



Agriculture in Hong Kong (Kam Tin)

Version 2.3

A. Planning and Preparation

Module

Combating Famine

Enquiry Question

Hypothesis 1 : The farther away from the town centre, the more the farming activities.

Hypothesis 2 : The lower the accessibility, the more the active farmland.

Hypothesis 3 : Active farmland has higher soil fertility than abandoned farmland.

Hypothesis 4 : Organic commercial farming has more crop types than traditional commercial farming.

Key Concepts

Farming System	Commercial Farming	Traditional Farming	Organic Farming
Monoculture	Crop Rotation	Multiple cropping	Speculation

Scope of the Study

Kam Tin

Think About

1. Suggest the most appropriate season, weather condition and time to collect data, justify your answer.
2. List the safety risks when conducting farming fieldwork.

Field Work Plan

Distribution of farming activities

1. Identify the distribution of land uses on both sides of Route A.
2. Record the data in Table 1.1.

Distribution of active farmland

1. Identify the distribution of active farmland, abandoned farmland and other land uses on Route B.
2. According to the following instructions, colour the land uses on the map.
 - a. Green colour for active farmland
 - b. Brown colour for abandoned farmland
 - c. Red colour for other land uses.

Soil fertility

1. Identify abandoned farmland and active farmland on the route. Select three sampling points for each type of farmland by appropriate sampling method, and measure their soil fertility.
2. Measure the soil fertility with soil fertility meters, and mark down the data, the farming condition (e.g. planting, fallowing, fertilizing, etc.) and crop types in Table 1.2.
3. Lastly, locate the sampling farmlands on the map.

Types of crop

1. Identify traditional commercial farming and organic commercial farming on the route. Count the types of crop in each type of farmland.
2. Distinguish the types of crop with the photo key provided and record in Table 1.3.
3. Locate the sampling farmlands on the map.

B. Data Collection

Complete the following table.

Primary Data Items	To Examine Hypothesis				Data Collection Method			Equipment Required (Number on the Equipment Checklist)
	1	2	3	4	Obersvation	Counting	Measuring	
1. Distance from town centre								
2. Accessibility								
3. Distribution of farming activities								
4. Soil fertiltity								
5. Number of crop types								

Think About

Name the sampling method adopted in fieldwork, and list their advantages.

Equipment Checklist

Items	Quantity	Checked	Returned
1. Clipboard	x 1	☐	☐
2. Compass	x 1	☐	☐
3. Measuring tape	x 1	☐	☐
4. Soil fertility meter (Nitrogen, N)	x 1	☐	☐
5. Soil fertility meter (Phosphorus, P)	x 1	☐	☐
6. Soil fertility meter (Potassium, K)	x 1	☐	☐
7. Photo key of crops	x 1	☐	☐

Table 1.1a - Distribution of farming activities

Left-hand side		Sampling Point	Right-hand side	
Active farmland	Other land uses		Active farmland	Other land uses
		A1		
		A2		
		A3		
Number:	Number:		Number:	Number:

Total number of Active Farmland: _____

Total number of Other Land Uses: _____

Table 1.1b - Distribution of farming activities

Left-hand side		Sampling Point	Right-hand side	
Active farmland	Other land uses		Active farmland	Other land uses
		A4		
		A5		
		A6		
Number:	Number:		Number:	Number:

Total number of Active Farmland: _____

Total number of Other Land Uses: _____

Table 1.1c - Distribution of farming activities

Left-hand side		Sampling Point	Right-hand side	
Active farmland	Other land uses		Active farmland	Other land uses
		A7		
		A8		
		A9		
Number:	Number:		Number:	Number:

Total number of Active Farmland: _____

Total number of Other Land Uses: _____

Table 1.2a Soil fertility (Abandoned farmland)

Sampling point	Sampling Method: _____			Soil fertility level
	Nitrogen (mg/kg)	Phosphorus (mg/kg)	Potassium (mg/kg)	
1				
2				
3				

Table 1.2b Soil fertility (Active farmland)

Sampling point	Farming condition (e.g. planting, fallowing, fertilizing, etc.)	Crop type	Sampling Method: _____			Soil fertility level
			Nitrogen (mg/kg)	Phosphorus (mg/kg)	Potassium (mg/kg)	
1						
2						
3						

Table 1.3 Number of crop types

Sampling point	Traditional Commercial farming	Number of crop types
1.		
2.		
3.		
4.		
5.		
6.		
Average		

Sampling point	Organic Commercial farming	Number of crop types
1.		
2.		
3.		
4.		
5.		
6.		
Average		

Think About

List the possible errors when collecting data.

C. Data Processing, Presentation and Analysis

1. According to Table 1.4, convert the data of soil fertility into a 5-point-scale mark.
2. Referring to Table 1.5, assess the level of soil fertility.
3. According to Table 1.3, calculate the average number of types of crop on each farmland.
4. According to the map, calculate the distance percentage of active farmland of each segment and record in Table 1.6.

Table 1.4 Soil fertility score (5-point-scale)

Score	Nitrogen (mg/kg)	Phosphorus (mg/kg)	Potassium (mg/kg)
5	>150	>40	>200
4	>120-150	>20-40	>150-200
3	>90-120	>10-20	>100-150
2	>60-90	>5-10	>50-100
1	≤60	≤5	≤50

Table 1.5 Soil fertility level

Overall score	Soil fertility level
≥ 4.5	Rich
≥ 3.5 – < 4.5	Slightly rich
≥ 2.5 – < 3.5	Moderate
≥ 1.5 – < 2.5	Slightly poor
< 1.5	Poor

Table 1.6 Distance percentage of active farmland

Segment	Distance of active farmland			Distance of route	Distance percentage
	(Left-hand side)	(Right-hand side)	(Total Distance)		
B1-B2					
B2-B3					
B3-B4					

Draw the most appropriate diagrams with graph paper, to show the data collected.

Hypothesis 1: _____

Hypothesis 2: _____

Hypothesis 3: _____

Hypothesis 4: _____

Think About

List the merits and demerits of the chosen diagrams.

D. Interpretation and Conclusion

1. Does the fieldwork result support the Hypothesis 1: 'The farther away from the town centre, the more the farming activities.'? Support your conclusion with the collected data and graph.

2. Does the fieldwork result support your answer to the Hypothesis 2: 'The lower the accessibility, the more the active farmland.'? Support your conclusion with the collected data and graph.

3. Does the fieldwork result support your answer to the Hypothesis 3: 'Active farmland has higher soil fertility than abandoned farmland.'? Support your conclusion with the collected data and graph.

4. Does the fieldwork result support your answer to the Hypothesis 4: 'Organic commercial farming has more crop types than traditional commercial farming.'? Support your conclusion with the collected data and graph.

E. Evaluation

1. Evaluate the data collection methods used in this fieldwork and suggest ways for further improvement.

2. Suggest other primary data to be collected to enrich this fieldwork. Describe and explain how the data would be collected.

Further Reading



Agricultural Development of the Greater Bay Area
(Chinese version)



China's National Food Security
(Chinese version)