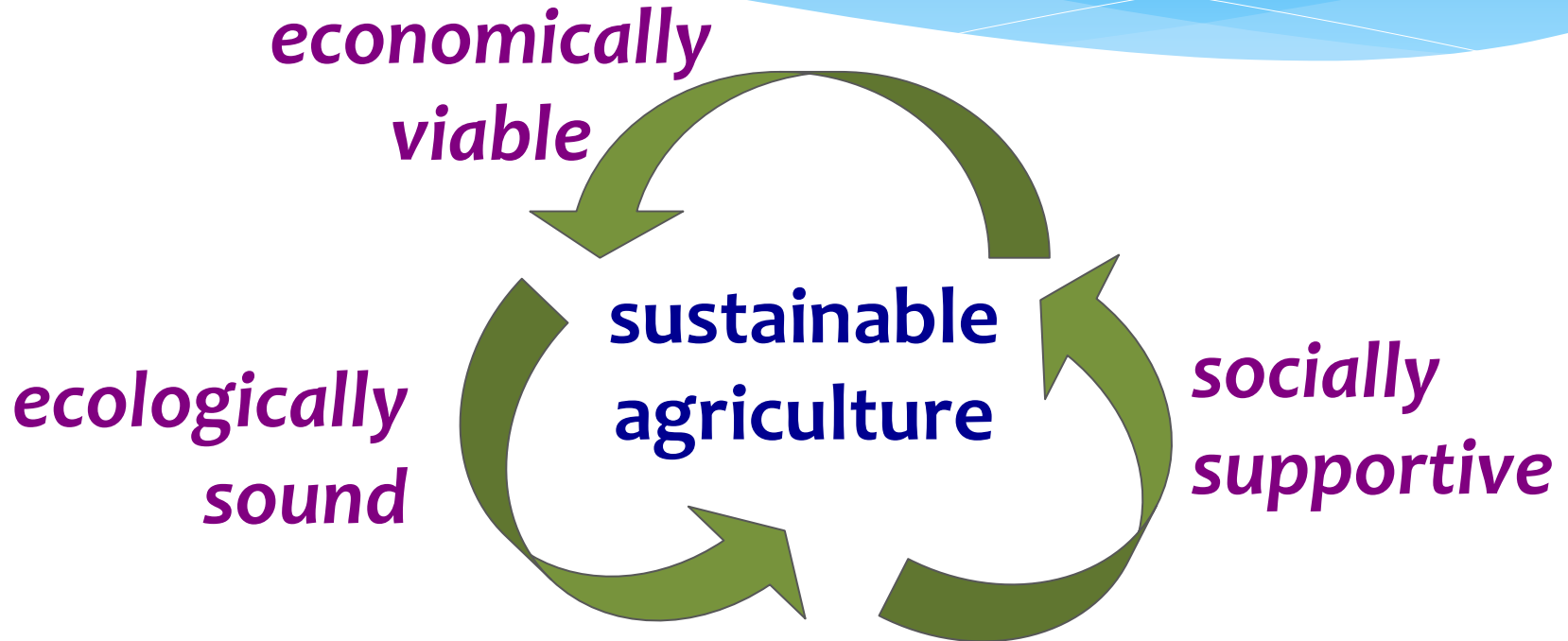
- ***economically viable***: If it is not profitable, it is not sustainable;
- ***socially supportive***: The quality of life of farmers, farm families and farm communities is important; and
- ***ecologically sound***: We must preserve the resource base that sustains us all.

And the three must be in harmony.

Source: Sustainable Agriculture Research and Education, <https://www.westernsare.org/About-Us/What-is-Sustainable-Agriculture>

Pre-requisite knowledge:

Sustainable development



Enquiry question:



**Sustainable development of
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Enquiry question:

Sustainable development

Farmers of sustainable agriculture seek to integrate three main objectives into their work:
The enquiry can be carried out with reference to the following aspects:

- economic (economic profitability);
- ecological (a healthy environment); and
- social (social and economic equity)

The enquiry question can be sub-divided into sub-questions.

