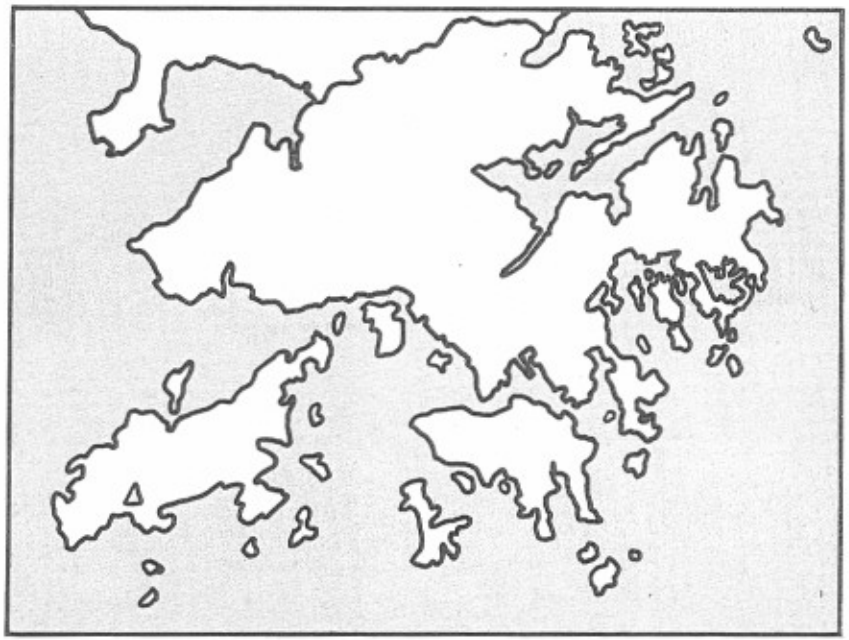
Hong Kong Geographical Association 香港地理學會

THE HONG KONG GEOGRAPHER

Vol. 9 No.1 March 1991



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Words from the Editor

The Board of Editors would like to apologize for the delay in producing this issue. There has been some difficulty to attract contributions to the journal and the Board sincerely urges for more volunteers to work together for the betterment of this bulletin.

The articles in this issue mainly deal with two major themes—countryside education and secondary geography teaching. The Board would like to show her gratitude to Mr. K. M. Yeung and C. H. Leung of the Agriculture and Fisheries Department who write on the fruit trees of Sai Kung Countryside Centre and the conservation education facilities in the countryside of Hong Kong respectively. Mr. K. Y. To, an experienced senior form geography teacher, also shares his idea of spreadsheet template which is specially designed for use by sixth form pupils to find the spatial distribution of the least cost industrial location.

The publication of this issue of the Hong Kong Geographer is sponsored by the Manhattan Press (H.K.) Ltd. On behalf of the Board of Editors and the Hong Kong Geographical Association, I would like to extend our deep appreciation for this generous support.

I hope that you enjoy reading these articles and I am looking forward to your continual support in future.

To Ka Yan
Guest Editor

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Fruit Trees of Sai Kung Countryside Centre

by
Yeung Kai Ming
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Introduction

Subtropical fruits generate a special kind of excitement for city dwellers. Just let some of their names roll off your tongue: mango, papaya, banana, passion fruit and carambola. These names call to mind far away places and interesting flavours. Even the citris species evokes images of sunny days.

In recent years, a growing number of subtropical fruits have begun to appear in the local market. Although many fruits are imported from different parts of the world, many can be found and are grown in Hong Kong. In fact, the Sai Kung Countryside Centre which is just 25 kilometres from the city centre has a rich collection of fruit tree species. In this paper, their notable characteristics and uses are described.

Fruit Trees of Sai Kung Countryside Centre

1. *Prunusmume* (Flowering Apricot)

A small low-branching tree. The fruits are either yellow or green which are harvested in April. They are sour in taste but are good for jam making and have many medicinal uses.

2. *Canarium album* (Chinese White Olive)

Large evergreen tree. Harvesting season from September to November. The fruits are small resembling the shape of a quail egg. Its fruits and timber are good for medicinal and constructional uses.

3. *Annona Squamosa* (Sugar apple)

A small deciduous tree about 3 metres tall with sweet fruits, starting

to bear at about 3 years old. Harvesting season from September to November. Irregular ripening.

4. *Averrhoa carambola* (Carambola)

The fruit is acutely five-angled. It is green but the colour of ripe fruit is yellow. A succulent fruit with many medicinal uses.

5. *Citrus grandis* (Pomelo)

The tree grows up to 15 metres in height and the fruit is very large. A major fruit tree of the subtropical region. There are several varieties in Hong Kong of which Sha Tin Pomelo is the most famous. Fruits of excellent quality are semi-juicy and with a sweet and slightly bitter taste.

6. *Citrus reticulata* (Sha Kum)

Harvesting season from December to January. Very large fruit but not edible; in demand during Chinese New Year for good luck.

7. *Cocas nucifera* (Coconut palm)

A representative species of the tropical region with the largest fruit among fruit trees. The fruits are hard and good for use as industrial raw materials.

8. *Citrus mobilis* (Chiu Kum)

Harvesting season from January to February. Fruit large, globose to moderately depressed. Very sweet but less juicy than Chiu Chow Kum.

9. *Sterculia nobilis* (Noble bottle)

The fruit resembles chestnut which can be fried to eat; tasty and good for medicinal uses. Its fibrous bark is a good substitute for linden.

10. *Punica granatum* (Pome Grauate)

Very thick fruit skin with numerous seeds. The fruits are edible

and good for medicinal uses.

11. *Diospyros kaki* (Chee)

A very common and longlived fruit tree of the tropics. It is good for medicinal uses.

12. *Artocarpus heterophyllus* (Jack fruit)

Harvesting time from July to August. Very large fruit with irregular surface. Both seeds and flowers are edible. The timber is good for dyeing and medicinal uses.

13. *Pyrus pyrifolia* (Sand pear)

Very popular round shaped fruit. Brown colour with light spots.

14. *Citrus reticulata* (Lin Kit)

A very common fruit tree with many varieties cultivated in South China. Its skin is good for medicinal uses.

15. *Psidium guajava* (Guava)

Harvesting time from June to September. A small evergreen tree which can grow on poor soils. Fruit round or pear-shaped; texture tender and juicy.

16. *Morus alba* (White mulberry)

Almost all parts of this fruit tree are useful. Roots, branches and leaves are good as Chinese herbs. Its leaf is used to feed silkworms.

17. *Citrus sinensis* (Orange)

Harvesting season from December to January. Fairy juicy and very sweet with many seeds. The fruit skin is good for medicinal uses.

18. *Prunus salicina* (Plum)

Harvesting season from May to June; fruit round with a hard stone, size like a table-tennis ball; taste slightly sour to sweet.

19. *Eriobotrya japonica* (Loquot)

Round or oval shaped fruits; orange or yellow in colour. It is used for many medicinal uses particularly to clear throat and suppress coughing.

20. *Syzygium jambos* (Rose Apple)

A common fruit tree of the tropical or subtropical regions. This species is also good for planting as a roadside tree. Its oval shaped fruit is small and light yellow/green in colour.

21. *Dracontomelon dao* (Yan min)

The fruits are usually treated for cooking but they have medicinal uses. The timber is also a good construction material.

22. *Mangifera indica* (Mango)

This species is commonly found in the tropical region. Its fruit is juicy and tasty. The fruit skin is good for medicinal uses. Leaves and barks are raw materials for yellow dye.

23. *Citrus paradisi* (Grape fruit)

This fruit is not particularly popular with the Chinese taste. The large round fruit is juicy and has an excellent but tart favour.

