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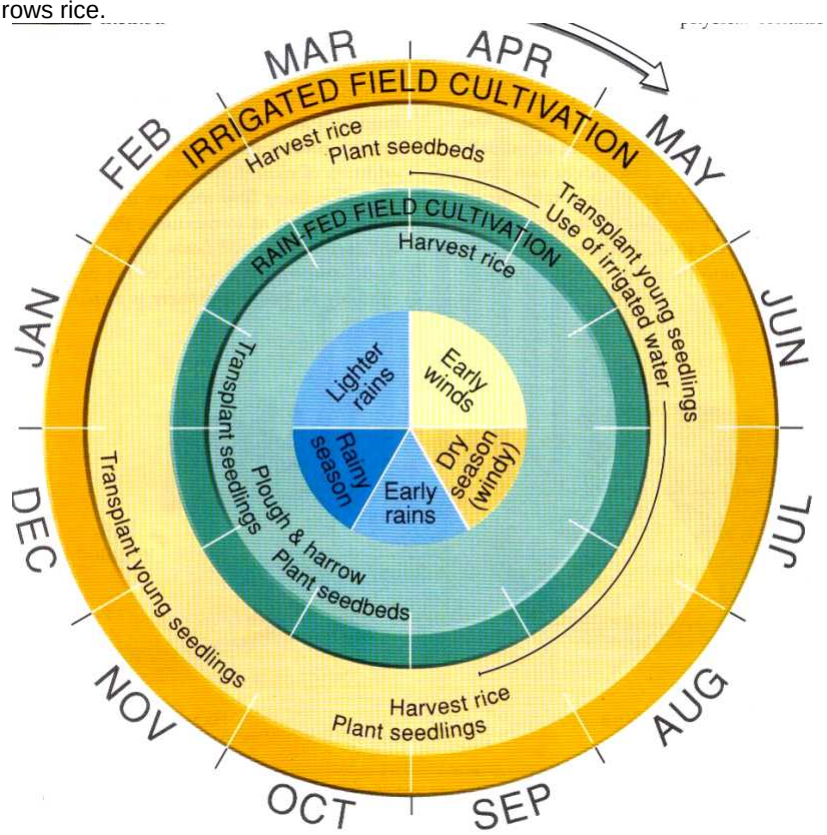
Topic: Agriculture

1

a) Explain why the Asian continent is highly suitable for agriculture.

2a) Study the diagram below which shows details of a small-scale subsistence farming that grows rice.



Extracted from: **Interactive Geography Elective (2001), page 67, figure 4.16**

(i) Using the information provided above, suggest differences between rain-fed and irrigated cultivation.

(ii) How does the diagram above suggest that irrigation can make differences to the pattern of rice cultivation throughout the year?

(iii) In recent years, a number of countries in Monsoon Asia, including China and India, have increased their rice production. Explain how this has been achieved, apart from the increased use of irrigation.

3. Figure 1.1 shows the total usage of fertilizers by Monsoon Asia.

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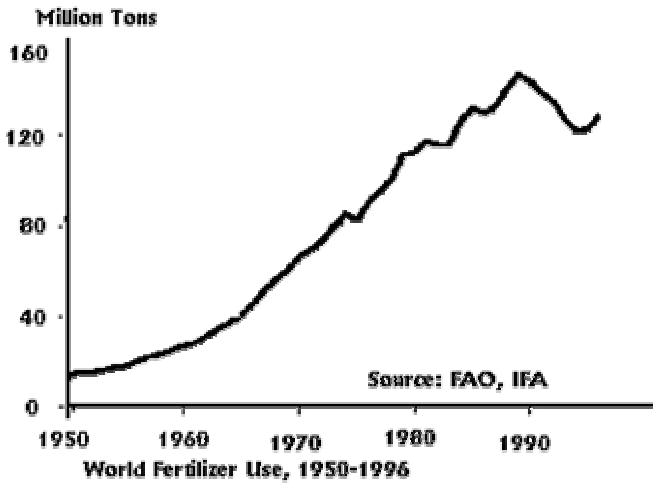

Figure 1.2 shows the total rice production by six countries in Monsoon Asia.

Country	1950	1960	1970	1980	1990
China	58188	64006	111599	145665	191197
India	33383	36387	62861	74557	111953
Indonesia	9441	10479	19136	29570	45176
Malaysia	631	694	1689	2053	1655
Philippines	2767	3099	5225	7893	9319
Thailand	6846	7599	13475	16967	17300

(Figures in thousand tones)

Based on the information provided in figure 1.1 and 1.2, answer the following questions.

(a) Using the data from Figure 1.1, describe the change in the amount of fertilizer used between 1950 and 1990.