Enquiry question:

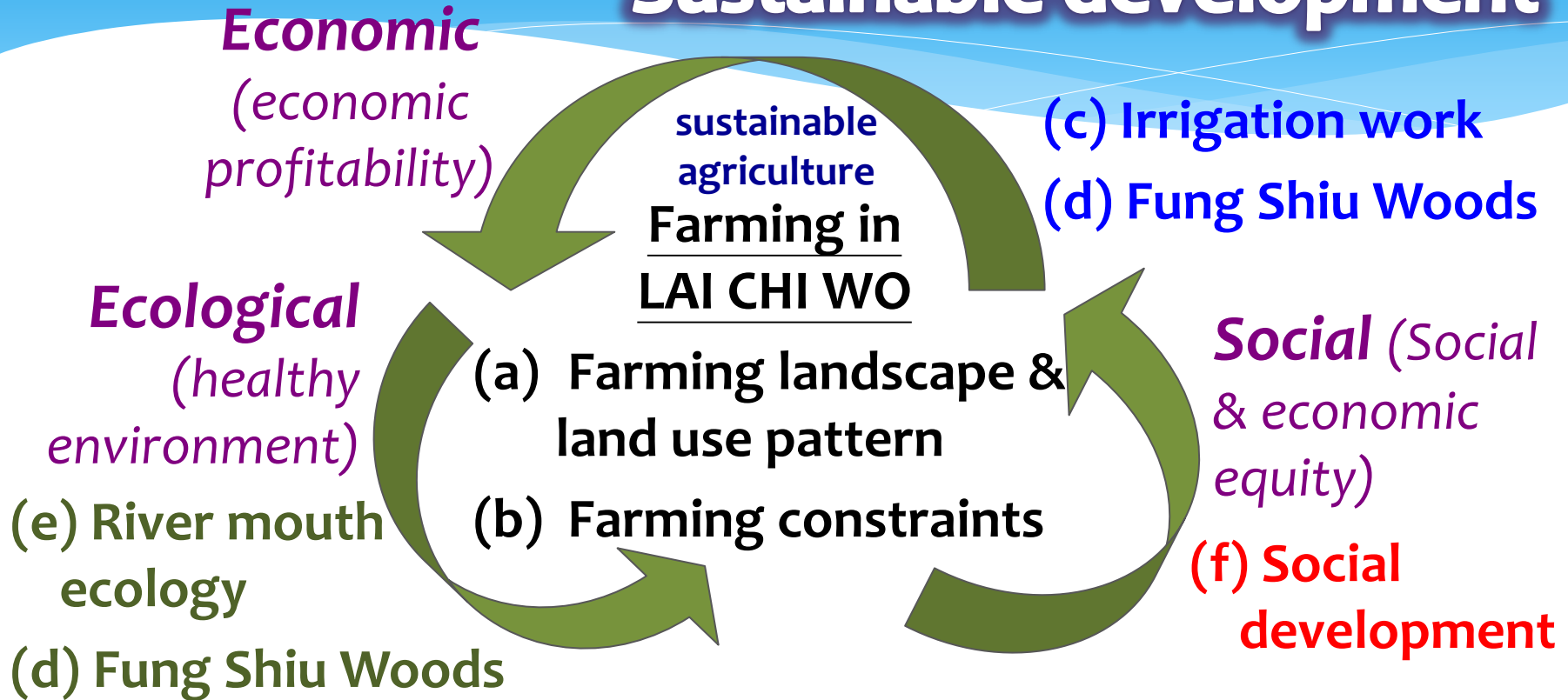
Sustainable development

Sub-questions:

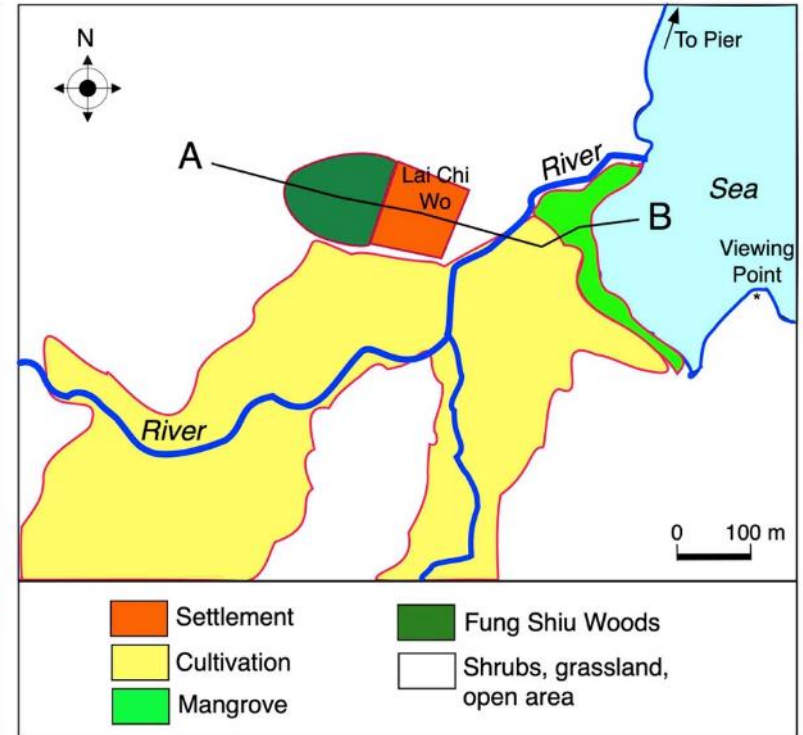
- a. What is the **farming landscape and land use pattern** of Lai Chi Wo in relation to the river?
- b. What are the **farming constraints** in Lai Chi Wo?
- c. How do the farmlands in Lai Chi Wo be **irrigated**?
- d. How does the **Fung Shiu woodland** help the farming and settlement in Lai Chi Wo?
- e. How does the river help the **ecological development** in the river mouth area?
- f. How does the river help the **social development** of the area?