24. *Fortunella margarita* (Kum quat)

Oval shaped fruit in golden yellowish colour. It ripens in the Chinese New Year. The fruits are edible and are good for medicinal uses.

25. *Citrus* (Sze Wui Kum)

The fruit is juicy and sweet with distinctive aroma; harvested before the Chinese New Year.

26. *Clausena lansium* (Wampei)

Harvesting season from June to July. The fruit is like a berry, shaped like a pigeon's egg but slightly smaller. It has a sweet taste and can be used for medicinal uses.

27. *Litchi chinensis* (Lychee)

This is a very common fruit tree in South China with over one hundred varieties. Its fruit is juicy and tasty. It is also famous for its longevity. Trees of hundreds of years old are common in China.

28. *Euphoria longan* (Longan)

Harvesting season from July to August. Fruits round and berry like. Seeds round, beautiful black colour and marked at the base with a white spot like an eye, hence the name "dragon eye".

29. *Citrus limonia* (Lemon)

Harvesting season from August to December. Fruits round, very sour but juicy; fruits may be treated as food.

30. *Musa paradisiaca* (Banana)

It is known as the largest grass species. Its fruit is edible and good for cooking.

The Sai Kung Farm is developing into a countryside centre with the donation from the Lions Club. Exhibition Halls together with more educational facilities are being built. At present, group visit to the centre may be arranged by calling 733 2121.

Notes

1 The Sai Kung Countryside Centre wás formerly a Government demonstration farm.

2 For more information concerning fruit trees you may consult *The Hong Kong Fruit Plants* (1981) by Professors S. Y. Zee & L. H. Hui (Urban Council Publication).

Conservation Education Facilities in the Hong Kong Countryside

by
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Over the past three decades, the Agriculture and Fisheries Department (AFD) has been providing opportunities for the conservation education in the countryside of Hong Kong, and for physical involvement in countryside management work for the general public, in particular the school children. Successful and regular conservation education can enhance public awareness of the importance of countryside conservation. This helps to reduce countryside management problems such as hill fires, littering and vandalism.

The AFD countryside education programmes are varied, ranging from on-site interpretive facilities, displays, publications and other educational materials to education-oriented activities. All these facilities and activities offer the public an opportunity to enjoy the nature, acquire more knowledge of the countryside and realize the need of conservation.

The most well-received interpretive facility in the Country Parks is the visitor centres. In 1979, the first two visitor centres in Aberdeen and Plover Cove were established, followed by three more in Sai Kung, Clear Water Bay and Shing Mun (Figure 1). Apart from providing information to visitors, the centres house a variety of educational exhibits relating to the natural and human history of the area such as rocks, plants and wildlife, and the proper use of the countryside. Centre staff also provide visitors with other useful countryside information, as well as advise them on the proper use of the countryside. A new visitor centre in Tai Mo Shan is under preparation and is due to open in mid-1991.

Moreover, a nature education centre, which will include an arboretum, an orchard, a rock garden, an insect house and an indoor exhibition of agriculture, fisheries and Country Parks, is under preparation by AFD with the sponsorship of the Lions Clubs International District 303, Hong Kong and Macau. It is

located inside the Tsiu Hang Special Area in Sai Kung with a rich collection of fruit-bearing and amenity trees.

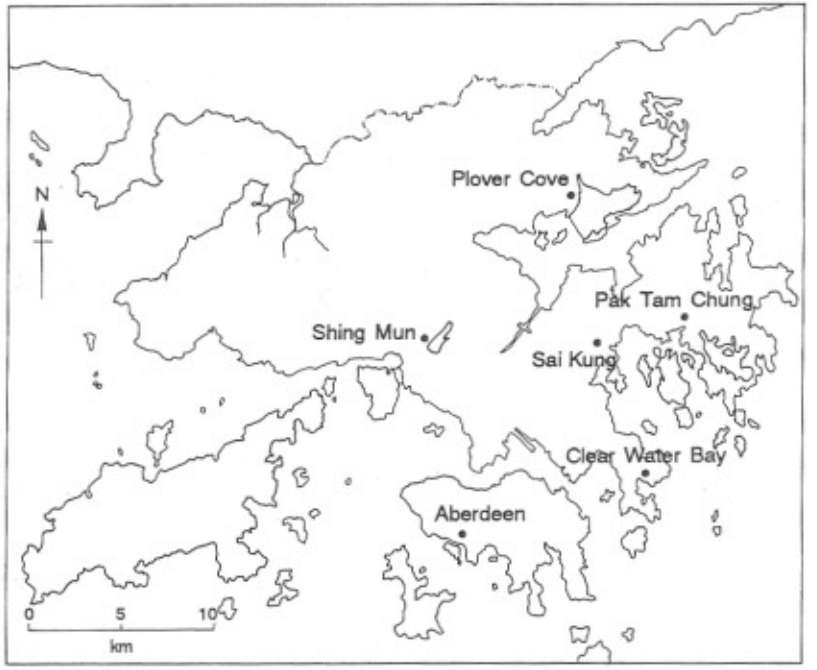
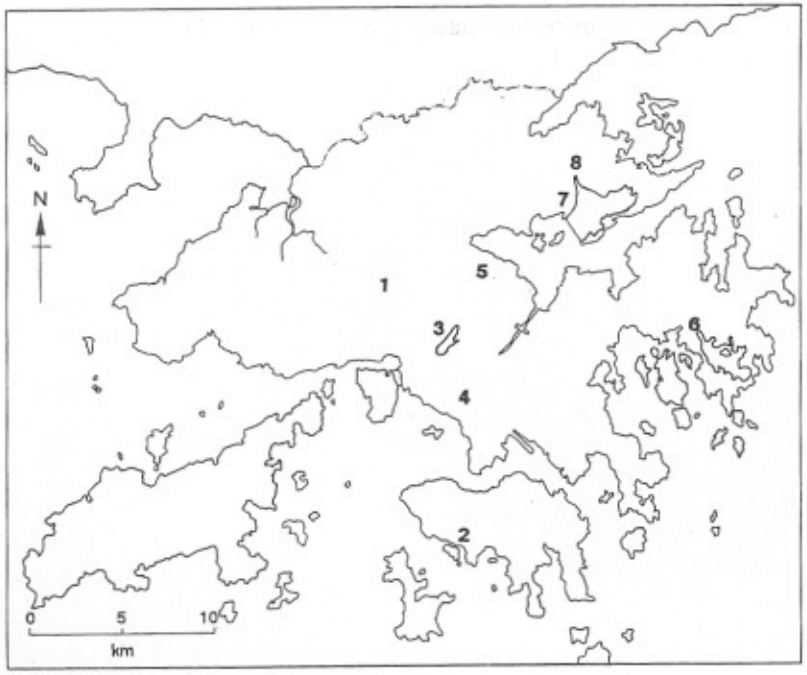


Figure 1: Location of Country Park visitor centres.

Mobile displays on specific topics of countryside conservation such as "Keep Countryside Clean" and "Prevent Hill Fires" are also set up from time to time at various exhibition venues and at popular spots in Country Parks. Schools may borrow these displays for educational uses.

Nature trails are another popular interpretive facility in Country Parks. A nature trail is a path through an area of pleasant countryside where numbered marker-posts are placed at intervals along the path to draw visitors' attention to the plants, wildlife and features of special interest. Guide books are published to illustrate the features of each stop and to help students apply the knowledge they learn in schools to the countryside situation. Currently, there are eight nature trails in various Country Parks and new ones are under preparation (Figure 2).



