

Report on the Marking Schedule of the 2013 Field Work Test at the Kyoto Olympiad

1. Introduction

The marking schedule describes how the marks were allocated with reference to the Assessment Guidelines. In one case there were adjustments to the marking schedule originally proposed when the student responses were considered. The marking panel were involved and consulted. When the changes were agreed, the marking schedule was reprinted and used in the assessment of all students.

2. Task specification

The first set of tasks required field observation and cartography, the second used geographical analysis to develop a strategic plan for Fushimi. The cartography required first the drawing of a cross profile of a flood-prone part of Fushimi, and second, a land-use map of a part of the community that showed a strong link to water (saké production, recreation etc.). The cartography was completed after a field traverse that featured Site A, the Uji River and local canals.

In the field, the observation and cartography required students to:

1. Observe the characteristics of Site B, with particular attention to the physical geography of the area. Use the template provided to make an annotated cross-sectional diagram between the points labelled 'X' and 'Y' on the map. Describe the nature of the physical geography and the land use on the cross section (30 minutes, 7 marks).
2. Make an annotated land use map of Site C using the base map provided. Refer to the association between land use and water resources/management in your annotations (120 minutes, 13 marks). Write down your observations of the area on the tally sheet, along with your comments on land use and its association with water. Make a land use map in the following way:
 - Using property boundaries, show land use based on classification codes you have been given. You should use coloured pencils to represent a number of different land uses.
 - Provide a descriptive key, including land use classification and reference to the physical and human dimensions of water in the environment. The physical and human dimensions of water should be symbolised on your map as an overlay on the land use classification. Include descriptions of your symbols in the key.

On the following day, the second set of tasks required the LoC/Task Force to provide quite a lot of contextual background. The geographical analysis operated at two levels, the catchment and the community.

The tasks required the students to work in the following manner:

3. With reference to the fieldwork Site B, planners aim to come up with new strategies that will minimize the risk of flood damage in the larger river catchment shown in the maps provided.
 - i. In terms of (a) infrastructural development (hard) and (b) socio-communal activities (soft), list six strategies (three infrastructural and three socio-communal) that can be applied in the catchment. Specify the locations where they apply.

ii. Then, write expanded notes on each of the strategies you propose, using text (and possibly graphics) to explain the effects of your strategies on flood hazard management in the catchment.

4. Fushimi's historical development is based on water and the importance of its site near Kyoto. The history is reflected in historical landscape preservation, with visitors to a local temple, sake brewing sites, and canal-based activities. Planners now need to develop a strategic plan that provides a sustainable future for the community. Strategic plans often refer to residential environments, retail and commercial provision, manufacturing and industry, transport infrastructure, education and social services, recreation/cultural activities and reserves and open spaces.

i. Write a one sentence 'vision statement' for a sustainable Fushimi in 2035. Outline at least four strategies that link directly to this vision statement. The importance of water and the opportunities provided by tourism should not be ignored.

ii. Using the map template provided, make an annotated map that shows the generalised spatial extent of the various activities you propose for the Fushimi area. Provide a suitable map legend.

3. Marking schedules for the four tasks specified.

Task 1. Marking Schedule

- a) The scales in metres are clearly included on both lateral and vertical axes of the cross section (0 or 1 mark).
- b) Based on contours and elevation spot heights at nearby locations, the profile is accurately drawn on the cross-section (0 or 1 mark). Stop banks and the canal must be shown; the stop banks from about 60m from left (west) and the canal at about 240m (0 or 1 mark).
- c) Descriptions on the profile must include important physical and cultural features, such as drainage features or different types of housing (0, 1, 2, 3 or 4 marks).

Range of typical physical answers

- 1. Well-vegetated 5m stop bank to contain Kamo River flow.
- 2. Low flow (1.5 m) river level (Kamo) flowing to the south.
- 3. River channelling provides for a flood stage to 7m.
- 4. More than 70m of profile in area of built environment has impervious surface.
- 5. Supporting evidence (Map Resource 1) for alluvial depositional flood plain.
- 6. Tree-lined canal banks on both sides of 10m excavated channel.
- 7. Other acceptable evidence.