Enquiry framework:

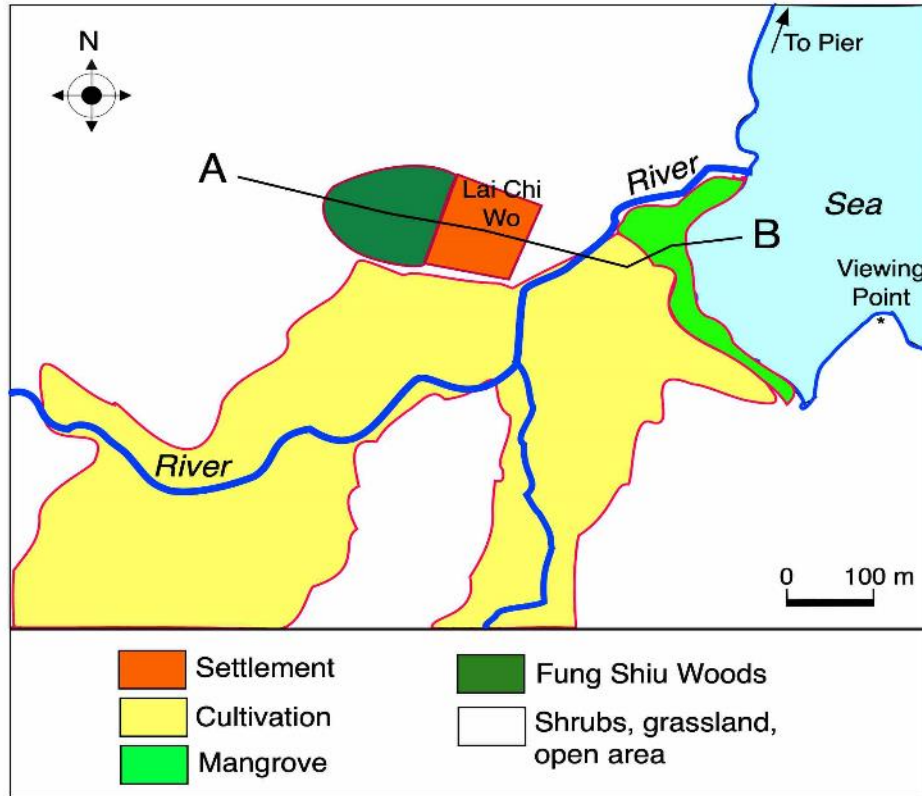
Sustainable development



(a) Farming landscape & land use pattern

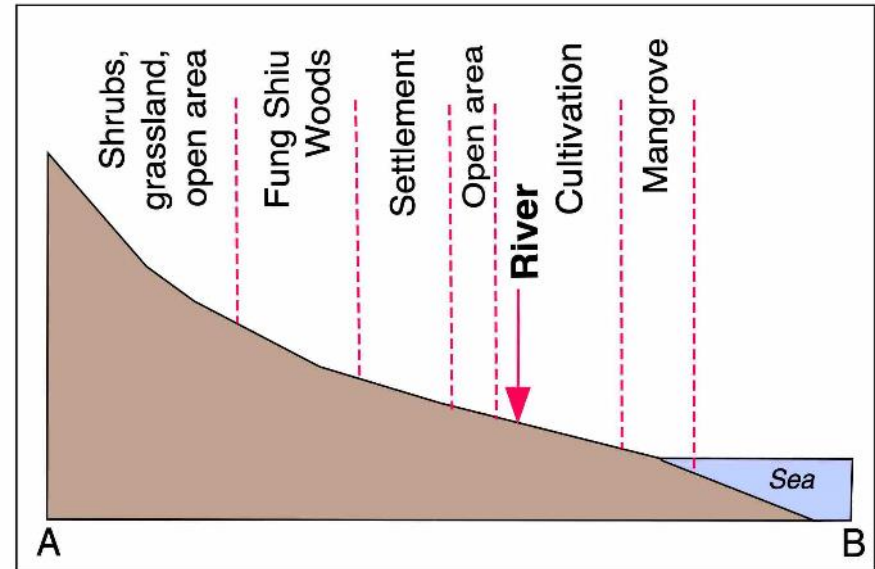


(a) Farming landscape & land use pattern



Fieldwork skills:

- Land use mapping
- Land use transect drawing



(b) Farming constraints