Key

1	Kap Lung Forest Trail	5	Tai Po Kau
2	Aberdeen	6	Pak Tam Chung
3	Pineapple Dam	7	Pat Sin Leng
4	Eagle's Nest	8	Bride's Pool

Figure 2: Location of Hong Kong nature trails.

The Shing Mun Arboretum provides an excellent opportunity for naturalists and students who wish to learn more about plants in Hong Kong. It has a rich collection of some 1,900 tree and shrub specimens, most of which are indigenous to Hong Kong and South China. The arboretum is open to the public daily and students may participate in guided walks organized regularly by the AFD to supplement what they learn in the classroom.

Turning to educational materials, the AFD has produced several sound-slide packages on various aspects of countryside

and wildlife conservation. They can be on loan to schools. These slide presentations are also shown regularly in visitor centres.

A series of pamphlets on individual Country Parks and their facilities, which are colourful, informative and well-illustrated, have been produced for general distribution to local and overseas visitors. A picture book about Country Parks is available on sale. In addition, *A Country Park*, written by Dr. Stella Thrower, also gives detailed information on individual parks, their flora, fauna and other features. This book can meet the demands of those who require more academic information on the subject. Posters on Country Parks, flora and fauna are also produced to promulgate the countryside conservation message.

The best approach to learn more about the countryside environment is, perhaps, through first-hand experience gained from participating in countryside management activities. From their physical involvement in caring the countryside, visitors learn more about the countryside as well as the need to "respect" the countryside. For this reason, the AFD has been organizing a variety of countryside educational activities for decades, including several large-scale annual functions to further promulgate countryside conservation message to the public. Such activities often take place in scenic Country Parks and some examples are highlighted below.

The Community Tree Planting Scheme has been organized since 1957 to encourage all sectors of the community to plant trees. Its aim is to arouse public awareness of the importance of trees in countryside, in particular their uses in landscaping, controlling soil erosion and wildlife conservation. The scheme takes place in spring when the public are encouraged to plant their own trees in designated planting sites. Staff are deployed at the planting sites to provide tree seedlings, tools and technical assistance to the participants. Special encouragement and arrangements are made for schools and organized youth groups to take part. The scheme is becoming increasingly popular and the number of participants approaches 20,000 in recent years.

The Clean and Green Scheme is another popular annual project to encourage the general public to keep the Country Parks clean and green. Apart from physical involvement in litter

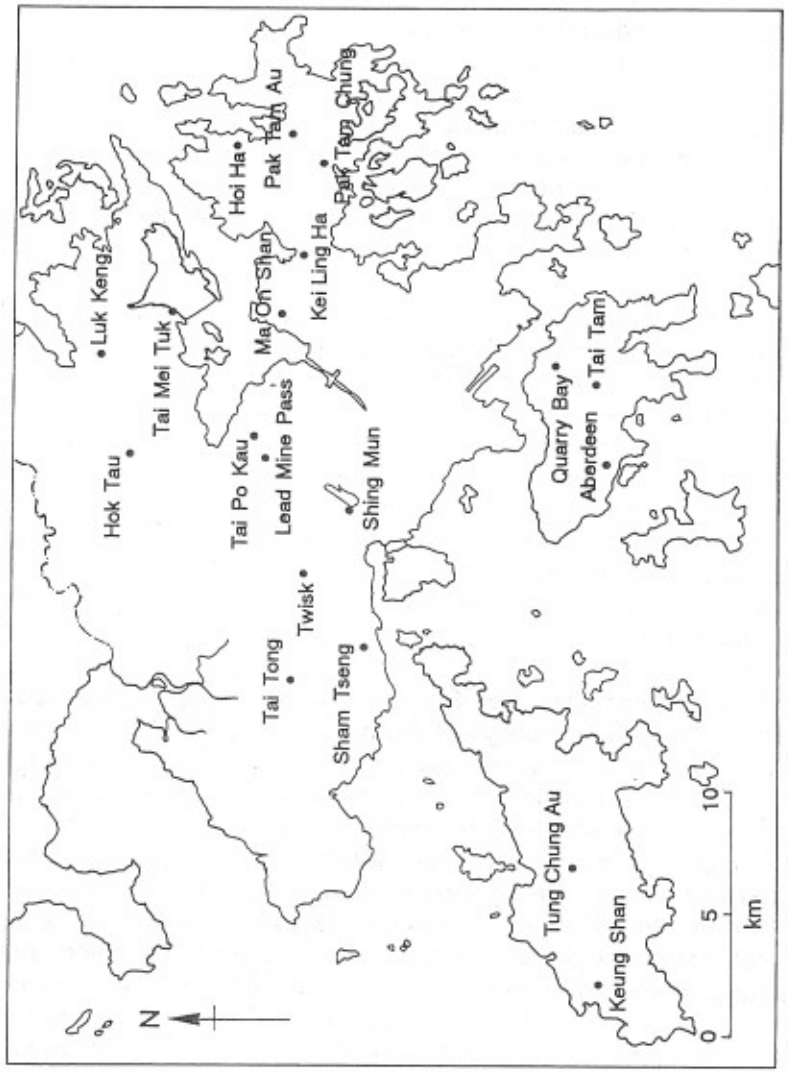


Figure 3: Location of Country Parks management centres.

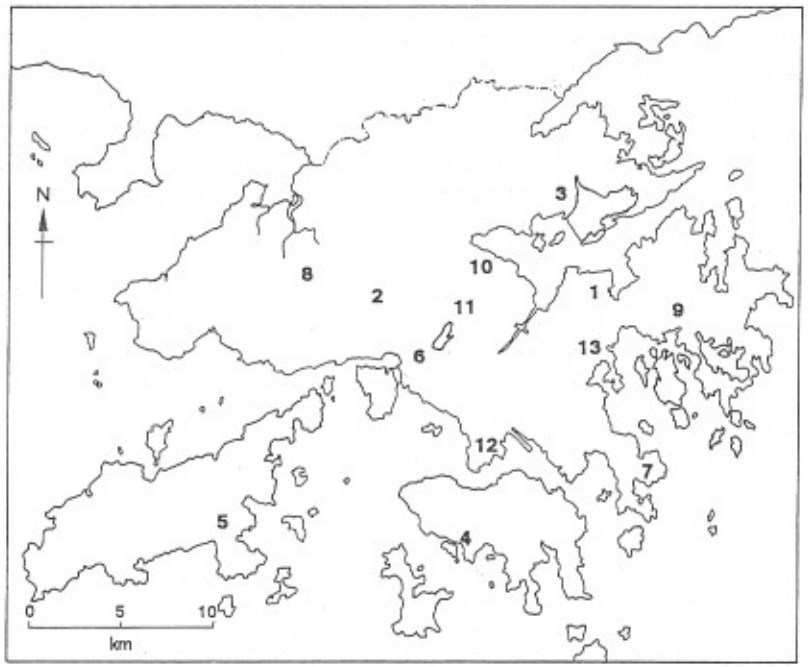
picking, countryside and vegetation management work, activities which are designed to arouse participants' interest in the countryside are also organized. Over the years, activities such as photo competition, slogan competition, painting competition, quiz, excursion, outdoor games, etc. have been organized. The number of participants in the scheme over the recent three years has maintained a high level of more than 10,000 each year.

There are also educational activities designed specifically for schools and youth groups, such as the Forestry Work Camps and School Forest Project. Each year, about 100 Forestry Work Camps are organized during school summer holidays to provide school children and youth with an opportunity to spend a few days at the Country Parks management centres (Figure 3), to learn some practical skills in countryside and vegetation management work and to contribute to countryside conservation.

