

Fieldwork question

A group of students conducted an agricultural study near Wong Nai Tun Tsuen Road, Tai Tong. Figure 5 shows the study area. Table 6 (p. 95) is a checklist describing the level of land use change (from farming to non-farming uses) in the area. Table 7 (p. 95) shows the data collected.

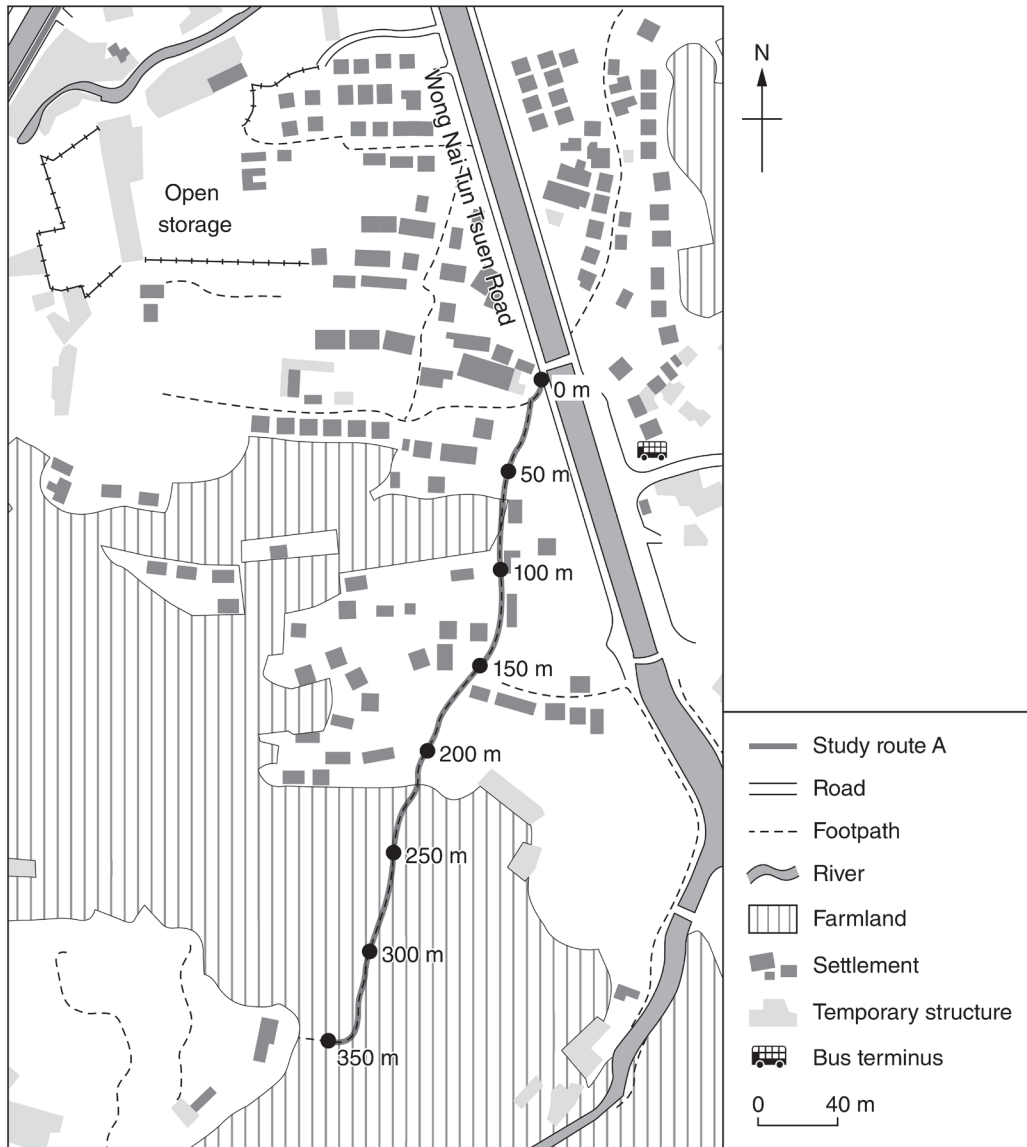


Figure 5

Table 6


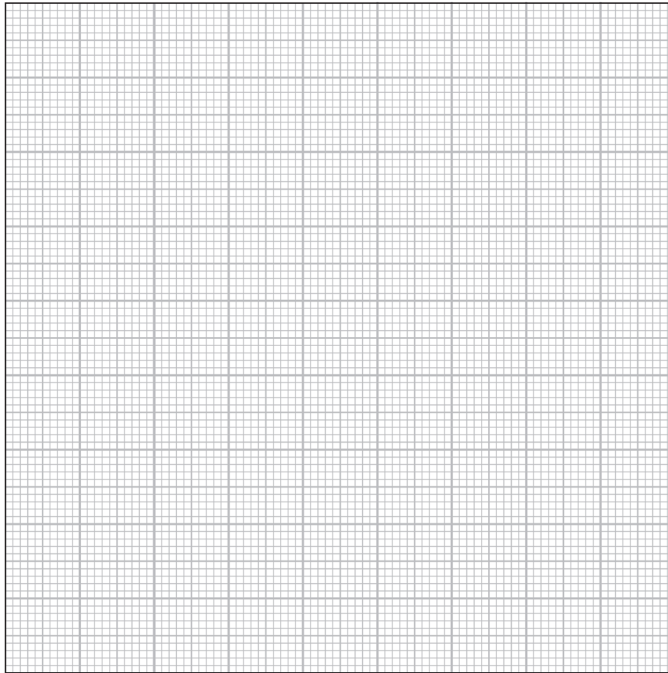
Level of change		Description
Low (Farming)  High (Non-farming)	1	Village houses/Farm houses
	2	Commercial farms
	3	Hobby farms
	4	Fallow fields/Fields abandoned for a few years
	5	Fields abandoned for a long time
	6	Brownfield land/Villa-type village houses/ Land under development

Table 7

Distance from the main road (m)	Description of land use
0	Villa-type village house
50	Field abandoned for a long time
100	Fallow field
150	Commercial farm
200	Farm for holiday farmers
250	Vegetable farm contracted by a supermarket
300	Village house
350	Farm house

