



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

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**GEOGRAPHY**

**0460/41**

Paper 4 Alternative to Coursework

**May/June 2011**

INSERT

**1 hour 30 minutes**

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**READ THESE INSTRUCTIONS FIRST**

This Insert contains Figs 1 and 2 for Question 1 and Figs 4 and 6 and Tables 3 and 4 for Question 2.

The Insert is **not** required by the Examiner.

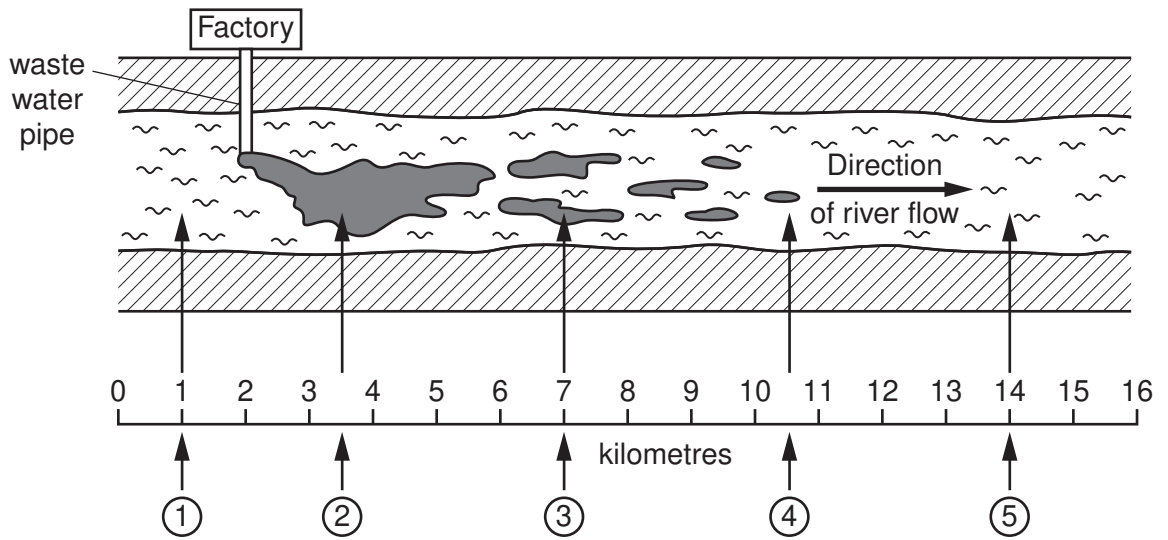
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Fig. 1 for Question 1