The School Forest Project was introduced in 1980 for schools keen in countryside conservation to adopt a small plot of land and to become physically involved in the establishment and subsequent management of "their" forest for five or more years. Through the long years of service and attachment to their "school forest", students gradually build up their knowledge, understanding and care of the countryside. They can also apply freely what they have learnt in their geography, biology and science lessons to the real natural environment. This "activity-wise" approach in education is most beneficial. Some school teachers also use the opportunity to conduct field studies with their students in the school forests. So far 14 schools have joined the project. This project has recently been further extended to allow the participation of organized groups.

The AFD also assists schools and organized groups to organize voluntary countryside management services, such as tree planting and tending, grass cutting, path maintenance and litter picking throughout the year. Apart from learning some simple countryside management knowledge and skills, it also provides opportunities for students and youth to serve the community.

Guided walks are also organized throughout the year for schools and organized groups at some 13 places (Figure 4) in Country Parks, tree nurseries and arboretum to enhance their enjoyment in



Key

	Location	Theme of the visit
1	Ma On Shan Country Park	Trees in the countryside
2	Tai Lam Country Park	Plantations in Tai Mo Shan and their protection
3	Pat Sin Leng Country Park	Landscape at Pat Sin Leng Area
4	Aberdeen Country Park	Country Parks on Hong Kong Island
5	South Lantau Country Park	Land-use on Lantau Island/Tree nursery work
6	Shing Mun Country Park	Shing Mun Plantation and the associated features
7	Clear Water Bay Country Park	Coastal features
8	Tai Tong Forest Nursery	Tree nursery work
9	Sai Kung Country Park	Traditional livelihood of villages in Sai Kung Peninsula
10	Tai Po Kau Nature Reserve	Woodland and ecology
11	Shing Mun Arboretum	Trees in Shing Mun Arboretum
12	Hong Kong Herbarium	The vegetation of Hong Kong
13	Sai Kung Countryside Centre	Common plants and birds

Figure 4: Location of countryside guided walks.

and understanding of the countryside. Park rangers/wardens leading the walks point out to the participants features of special interest, the inter-relationship between plants, animals and man, and the need for countryside conservation. In 1989, about 18,500 students from 471 schools participated in the walks.

Talks, seminars and field days are organized upon request for school teachers and student-teachers from Education Colleges to acquaint them with the educational and recreational facilities provided in Country Parks and to remind them of the need for proper uses and conservation.

The above facilities and activities help the public to understand more about the countryside. Through their physical participation, they will develop a sense of respect and love for the countryside and an increasing awareness of the need for its conservation. Countryside conservation is a long-term and on-going activity. Regular and assiduous efforts are of prime importance if country-side education aims to achieve its objectives. As countryside patronage is becoming higher, it is essential that Country Park visitors learn more about the proper uses of our countryside resources and facilities, so that the countryside can be better utilized for the enjoyment of all without causing irreversible damage to our countryside environment.

Notes

Enquiries and further information can be addressed to Conservation Education Section/AFD Tel. No. 733 2121.

Using Spreadsheet to Find the Least Cost Industrial Location

by
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Introduction

When teaching the concept of Weber's model of industrial location to sixth form pupils, a usual approach to represent the point of least transport cost is to draw isodapanes. This is a very tedious and time consuming task if more than two variables are involved. Using electronic spreadsheets can save much time in calculating figures and, more importantly, can provide pupils with a chance to explore and predict the changes that would take place if the input values have been altered.

This article attempts to introduce a spreadsheet template which enables the user to display the spatial distribution of aggregate transport costs in the location of industry.

Constructing Isodapanes

One common means of finding the least cost location is, firstly, to draw lines of equal transport cost of a particular variable (isotims), and secondly, to delimit lines of equal aggregate transport costs (isodapanes) based on these isotims.

Figures 1a and 1b illustrate a case which involves two raw material (A and B) source locations and a market location. It is assumed that 1.5 tonnes of Raw Material A and 1 tonne of Raw Material B, which loses 50% of its weight after processing, are needed to make a product weighing 1 tonne which is consumed at the market. The rates of transport of both raw materials and finished products are the same, i.e. $1 per tonne per kilometre. The concentric circles (isotims) in Figure 1a are centred on the source of the raw materials (A and B) and the market. The optimum location(s) of an industrial plant, on the basis of least transport cost, can be found by referring to Figure 1b which depicts the pattern of the isodapanes.

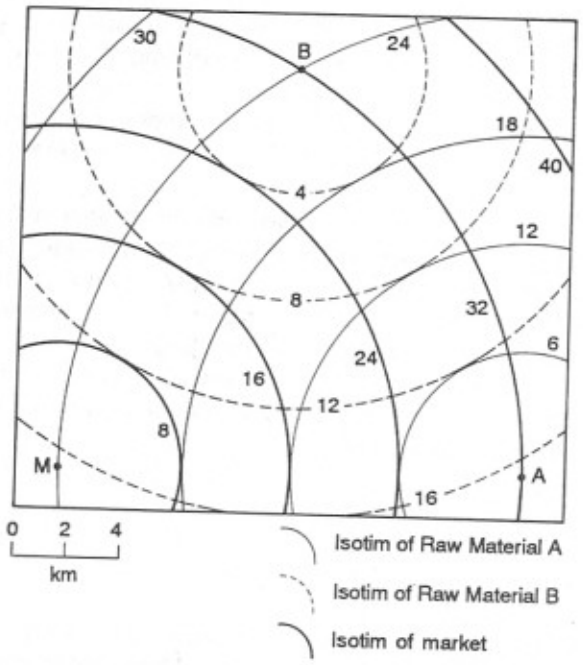


Figure 1a

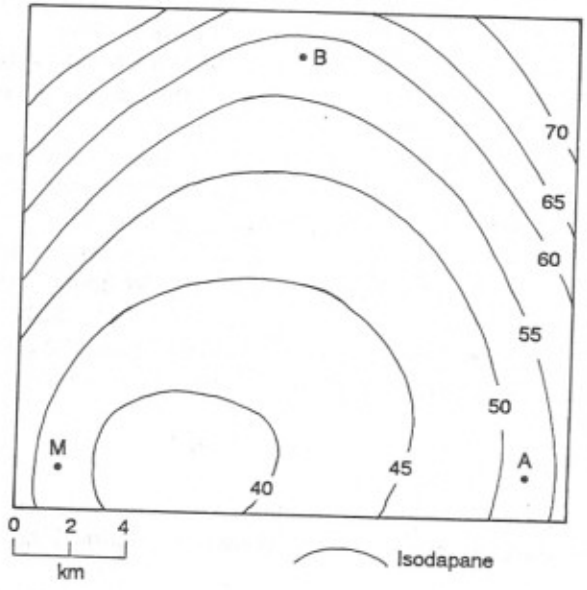


Figure 1b

As an exercise, pupils might be asked to draw isodapanes on a diagram similar to Figure 1a and to delimit the least cost sites as shown in Figure 1b. Alternatively, they might be given an isotim map with the locations of several industrial plants marked on it. They are then required to find which is the least cost site.

Isodapanes can effectively illustrate the spatial distribution of the least cost locations, but drawing them requires tedious and repetitive calculation. If there is any change in the values of the variables involved, the isotims and the isodapanes have to be redrawn again to reflect the changing conditions. It is therefore necessary to consider other means of showing this concept to the pupils. Using spreadsheets in the computer to accomplish similar task is an alternative.

Spreadsheet Applications

1. What is a spreadsheet?

A spreadsheet looks like a sheet of paper consisting of columns and rows forming a matrix of cells. These cells may contain numeric data, text, formulae or commands. Spreadsheet templates can be developed in which some cells have been prepared for data entry while others are configured for calculations using those data. Changes in the content of the cells assigned for data entry immediately lead to the recalculation of the values in other cells.