- 1 Refer to Table 6. Explain why this checklist is a good tool for studying the level of land use change. (3 marks)
- 2 Refer to Figure 5 (p. 94), Tables 6 and 7.
 - a Draw a scatter diagram on p. 96 to show the level of land use change in relation to the distance from the main road along Study route A. (2 marks)

A scatter diagram showing the level of land use change along Study route A



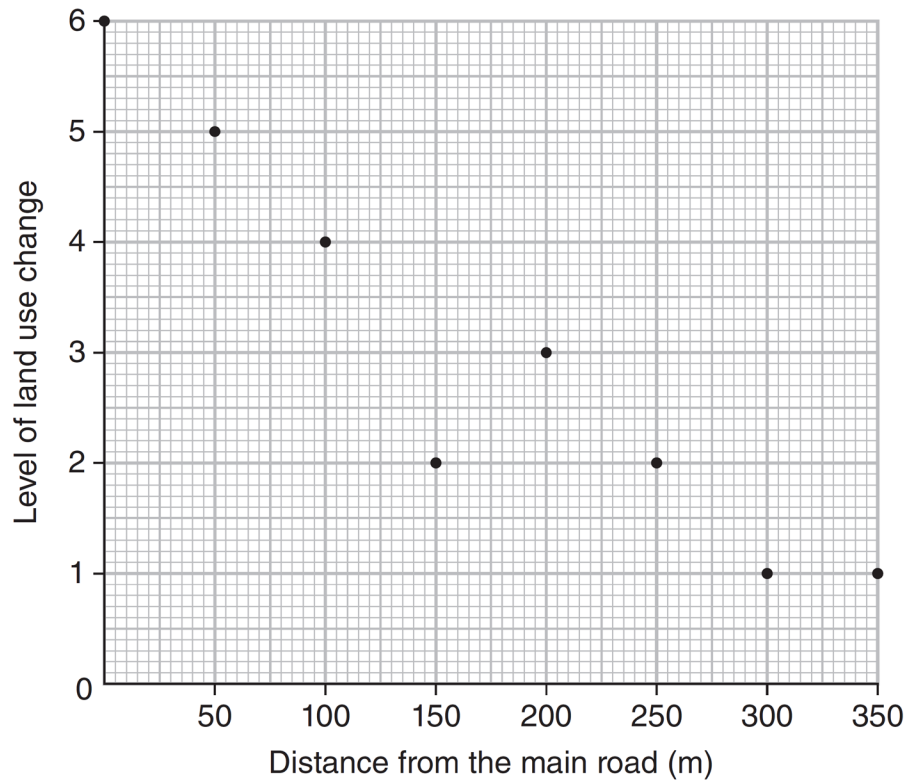
- b With reference to the information above, suggest a hypothesis for this study. (2 marks)
- 3 a Instead of using a scatter diagram, we can use a statistical method to find out the relationship. Name the method. (1 mark)
- b Compare the advantages and disadvantages of scatter diagrams and the statistical method you named in Question 3a. (4 marks)
- 4 The students want to conduct interviews with the residents to further investigate the land use change in the study area. Suggest what information they should get from the respondents. Explain your answers. (6 marks)