Farming Constraints

Physical constraints

- Fieldwork skills:
- Observation
 - Interview farmers

Socio-economic constraints

Water shortages

Farmland quality

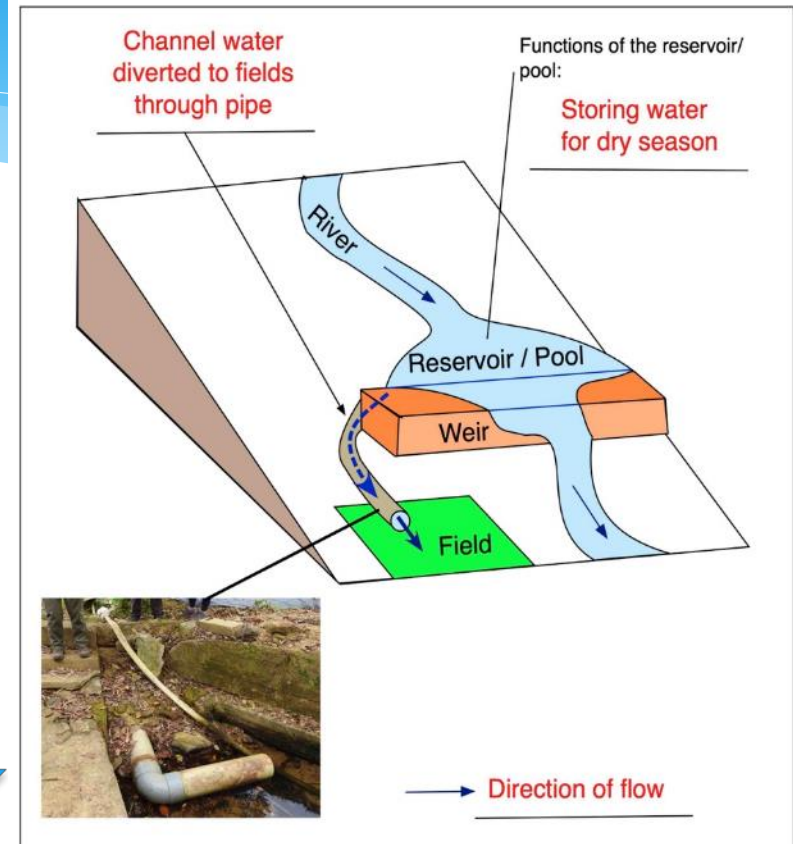
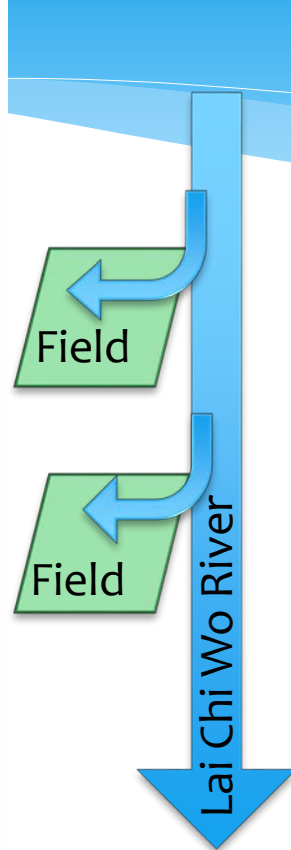
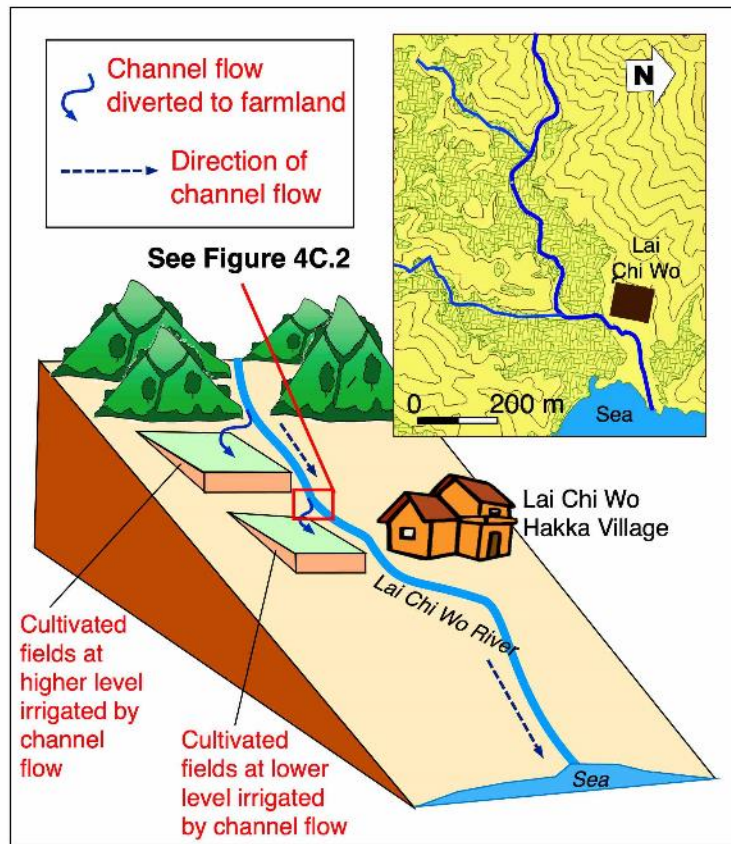
Pest and wild animals