Very often spreadsheets have been used as a table or a matrix showing changes in numeric data. To's application to the study of stream velocity clearly demonstrates such a use (To, 1989). A spreadsheet, however, can also be treated as a map which shows the spatial changes of transport costs. This article illustrates how the author has made use of an utility software, namely "Symphony" Release 1.2, to design a spreadsheet template to find the spatial distribution of the least cost sites.

2. Design of the Spreadsheet Template

Figure 2 shows the screen display of the spreadsheet template. All the assumptions in the case shown in Figure 1 hold true.

To deal with different situations, the user is allowed to change

the values in cells B2 to B4, B7 to B9 and B20 in response to different situations. In other words, he can alter the amount of raw materials needed in the manufacturing process (i.e. weight in tonne and weight-loss %) and the freight rate of getting the raw material, as well as the freight rate of distributing the finished product. The weight of the finished product is automatically computed by considering the added weight of the two raw materials. Changing the value of the "Scale" in cell B20 enables the user to change the numeric patterns shown on the "map".

	A	B	C-D-E-F-G-H-I-J-K-L-M-N-O-P-Q-R-S-T-U-V-W-X-Y-Z-AA
1	Raw Material A:		MAP SHOWING LOCATION OF TOTAL TRANSPORT COSTS
2	Wt_Tonne	1.50	A B C D E F G H I J K L M N O P Q R S T U
3	WtLoss%	0.00	----------
4	Freight_tn/km	1.00	1 ¦ 8 7 7 7 7 7 6 6 6 6 6 6 6 6 7 7 7 7 7 8 8
5			2 ¦ 7 7 7 7 6 6 6 6 6 6 RB6 6 6 6 6 7 7 7 7 8
6	Raw Material B:		3 ¦ 7 7 6 6 6 6 6 6 6 5 5 6 6 6 6 6 6 6 7 7 7 7
7	Wt_Tonne	1.00	4 ¦ 7 6 6 6 6 6 6 5 5 5 5 5 5 5 5 6 6 6 6 6 7 7 7
8	WtLoss%	50.00	5 ¦ 6 6 6 6 6 5 5 5 5 5 5 5 5 5 5 6 6 6 6 6 7 7 7
9	Freight_tn/km	1.00	6 ¦ 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6 6 6 6 7
10			7 ¦ 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6 6 7
11	Finished Product:		8 ¦ 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6 6 6
12	Wt_Tonne	2.00	9 ¦ 6 5 5 5 5 5 5 4 4 4 4 4 4 5 5 5 5 5 5 6 6 6
13	Freight_tn/km	1.00	10 ¦ 5 5 5 5 5 4 4 4 4 4 4 4 4 4 5 5 5 5 5 5 6 6
14			11 ¦ 5 5 5 5 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5 5 5 6 6
15	Location	T_Cost	12 ¦ 5 5 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5 5 6
16	RawMatA	4.81	13 ¦ 5 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5 5 6
17	RawMatB	5.64	14 ¦ 5 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5 5 6
18	Market	4.01	15 ¦ 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5 6
19			16 ¦ 5 4 MA4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5 RA5 6
20	Scale	X 10.00	17 ¦ 5 5 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5 5 5 5 6

Explanation of the terms shown in columns A and B of the spreadsheet :

i) Raw Materials A and B

Wt_Tonne	= Weight of raw material A/B (in tonne) needed to produce the product
WtLoss%	= % of weight loss during manufacture
Freight_tn/km	= Freight rate (per tonne of raw material per km) for transporting the raw material to the factory

ii) Finished product

Wt_Tonne	= Weight of finished product (in tonne).
Freight_tn/km	= Freight rate (per tonne of product per km) for transporting the finished product to the market.

iii) Location

RawMatA (T_Cost)	= Total (aggregate) transport cost at Raw Material A source location
RawMatB (T_Cost)	= Total (aggregate) transport cost at Raw Material B source location
Market (T_Cost)	= Total (aggregate) transport cost at Market location.

iv) Scale_X = A scale factor to adjust the numeric patterns shown on the map.

Figure 2

The "map" (i.e. from cell D1 to cell Z20) shows the aggregate costs of transport of different locations. There are altogether 357 locations (21 X 17) on the map. The "distance" between one and another coordinate, in the horizontal or vertical direction, on the map is assumed to be 1 kilometre, whilst diagonally, the distance is 1.4142 kilometres. In each cell of the "map", there is a "hidden" formula which calculates the aggregate transport cost of a location. This is found by adding, at a particular location, the transport costs of assembling raw materials from sources A and B to the transport cost of delivering the finished product to the market. The sum is then divided by a scale factor which suppresses the value displayed. Consequently, each single digit number on the map indicates the approximate total (aggregate) transport cost of a location. The locations of the raw material sources A and B are indicated by "RA" and "RB" respectively on the map, whilst that of the market, by "MA".

To facilitate display, each cell is designed to reveal one numeric character only. Therefore, the calculated value has been rounded off and no decimal places will be shown. For instance, a number "6" displayed on the map may actually mean any values lying in between 5.5 to 6.49. If the value is 10 or more, two asterisks (**) will be shown instead of the calculated value. This is an intrinsic feature of most of the spreadsheet program when there are too many characters to fit in a cell. The total transport costs at "RA", "RB" and "MA" are shown in cells B16 to18 respectively. All values shown on the map have been transformed to single digit values which facilitate display on the screen. They are therefore **relative** values only. To find the absolute value of each location, you simply need to multiply the value by the scale factor.

The pattern shown on the map resembles isodapane values. Points of similar total transport costs tend to cluster in groups and locations with lowest values represent least cost sites. Although both Figure 1 and Figure 2 show similar patterns, the latter displays an **area** of low cost sites but not **a** least cost site. To see the location of the least cost site, the user can change the scale value at B20 so that eventually a cell (or two cells) with the lowest value will appear on the map. The value that has to be inputted is found through trial and error. For instance, in this case, changing the scale value to 11.38 results in a pattern shown in Figure 3. It

is seen that the least cost site is located at map grid location F15, which is near to the market.

```
Raw Material A:          MAP SHOWING LOCATION OF TOTAL TRANSPORT COSTS
Wt_Tonne        1.50       A B C D E F G H I J K L M N O P Q R S T U
WtLoss%         0.00      ---------------------------------------------
Freight_tn/km 1.00    1 ¦ 7 6 6 6 6 6 6 5 5 5 5 5 6 6 6 6 6 7 7 7
                      2 ¦ 6 6 6 6 6 5 5 5 5 5 RB5 5 5 6 6 6 6 6 7 7
Raw Material B:       3 ¦ 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 6 6 6 6 7
Wt_Tonne        1.00  4 ¦ 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6 6 6
WtLoss%        50.00  5 ¦ 6 5 5 5 5 5 5 5 4 4 4 4 4 5 5 5 5 5 5 6 6 6
Freight_tn/km 1.00    6 ¦ 5 5 5 5 5 5 4 4 4 4 4 4 4 5 5 5 5 5 5 6 6
                      7 ¦ 5 5 5 5 5 4 4 4 4 4 4 4 4 4 4 5 5 5 5 5 6
Finished Product:     8 ¦ 5 5 5 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5 6
Wt_Tonne        2.00  9 ¦ 5 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5 5
Freight_tn/km 1.00   10 ¦ 5 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5
                     11 ¦ 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5
Location      T_Cost 12 ¦ 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5
RawMatA         4.23 13 ¦ 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5
RawMatB         4.96 14 ¦ 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5
Market          3.53 15 ¦ 4 4 4 4 4 3 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5
                     16 ¦ 4 4 MA4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 RA5 5
Scale       X 11.38  17 ¦ 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5
```

Figure 3

To start with simple cases, for example, a situation with only one raw material and a market, you can simply change the contents of Wt_Tonne, WtLoss% and Freight_tn/km to 0. To deal with more complicated or realistic cases, the template allows the user to consider

a) whether the raw material is ubiquitous or localized, pure or gross (weight-loss or weight-gain);
b) variation in the proportion (weight) of each of the raw materials needed in producing the product; and
c) variation of transport costs of each of the raw materials and of the finished product.