Results of study into pollution of the river



Key

① Testing site for Hypothesis 2

☛ Visible pollutants

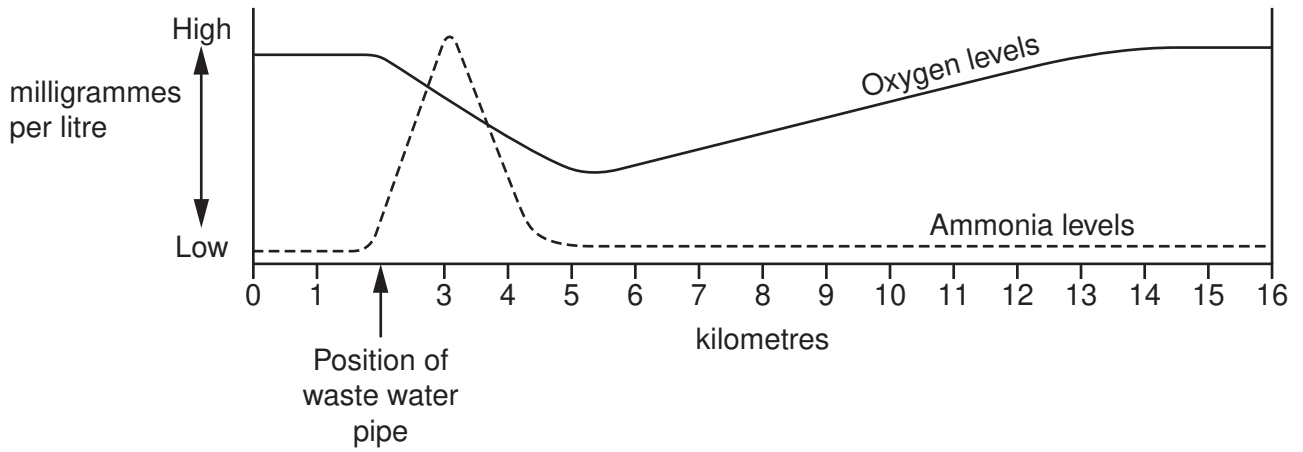


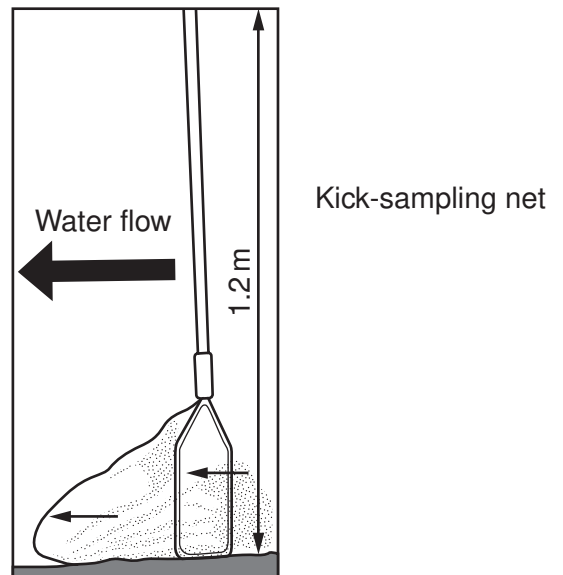
Fig. 2 for Question 1

**Pollution investigation using indicator species**

Many animals which live on the river bed cannot survive if the water quality is poor. When certain animal species are found in the river this tells you about the quality of the water. These are called indicator species which are shown on the Biotic Index.

To find these animal species the river bed should be gently disturbed for 30 seconds by gentle kicking to dislodge the stones (this is called kick-sampling). Catch the animals which are washed into a net and then empty the net into a tray to count and identify the species. Put the animals back in the river after identifying them. Do the test at least three times at each investigation site.

Use the Biotic Index to compare the level of pollution at different sites.



**Biotic Index**

← Unpolluted Quality of water Very polluted →

Animal species	Stonefly	Mayfly	Caddis fly	Shrimp	Water louse	Leech	Rat-tailed maggot	Bloodworm
Biotic score	10	8	7	6	5	3	3	2

## Fig. 4 for Question 2

## Tourist questionnaire

We are doing a tourism survey as part of our *Geography* coursework. Please will you answer the following questions?

1. Which continent do you come from?

Asia

Africa

Europe

Oceania

North America

South America

2. What are the main physical attractions you are visiting whilst in Chiang Mai?

Mae Klang waterfall

Doi Inthanon Mountain

Fang Hot Springs

Botanical Gardens

Elephant camp

Orchid and Butterfly farms

Ob Luang Gorge

3. What are the main human attractions you are visiting whilst in Chiang Mai?

Hill tribe villages

National museum

Shopping at the night bazaar

Buddhist temples

Bhubing Palace

Muang Kung Earthenware village

Royal pagodas

4. Overall which attracted you most to Chiang Mai?

Physical attractions

Human attractions

Thank you for your time.

Table 3 for Question 2

## Answers to Questions 2, 3 and 4 of tourist questionnaire

<b>Q2 Physical attractions</b>	<b>Number of visits made</b>
Mae Klang waterfall	35
Doi Inthanon Mountain	48
Fang Hot Springs	17
Botanical Gardens	12
Elephant camp	34
Orchid and Butterfly farms	6
Ob Luang Gorge	18
Total	170
<b>Q3 Human attractions</b>	<b>Number of visits made</b>
Hill tribe villages	23
National museum	10
Shopping at the night bazaar	45
Buddhist temples	37
Bhubing Palace	6
Muang Kung Earthenware village	11
Royal pagodas	8
Total	140
<b>Q4 Overall opinion</b>	<b>Number of tourists</b>
Physical attractions	38
Human attractions	32

## Fig. 6 for Question 2

## Local people questionnaire

We are doing a tourism survey as part of our *Geography* coursework. Please will you answer the following questions?

1. Do you live in Chiang Mai?

Yes

No

(Finish interview if 'No')

2. What do you think are the main positive impacts of tourism in Chiang Mai?

Number your first and second choices '1' and '2'.

More jobs and income

Improved standard of living

More modern services

Cleaner environment

Improved infrastructure e.g. airport, roads

Reduction in crime

Greater range of goods in shops

Local people have greater global awareness

3. What do you think are the main negative impacts of tourism in Chiang Mai?

Number your first and second choices '1' and '2'.

Noise pollution

Air pollution

Traffic congestion

Increase in crime

Decline of traditional culture and way of life

Increase in litter

Increase in cost of living

Destruction of natural environment for hotels, shops etc.

4. Overall do you think tourism has a positive or negative impact in Chiang Mai?

Positive

Negative

Thank you for your time.

Table 4 for Question 2

## Answers to Questions 2, 3 and 4 of local people questionnaire

<b>Q2 Positive impacts of tourism</b>	<b>First choice</b>	<b>Second choice</b>	<b>Total score using formula</b>
More jobs and income	27	15	69
Improved standard of living	7	12	26
More modern services	2	6	10
Cleaner environment	3	1	7
Improved infrastructure	8	6	22
Reduction in crime	1	12	14
Greater range of goods in shops	6	6	18
Local people have greater global awareness	7	3	17
<b>Total</b>	<b>61</b>	<b>61</b>	

<b>Q3 Negative impacts of tourism</b>	<b>First choice</b>	<b>Second choice</b>	<b>Total score using formula</b>
Noise pollution	4	7	15
Air pollution	16	10	
Traffic congestion	17	14	48
Increase in crime	3	4	10
Decline of traditional culture and way of life	7	5	19
Increase in litter	3	7	13
Increase in cost of living	4	9	17
Destruction of natural environment	7	5	19
<b>Total</b>	<b>61</b>	<b>61</b>	

<b>Q4 Overall impact of tourism</b>	<b>Answers</b>
Positive	53
Negative	8

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