Inadequate farm labour

Marketing of farm produces

Installation of electric device to prevent the attack of **wild boar**

(c) Irrigation work



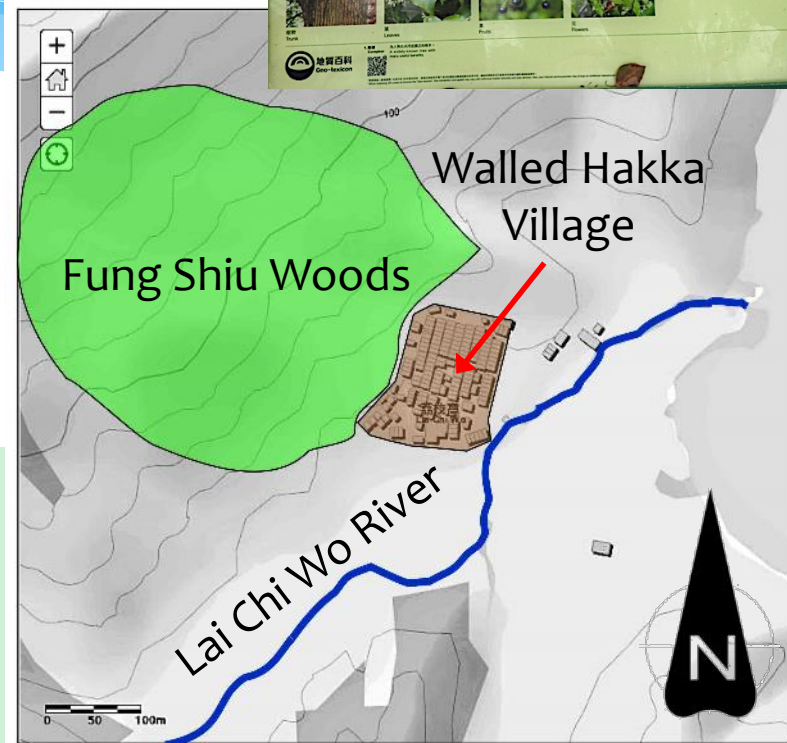
(d) Fung Shiu Woods

Find out and study:

- **Location** of the Fung Shiu Woods in relation to the village, the river & topography of the area
- **Characteristics** of the Fung Shiu Woods;
- **Functions** of the Fung Shiu Woods
 - Natural barrier to the village
 - Mitigating the devastating impact of typhoon in summer
 - Keep away the chilly north wind in winter
 - Halt landslide

Fieldwork skills:

- Observation
- Map reading & map orientation
- Map & compass skill



(e) River mouth ecology









The
ecological
interests
of Lai Chi
Wo



Source: Hau, B. C. H., Lo, K. W. F., & So, K. Y. K. (2018).