For an ubiquitous raw material, the user simply needs to change the transport cost to "0", which implies that no transport cost is involved and the raw material is not just confined to the "RA" or "RB" locations marked on the "map". If transport cost is inputted, it is assumed that the raw material is localized.

Referring to the case mentioned above, where is the least cost location if Raw Material B is pure (i.e. no weight loss)? The user can change the value at cell B8 to 0 and input an appropriate

scale value. A new pattern will then appear (Figure 4).

```
Raw Material A:          MAP SHOWING LOCATION OF TOTAL TRANSPORT COSTS
Wt_Tonne       1.50        A B C D E F G H I J K L M N O P Q R S T U
WtLoss%        0.00     ---------------------------------------------
Freight_tn/km 1.00    1 | 9 9 8 8 8 8 8 8 7 7 7 7 8 8 8 8 8 9 9 9 9 **
                      2 | 8 8 8 8 8 7 7 7 7 7 RB7 7 7 8 8 8 8 9 9 9
Raw Material B:       3 | 8 8 8 7 7 7 7 7 7 7 7 7 7 7 8 8 8 8 9 9 9
Wt_Tonne       1.00   4 | 8 8 7 7 7 7 7 6 6 6 6 6 7 7 7 7 7 8 8 8 9
WtLoss%        0.00   5 | 7 7 7 7 7 6 6 6 6 6 6 6 6 6 7 7 7 7 8 8 8 9
Freight_tn/km 1.00    6 | 7 7 7 6 6 6 6 6 6 6 6 6 6 6 6 7 7 7 8 8 8
                      7 | 7 7 6 6 6 6 6 6 6 6 6 6 6 6 6 6 7 7 7 8 8
Finished Product:     8 | 7 6 6 6 6 6 5 5 5 5 5 5 6 6 6 6 6 7 7 7 8
Wt_Tonne       2.50   9 | 6 6 6 6 5 5 5 5 5 5 5 5 5 5 6 6 6 6 7 7 7 8
Freight_tn/km 1.00    10 | 6 6 6 5 5 5 5 5 5 5 5 5 5 5 6 6 6 6 7 7 7
                      11 | 6 6 5 5 5 5 5 5 5 5 5 5 5 5 6 6 6 6 7 7 7
Location     T_Cost   12 | 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6 6 6 7 7
RawMatA        5.97   13 | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6 6 6 7 7
RawMatB        6.86   14 | 5 5 5 4 4 4 4 4 5 5 5 5 5 5 5 5 5 6 6 6 7 7
Market         4.27   15 | 5 5 4 4 4 4 4 4 5 5 5 5 5 5 5 5 5 6 6 6 6 7
                      16 | 5 5 MA4 4 4 5 5 5 5 5 5 5 5 5 5 5 6 6 6 RA6 7
Scale      X  9.40    17 | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6 6 6 6 7 7
```

Figure 4

Examples of other patterns related to different situations are illustrated in Figures 5 to 9.

```
Raw Material A:          MAP SHOWING LOCATION OF TOTAL TRANSPORT COSTS
Wt_Tonne       2.00        A B C D E F G H I J K L M N O P Q R S T U
WtLoss%        0.00     ---------------------------------------------
Freight_tn/km 1.00    1 | ********************************************
                      2 | ********9 9 9 9 9 9 RB9 9 9 9 9 9 ********
Raw Material B:       3 | ****9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 ****
Wt_Tonne       0.00   4 | 9 9 9 9 9 8 8 8 8 8 8 8 8 8 8 9 9 9 9 9 9
WtLoss%        0.00   5 | 9 9 9 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 9 9 9
Freight_tn/km 1.00    6 | 9 8 8 8 8 8 7 7 7 7 7 7 7 7 7 7 7 7 8 8 8 9
                      7 | 8 8 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 8 8 8
Finished Product:     8 | 8 8 7 7 7 7 7 6 6 6 6 6 6 6 7 7 7 7 7 8 8
Wt_Tonne       2.00   9 | 7 7 7 7 6 6 6 6 6 6 6 6 6 6 6 6 6 7 7 7 7
Freight_tn/km 1.00    10 | 7 7 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 7 7
                      11 | 7 6 6 6 6 6 5 5 5 5 5 5 5 5 5 5 6 6 6 6 6 7
Location     T_Cost   12 | 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6 6
RawMatA        4.48   13 | 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6
RawMatB        9.02   14 | 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6
Market         4.48   15 | 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6
                      16 | 6 5 MA4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 RA5 6
Scale      X  7.15    17 | 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6
```

Figure 5: One localized, pure raw material only.


```
Raw Material A:          MAP SHOWING LOCATION OF TOTAL TRANSPORT COSTS
Wt_Tonne       2.00        A B C D E F G H I J K L M N O P Q R S T U
WtLoss%        0.00     ---------------------------------------------
Freight_tn/km 1.00    1 | 8 8 7 7 7 7 7 7 7 7 7 7 8 8 8 8 8 8 9 9
                      2 | 7 7 7 7 7 7 7 7 7 RB7 7 7 7 8 8 8 8 8 9 9
Raw Material B:       3 | 7 7 7 7 6 6 6 6 6 6 7 7 7 7 7 7 7 8 8 8 8
Wt_Tonne       2.00   4 | 7 6 6 6 6 6 6 6 6 6 6 6 6 6 7 7 7 7 7 7 8 8
WtLoss%        0.00   5 | 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 7 7 7 7 8
Freight_tn/km 0.00    6 | 6 6 6 5 5 5 5 5 5 5 5 6 6 6 6 6 6 7 7 7 7
                      7 | 6 5 5 5 5 5 5 5 5 5 5 5 5 6 6 6 6 6 7 7 7
Finished Product:     8 | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6 6 6 6 7 7
Wt_Tonne       4.00   9 | 5 5 4 4 4 4 4 4 4 4 4 5 5 5 5 5 5 5 6 6 6 7
Freight_tn/km 1.00    10 | 5 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5 5 5 5 6 6 6
                      11 | 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 5 5 5 6 6 6
Location     T_Cost   12 | 4 4 3 3 3 3 3 3 4 4 4 4 4 4 4 4 5 5 5 5 6 6
RawMatA        4.57   13 | 4 3 3 3 3 3 3 3 3 4 4 4 4 4 4 4 4 5 5 5 5 6
RawMatB        6.91   14 | 3 3 3 3 3 3 3 3 3 3 4 4 4 4 4 4 4 5 5 5 5 6
Market         2.29   15 | 3 3 3 3 3 3 3 3 3 3 3 4 4 4 4 4 4 4 5 5 5 5
                      16 | 3 3 MA2 3 3 3 3 3 3 3 4 4 4 4 4 4 4 4 RA5 5
Scale      X 14.00    17 | 3 3 3 3 3 3 3 3 3 3 3 4 4 4 4 4 4 4 5 5 5 5
```