Less than 3 acceptable comments scores 0, three comments scores 1, and five score 2.

- 1. Range of typical human answers
- 2. Paved minor roadway 6 m below and to the west of stop bank.
- 3. Main road (Route 124) along top of stopbank.
- 4. Residential area containing 2/3 storey houses in reasonably good condition
- 5. Small lot sizes lead to reasonably high local population density; probably single family dwellings.
- 6. Redeveloped canal bank creates enhanced urban environment for local people.
- 7. Parking lot in dis-used local warehouse.
- 8. Mixed residential area with some apartments.
- 9. Other acceptable evidence.

Less than 3 acceptable comments scores 0, three comments scores 1, and five score 2.

Task 2. Marking schedule

- a) Observations are systematically recorded on the submitted tally sheet (2 marks)
- b) On the map at least four distinct land use classes are visually distinguishable. (4 marks)
- c) On the map water-related issues relating to both physical and human geography are symbolised by shading or hashing. Runoff direction, drainage and ponding may be symbolised. Human uses may include water transportation, brewing, public stand-pipes, wells, etc. (3)
- d) In the descriptive key, (i) the separability of land use classes is clear and (ii) the symbology and description of the water-related issues shown. (2 marks for each of d(i) and d(ii)).

(a) **Tally sheet.** Check the list of *human/physical geography* and the *minor classification*. Typical answers will be *Human Geography – Residential* or *Physical Geography – drainage*. There should be land use key symbols that are shaded. For example, residential areas may be coloured in various yellows. Additional comments are largely for student use. If there are fewer than three complete entries, score 0. Between 3 and 6 entries score 1. If there are more than six, then 2.

(b) There are more than 120 polygons on the map. The ability to generalise is an assessable part of the exercise, so areas with largely similar character (residential yellows) should be visually distinct. Commercial premises should be a generalised type of land-use – browns perhaps. Cultural institutions like temples could be coloured red, perhaps). Industrial buildings and tourism related facilities like museums should all be colour coded and discrete classes on the map. The fire station is a service. Score one mark for each of up to four land uses accurately located on the map.

(c) Mark placement of water symbols on the map. Sake is a water-related activity, so a sake brewery might be shown by a drinking glass shape. A public water facility using ground water can be symbolised by a tap. The tourist use of the canal might be symbolised by a small boat. Allow one mark for each type of symbol accurately placed on the map. Up to three types of symbols can each score a mark if correctly placed on the map.

(d) Looking at the key, first of all for land use classes. Is the descriptive text clear and useful? If there is good text for more than four classes score 2 marks. If there is good text for two to four classes, score one mark. If there is good text for less than two classes, score 0.

Look at the text in the key that symbolises water features. If there is good text for more than four symbols score 2 marks. If there is good text for two to four symbols, score one mark. If there is good text for less than two symbols, score 0.

Task 3. Marking schedule

- a) 'Strategies' of local development. Three strategies in each of infrastructural development and socio-communal activity should be listed and located in the catchment.
- b) Each strategy should be described briefly and the expected effects of the strategy should be explained.

The use of the word 'locate' requires that most strategies will have an implicit/explicit spatial reference. The marking panel will need to judge (based on review of student texts; what sorts of responses meet the criteria of the word 'locate'). You may use both the strategy and the description to assess this matter.

Part (a) of the task. The list of possible infrastructural strategies is long, and the job of the marking panel is to construct their own list and determine which answers provide a good response to the question. The following list outlines some obvious options:

1. Plant trees along local residential area of levy

2. Manage forest removal in the upper catchment
3. Install/maintain drainage pumps in Fushimi and test performance regularly
4. Provide boats at key locations in Fushimi for potential evacuation
5. Manage upper catchment to retain water away from areas of ponding in lower catchment
6. Develop ponding areas in Fushimi and throughout catchment, especially for environmental enrichment
7. Manage river flow through catchment –armouring, weirs, riffles, stopbank construction
8. Protect strategic buildings in Fushimi through local stop banks
9. Other reasonable strategy