Answers

Fieldwork question (pp. 94–6)

- | | | |
|---|---|-------|
| 1 | • easy to handle/convenient | 1 |
| | • no technical support/techniques are needed | 1 |
| | • no instruments are needed to collect data/data can be collected by field observation | 1 |
| | • less costly | 1 |
| | • different groups can collect data at the same time/data collection is not confined by quantities of instruments | 1 |
| | • time efficient | 1 |
| | • quantifies the qualitative descriptions of the features/land uses | 1 |
| | • allows easy comparison/manipulation/analysis of the data collected | 1 (3) |

2 a **A scatter diagram showing the level of land use change along Study route A**



- accuracy 1
- correct labeling and axes 1 (2)

b • the level of land use change does not decrease with increasing distance from the main road (H_0)

OR

- the level of land use change decreases with increasing distance from the main road (H_1) 2 (2)

(One mark is given to correct variables: 'level of land use change' and 'distance from the main road'; another mark is given to the relationship: 'does not decrease/decreases')

3 a Spearman's rank correlation coefficient 1 (1)

	Advantage	Disadvantage	
b			
Scatter diagram	<ul style="list-style-type: none"> • Easy to draw/Simpler 1 • Less time for analysing data 1 	<ul style="list-style-type: none"> • Can only tell the relationship through visual impression of the distribution of the dots/More subjective 1 • Cannot tell the magnitude of a relationship clearly 1 	1+1
Spearman's rank correlation coefficient	<ul style="list-style-type: none"> • The coefficient is an objective indicator to describe the relationship 1 • Can tell the magnitude of a relationship at minute difference 1 	<ul style="list-style-type: none"> • Involves complicated calculations 1 • As it compares the ranking only, the effect of significant variation in the numerical value of the data is ignored 1 	1+1 (4)

4	Information	Explanation
	Time/Years of land use change	It reflects the rates of land use change
	Processes of land use change over the years	It shows the transition processes of the fields, e.g. changes from a farmland to a fallow field, then to a brownfield land
	Investment and business of the farms	This affects the likelihood a farm would continue its business or change to other land uses. For example, if the investment of a farm is small or its business is in poor condition, or there is no successors to run the farm, changes in land use are more likely to occur despite the accessibility of the farm
	Land ownership	If a farm is run by the land owner himself (not by the tenant farmers), it is less likely for the land owner to change the land use
	Any development plan nearby/in the near future	This is a major factor leading to land speculation and thus the occurrence of abandoned field
	Change in living condition caused by land use change	This reflects the socio-economic impact of land use change

(Max. 6)

(Arguments should be well-elaborated, with appropriate geographical concepts and terms. Marks will not be given to the information that can be directly observed or measured on site.)