Figure 6: Two raw materials—one localized and pure. One ubiquitous and pure.

```
Raw Material A:          MAP SHOWING LOCATION OF TOTAL TRANSPORT COSTS
Wt_Tonne       5.00        A B C D E F G H I J K L M N O P Q R S T U
WtLoss%        0.00     ---------------------------------------------
Freight_tn/km 1.00    1 | **********9 9 9 9 9 9 9 9 **************
                      2 | ******9 9 9 9 9 9 8 8 RB8 9 9 9 ************
Raw Material B:       3 | ****9 9 9 8 8 8 8 8 8 8 8 8 9 9 9 **********
Wt_Tonne       5.00   4 | 9 9 9 9 9 8 8 8 8 8 8 8 8 8 8 9 9 9 ********
WtLoss%        0.00   5 | 9 9 8 8 8 8 8 8 7 7 7 7 8 8 8 8 9 9 9 ******
Freight_tn/km 1.00    6 | 9 8 8 8 8 7 7 7 7 7 7 7 7 8 8 8 9 9 ******
                      7 | 8 8 8 7 7 7 7 7 7 7 7 7 7 8 8 8 8 8 9 9 ****
Finished Product:     8 | 8 8 7 7 7 7 7 7 7 7 7 7 7 8 8 8 9 9 ****
Wt_Tonne      10.00   9 | 8 7 7 7 7 6 6 6 6 6 7 7 7 7 7 8 8 8 9 9 **
Freight_tn/km 1.00    10 | 7 7 7 7 6 6 6 6 6 6 6 7 7 7 7 8 8 8 8 9 9 **
                      11 | 7 7 7 6 6 6 6 6 6 6 6 6 7 7 7 7 8 8 9 9 9
Location     T_Cost   12 | 7 7 6 6 6 6 6 6 6 6 6 6 6 7 7 7 7 8 8 8 9 9
RawMatA        8.10   13 | 7 6 6 6 6 6 6 6 6 6 6 6 6 6 7 7 7 7 8 8 8 9 9
RawMatB        8.14   14 | 7 6 6 6 6 6 6 6 6 6 6 6 6 6 7 7 7 7 7 8 8 9 9
Market         5.41   15 | 7 6 6 5 6 6 6 6 6 6 6 6 6 7 7 7 7 8 8 8 9 9
                      16 | 7 6 MA5 6 6 6 6 6 6 6 7 7 7 7 7 8 8 RA9 9
Scale      X 29.70    17 | 7 6 6 6 6 6 6 6 6 6 7 7 7 7 7 8 8 8 8 9 9
```

Figure 7: Two raw materials—both localized and pure.

```
Raw Material A:          MAP SHOWING LOCATION OF TOTAL TRANSPORT COSTS
Wt_Tonne       2.00        A B C D E F G H I J K L M N O P Q R S T U
WtLoss%       50.00      ---------------------------------------------
Freight_tn/km 1.00    1 | **********9 9 9 8 8 8 8 8 9 9 9 **********
                      2 | ********9 9 9 8 8 8 RB8 8 8 9 9 9 ********
Raw Material B:       3 | ******9 9 9 8 8 8 7 7 7 8 8 8 9 9 9 ******
Wt_Tonne       2.00   4 | ****9 9 9 8 8 8 7 7 7 7 7 8 8 8 9 9 9 ****
WtLoss%       50.00   5 | **9 9 9 8 8 8 7 7 7 7 7 7 7 8 8 8 9 9 9 **
Freight_tn/km 1.00    6 | **9 9 8 8 8 7 7 7 7 7 7 7 7 7 8 8 8 9 9 **
                      7 | 9 9 9 8 8 8 7 7 7 7 7 7 7 7 7 8 8 8 9 9 9
Finished Product:     8 | 9 9 8 8 8 7 7 7 7 7 7 7 7 7 7 7 8 8 8 9 9
Wt_Tonne       2.00   9 | 9 9 8 8 7 7 7 7 7 7 7 7 7 7 7 7 7 8 8 9 9
Freight_tn/km 1.00   10 | 9 8 8 8 7 7 7 7 7 7 7 7 7 7 7 7 7 8 8 8 9
                     11 | 9 8 8 8 7 7 7 7 7 7 6 7 7 7 7 7 7 8 8 8 9
Location     T_Cost  12 | 9 8 8 7 7 7 7 7 7 7 6 7 7 7 7 7 7 7 8 8 9
RawMatA        7.47  13 | 9 8 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 8 8 9
RawMatB        7.50  14 | 9 8 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 8 8 9
Market         7.47  15 | 9 8 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 8 8 9
                     16 | 9 8 MA7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 RA8 9
Scale      X  8.60   17 | 9 8 8 8 8 7 7 7 7 7 7 7 7 7 7 7 8 8 8 8 9
```

Figure 8: Two raw materials—both localized and gross.

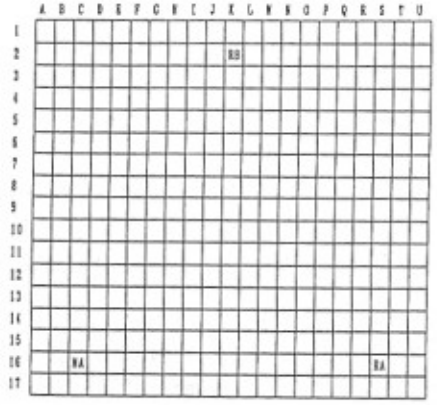
```
Raw Material A:          MAP SHOWING LOCATION OF TOTAL TRANSPORT COSTS
Wt_Tonne       4.00        A B C D E F G H I J K L M N O P Q R S T U
WtLoss%        0.00      ---------------------------------------------
Freight_tn/km 2.00    1 | ********9 9 9 9 9 8 8 8 8 8 9 9 9 9 9 ****
                      2 | ****9 9 9 9 8 8 8 8 RB8 8 8 8 8 8 9 9 9 9
Raw Material B:       3 | **9 9 9 8 8 8 8 8 8 7 7 8 8 8 8 8 8 8 9 9
Wt_Tonne       2.00   4 | 9 9 9 8 8 8 8 7 7 7 7 7 7 7 7 8 8 8 8 9
WtLoss%        0.00   5 | 9 9 8 8 8 8 7 7 7 7 7 7 7 7 7 7 7 7 8 8 8
Freight_tn/km 1.00    6 | 9 8 8 8 7 7 7 7 7 7 7 6 6 7 7 7 7 7 7 8 8
                      7 | 8 8 8 7 7 7 7 6 6 6 6 6 6 6 6 6 7 7 7 7 8
Finished Product:     8 | 8 8 7 7 7 7 6 6 6 6 6 6 6 6 6 6 6 6 7 7 7
Wt_Tonne       6.00   9 | 8 7 7 7 7 6 6 6 6 6 6 6 6 6 6 6 6 6 6 7 7
Freight_tn/km 1.00   10 | 7 7 7 6 6 6 6 6 6 5 5 5 5 5 5 5 6 6 6 6 6 7
                     11 | 7 7 7 6 6 6 6 5 5 5 5 5 5 5 5 5 5 6 6 6 6
Location     T_Cost  12 | 7 7 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6
RawMatA        4.45  13 | 7 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6
RawMatB        7.84  14 | 7 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6
Market         5.56  15 | 7 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6
                     16 | 7 6 MA5 5 5 5 5 5 5 5 5 5 5 5 5 4 RA5 6
Scale      X 28.80   17 | 7 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6
```

Figure 9: Two raw materials—both pure and localized, varying in weight proportion and transport cost.