In terms of social strategies

1. Establishment of a neighbourhood/local residents' association and provide flood information
2. Make and conduct training sessions in the community
3. Make individual/family evacuation plans and arrange a practice session
4. Make community evacuation plan and arrange a practice session
5. Management and maintenance of public supplies for emergency services
6. Work to integrate emergency services (police, fire fighting, army) involved in disaster management
7. Other reasonable strategy

Marking. There are only two marks available here; this is a formative rather than substantive process. A non response scores 0, three or more acceptable responses (as long as there are physical and social entries) will score 1, and a significant number of students will be expected to score 2 (full marks).

Part (b) of the task. The important phrase in the explanations is impact. If students have not identified the impact of any strategy, even if they have described the strategy very well, they can not score more than half marks. The panel leader will train and get agreement among markers by using examples of student texts. The list below outlines the type of description and impact assessment that students might provide; these answers would each score 1 mark.

1. Establishment of neighbourhood/local residents' association in Fushimi and the provision of flood information will have the impact of increasing the awareness of flood risk in the community.
2. Managing forest removal in the upper catchment will have the impact of holding water in the upper catchment longer to 'flatten' the hydrological flood stage after a severe rainfall event.
3. Protecting strategic buildings, like electricity distribution centres in Fushimi, through local stop banks will have the impact of securing vital services through the duration of an extreme natural event and will speed the recovery after the event.

Task 4. Marking schedule

The intent of each of the four strategies should be clear, and they should be linked to the vision statement. Each of the four strategies should be qualified. The qualification on each strategy can be through reference to the physical and cultural geography of Fushimi or identifying the positive (or negative) impacts of these strategies on the community. The map provided should identify the areas in which each strategy will be implemented and should include appropriate annotation.

Marking part (a). Have a look at the vision statement first. An example might be:

Fushimi: A Place Where History and Water Harmonize

Then look for a 'sectoral' identifier in each strategy. Examples might include tourism, population-based, housing, retailing, sake or other industrial development, a focus on water heritage, transport and/or urban community. Sector references like this are included in the question. It is possible to have two strategies with one sector reference. For example, there could be a population-based strategy to cater for the housing of an ageing population, and second strategy that focused on the provision of schools and recreation facilities for young people. Strategies should be linkable to the vision statement; the (community) vision allows us to link the strategies to the place (Fushimi) they have actually seen. There is no requirement that water and tourism will be addressed. This statement, like the vision statement, was intended as 'scaffolding' for students. Score 1 mark for each strategy that can be linked to the vision statement; the intent is that strategies will fail to score only if they are inappropriate or not clearly expressed (e.g. 'To encourage local people to have fun'). Examples might include;

Preservation and use of waterways. The waterways of Fushimi, pedestrian paths, and green spaces should be preserved and used appropriately, and the use of these areas by local people should be encouraged.

Effective use of historic buildings. Historic buildings in the designated area should be preserved and used appropriately. For example, the saké brewing company buildings, the Okura Memorial Museum, Chokenji Temple and Gekkeikan should be part of a protected heritage selection that could form the basis of a tourism venture.

To score 2, the strategy needs to be 'qualified' in some way. An impact assessment on the physical and cultural geography of Fushimi is the easiest way to achieve this, but other forms of qualification can be accepted. An example could be "using a protection order on historic building has the dual impact reminding local people of their past, and providing a focus for a tourism initiative before 2035". After looking at some papers, and with discussion and agreement with the panel leader, up to 2 marks can be awarded for each strategy.

Marking part (b). The map should have locations shown for strategies. The shape of the areas affected by the strategy can be shown; for example, if there is a strategy to enhance and protect the local commercial centre from large mall competition, the shape of the existing retail centre can be highlighted with a reference number and keyed detail. The protection of historic sites (see 1:25,000 map) can be symbolised and located on the map with key detail. If the location of all four strategies in the Fushimi area is shown (annotation and key), four marks can be scored. Partial marks may be scored after an assessment of student scripts, discussion and with approval of the panel leader.