(e) River mouth ecology

- **Mud-dominated sediments** washed down from the river at the estuary & along the coast
- AFCD records **8 species of true mangrove** in HK. All the 8 species are found here!
- Try to identify these species in the field with the help of the identification chart.

<p>True mangrove species recorded in Hong Kong</p>	<p>Kandelia 秋茄</p> 	<p>Many-petalled mangrove 木欖</p> 
<p>Milky mangrove 海漆</p> 	<p>Black mangrove 白骨壤</p> 	<p>River mangrove 桐花樹</p> 
<p>Leather Fern 鹵蕨</p> 	<p>Coastal heritiera 銀葉樹</p> 	<p>Lumnitzera 欖李</p> 

Source:

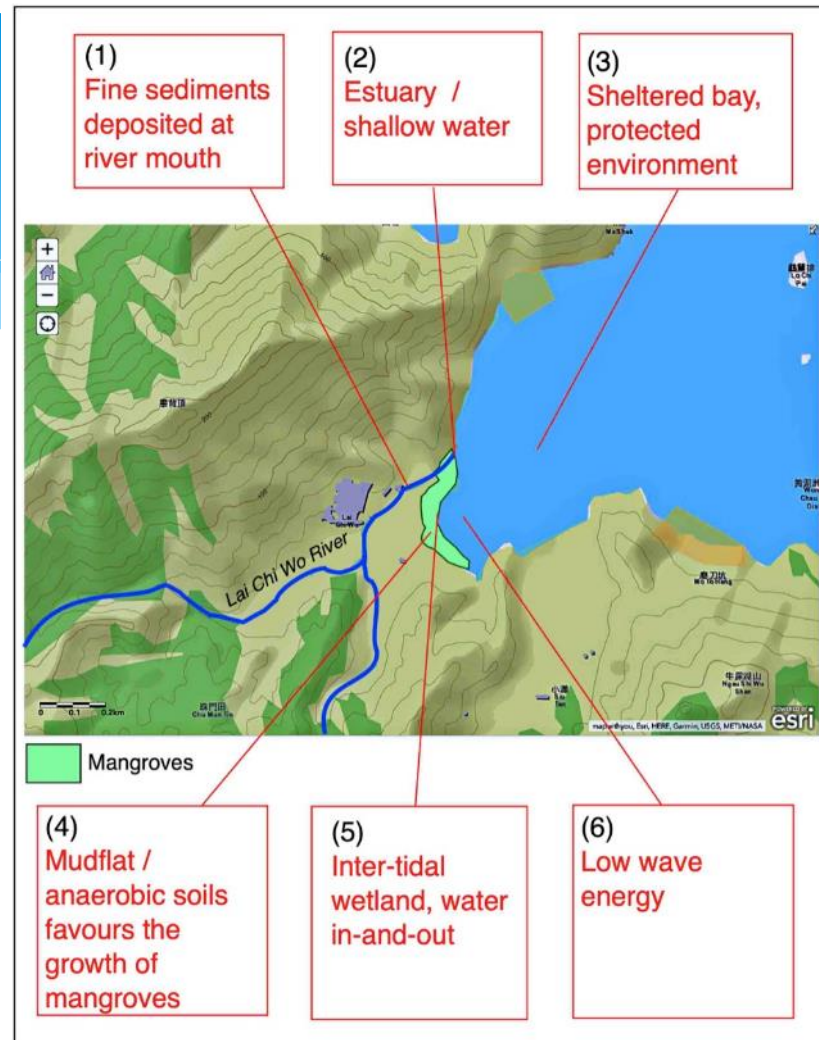
https://www.afcd.gov.hk/english/conservation/con_wet/con_wet_man/con_wet_man_local/con_wet_man_local_true.html

(e) River mouth ecology

- Geog. study = Species identification? **X**
- Geog. study = Study of the environment
- Study how plants adapt to the environment
- Find out the environmental conditions of the estuary and coastal areas



- Find out the favourable conditions for the development of mangrove habitat at Lai Chi Wo



(f) Social development

Conduct an **interview** with the staff of “**Rural Sustainability @ Lai Chi Wo**” to explore:

- (i) the incubation of socio-economic models
- (ii) rural start-ups for rural revitalisation; and
- (iii) how the river help the social development of Lai Chi Wo



Rural**Sustainability**
永續鄉郊計劃



Policy for **Sustainability** Lab
Faculty of Social Sciences, HKU



How to conduct field study in Lai Chi Wo River catchment

Q & A

Thank you