A. CASE 1.

1. *Assumptions* :
   a) There are two raw material locations and a single market for the product.
   b) The raw materials are pure (no weight loss). (This means that the weight of the finished product is equal to the sum of the weight of the two raw materials.)
   c) 2 tonnes of raw material A and 2 tonnes of raw material B are needed to produce the product.
   d) The freight rate is the same throughout the area (i.e. fixed at $1/tonne/km).

2. *Where is the least cost location for a factory ?*
   a) On the outline plan below, mark with a pencil where you think the least cost location(s) of the factory would be.



   b) By altering the value of the Scale, could you make a situation whereby only one or a few least cost locations (i.e. the smallest numeric value(s)) would appear on the map ?

      What is that Scale value ? _____
      What is the T_cost at the following locations ?

Location	T_Cost	Actual Cost (X Scale)
Raw Material A	_____	_____
Raw Material B	_____	_____
Market	_____	_____

   c) Mark with a red pen the least cost location(s) on the plan above.

   d) The least cost location for a factory is

   ☐ at/near Raw material A

   ☐ at/near Raw material B

   ☐ at/near Market

   ☐ somewhere intermediate between these points

   e) Explain why the least cost location is located at the location (s) mentioned above.

      _____
      _____

Figure 10: Part of a student's worksheet.

3. Using the spreadsheet in teaching

Provided that a projection panel, which links the computer with an overhead projector, is available, the spreadsheet template can be used as an electronic "blackboard" for teacher-led discussion in the classroom.

If more computers are available, not necessarily having one for each pupil, the program can be used as a tool for student-centred activities. Pupils are encouraged to explore by themselves the many possibilities in the location of the least cost site. Work-sheet like that shown in Figure 10 may be prepared and class discussion organized.

4. Final remarks

The author welcomes comments and trial use of the spread-sheet template. It is available from the author and is one of the program designed by the author under the School-based Curriculum Project of the Education Department. The template can be directly read, without modification, by Lotus 1-2-3 and Symphony as well as most of the contemporary spreadsheet software on PC-compatible machines. However, these commercial software are expensive and may not be available in most schools. Another version, which runs on the spreadsheet software (HKUSS - PC version) designed by the University of Hong Kong for use in Computer Literacy class in secondary schools, is also available from the author. The HKUSS is a spreadsheet program with much restricted functions and commands, yet it can be freely copied for teaching purpose and it works well with the present task.

Reference

To, K. Y. (1989) "Using spreadsheets to teach the concepts of river velocity", *The Hong Kong Geographer*, Vol. 7 No. 3 May, pp. 15-28.

News of the Hong Kong Geographical Association

Hong Kong Geography Day

The 1991 Hong Kong Geography Day was held at Hong Kong Baptist College on March 23, 1991. This was the eleventh Hong Kong Geography Day. Dr. K. K. Wong, Department of Geography, Hong Kong Baptist College, chaired the organizing committee. The theme of this year's one day conference was "Geography and Environmental Education". The morning session consisted of two lectures. The first one was by Dr. P. G. Stimpson, Department of Curriculum Studies, University of Hong Kong, on "Geography, Environment and Education in the 1990s" and the second was by Dr. Betty Yau, School of Education, Chinese University of Hong Kong, on "Environmental Education Through the Teaching and Learning of Geography". The afternoon session consisted of a forum with Dr. K. C. Lam (Geography Department, CUHK), Dr. Simon S. C. Chau (Green Power), Mr. Lau Ying Kit (Friends of the Earth), Mr. K. F. Wong (Secondary School Geography Teacher) and Miss Rosa Foo (Geography Student, HKBC) to be the panelists and Dr. K. K. Wong (Geography Department, HKBC) to be the moderator. In addition to the above, the 1991 Hong Kong Geography Day also featured an exhibition on books, teaching aids and exhibits of environmental groups and a tour of the Department of Geography, Hong Kong Baptist College.

Field Trips

1. A field trip to the Loess Plateau and North China is being planned by the Association in July/August, 1991. The Geography Department of Beijing Normal University will co-sponsor the event. The field trip will consist of 10 - 12 days, covering places such as Beijing, Hohhot, Baotou, Yanan and Xian. The participants will be illustrated aspects of agriculture in dry climatic regions, irrigation, grasslands, life in Inner Mongolia and Shaanxi, and the historical city of Xian. Expenses are estimated at 360 yuans per day, inclusive of transport within China, food, lodging and tour guides, but exclusive of transport to and from Hong Kong.

For further information, please contact Dr. Roger Chan, Centre of Urban Planning and Environmental Management, University of Hong Kong at 859 2721 or 559 8984.

2. A field trip to Macau was planned on March 18 - 19, 1991. Places to visit include secondary schools, University of East Asia, the new airport (under construction), urban and suburban developments and major tourist attractions in Macau. A land use survey was scheduled for the afternoon of March 19. About 15 members of the Association took part in the field trip.

Seminar Series on the Teaching of Geography

A series of seminars on the teaching of geography at the Junior and Certificate levels, including

1. The Nature of the Geography Curriculum (Nov 24, 1990)
2. Teaching Strategy (Dec 8, 1990)
3. Resource Production Methods (Dec 29, 1990)
4. Setting of Test and Examination Papers (Jan 12, 1991)

was organized and successfully conducted by the Secondary Education Committee of the Association. All these seminars were held at Hong Kong Teacher's Centre. Experienced teachers were invited to give the above seminars.

Seminar on Land Development and Redevelopment in the Metroplan

The above seminar was held at Hong Kong University on November 19, 1990. Dr. K. S. Pun presented his view on the issue. Dr. Victor Sit served as the discussant.

Seminar on Environmental Education

This seminar, organized by the Secondary Education Committee, will take place on May 18, 1991, at Rayson Huang Lecture Theatre. The Department of Curriculum Studies, Hong Kong University, Education Department, and World Wide Fund for Nature will

co-sponsor the event. Worksheets will be prepared for participants in the seminar.

Annual General Meeting and Extraordinary General Meeting

The Annual General Meeting was scheduled to take place in Hong Kong Baptist College on March 23, 1991. An Extraordinary General Meeting was scheduled on the same day to review the membership fee.

News of Colleges and Universities

Hong Kong University

The Conference "Geographical Research and Development" organized by the Department of Geography and Geology was successfully held on April 27 - May 1,1990. More than 60 scholars, mainly of Chinese origin, from Hong Kong, Mainland China, Taiwan, Southeast Asia, North America and other parts of the world, took part in the conference.

Chinese University of Hong Kong

1. The Department of Geography hosted the 1990 Commonwealth Geographical Bureau Workshop on "Geography and Development in Pacific Asia in the Twenty-first Century" on December 10 - 14, 1990. The five-day workshop was attended by prominent geographers and other scholars in Hong Kong as well as renowned geographers from other Commonwealth countries.

2. Dr. K. C. Chow joined the Department in January, 1991.

Hong Kong Baptist College

1. The Department of Geography hosted the 1991 Hong Kong Geography Day on March 23, 1991.

2. Dr. R. B. Owen and Mr. X. Zhao joined the Department in February, 1991.

Notes to Contributors

The Hong Kong Geographer is published on a tri-annual basis by the Hong Kong Geographical Association. The Journal welcomes full-length articles, research notes, and comments and opinions on current development of Geography both in Hong Kong and abroad and the teaching of Geography at the secondary level. It also welcomes book reviews and field trip guides and publishes news of schools, colleges, universities and research institutes which may be written in English or Chinese. In the latter case, the editorial board reserves the right to ask the author to submit a typewritten copy of the paper or to bear the typesetting cost. Very tight financial restraints render this necessary.

All articles are to be submitted to:
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