(b) Using the data from Figure 1.2, describe the change in the production of rice between 1950 and 1990.

(c) Describe the possible relationship between the data provided in Figures 1.1 and 1.2.

(d) What other possible reasons could have accounted for the rapid increase in rice production between 1950 and 1990.

(e) In your opinion, has the Green Revolution been successful in achieving its goal of helping countries to improve their living conditions? Give reasons to support your answer.

4. The statistics below shows the land area in Singapore used for farming and production of vegetables from 1997 to 2003.

	1997	1998	1999	2000	2001	2002	2003
Farming area (ha)	1073	1043	985	937	875	807	815
Licensed farms	386	366	344	325	277	263	268
Vegetables produced (tones)	16281	17291	18927	19293	17690	16525	16563

Extracted from: http://www.ava.gov.sg/javascript/m7-option2.html

The compiler of this worksheet would like to thank the Times publisher- Our world: A closer look, Canberra sec, Federal publisher- Interactive geography textbook & workbook for providing the resources to successfully compile this geography worksheet.

a) With reference to the table above, explain the trend in land use for farming within 1997 to 2003.

b) Explain how the production of vegetables has increased while the land use has decreased.

5.

a) Describe the advances in technology and methods of cultivation used in hydroponics and aeroponics to increase crop production in Singapore?

b) In what ways would high- tech farming be beneficial to land- scarce countries?

c) How has high tech farming in Singapore contributed to the Singapore government's promotion of knowledge based economy?

6. Why do raw material crops and such as rubber, oil palm tends to be more value-added than food staples like rice?

7. Why do many young people living in **rural** areas of peninsular Malaysia not wish to become farmers?

8. Suggest reasons why farming in many parts of Monsoon Asia is intensive in character.

9. Why agriculture is considered a primary economic activity?

10. Explain how would one able to determine if a farmer can have a subsistence or commercial or both.

11.

(a) The diagram below shows the importance of 4 factors to two farmers. The factors are ranked in order of importance.

An oil palm plantation owner in Peninsular Malaysia		A rice farmer in India	
Rank	Factor	Rank	Factor
1	Capital	1	Climate
2	Climate	2	Soil
3	Relief	3	Relief
4	Labour	4	Markets

Explain why the farmers placed different importance to the four factors.

(b) An oil palm plantation owner in Peninsular Malaysia also faces problems as the rich farmer in India. How different are their problems?

(c) How different is the nature of an oil palm plantation in Peninsular Malaysia from a rice cultivation in India.

12. "The use of HYV seeds has brought several benefits." Discuss the extent of benefits to the following:

a) The consumers
b) The farmers
c) The government

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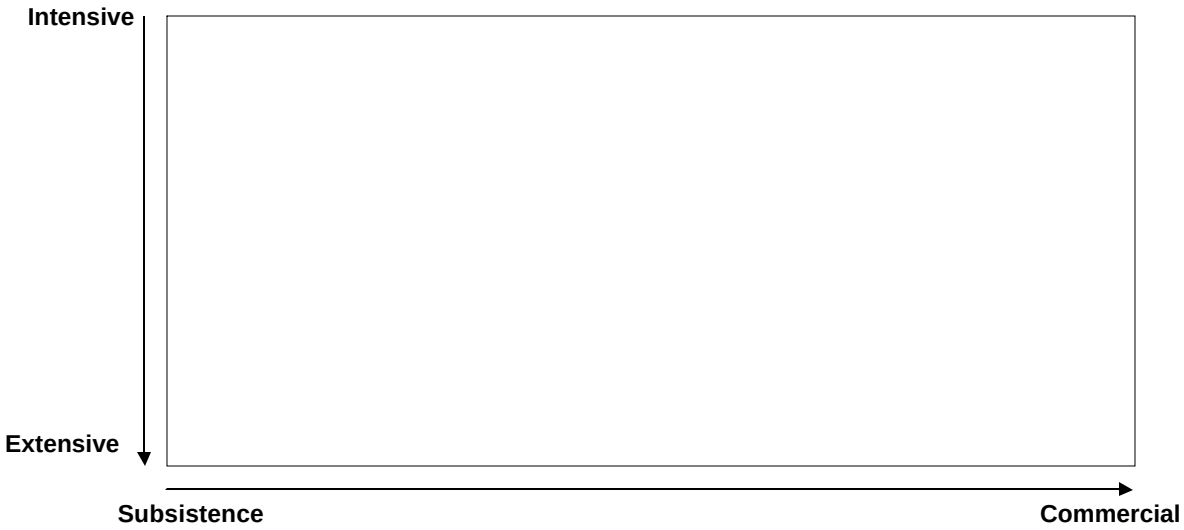
13. Study the figure on farming system below.



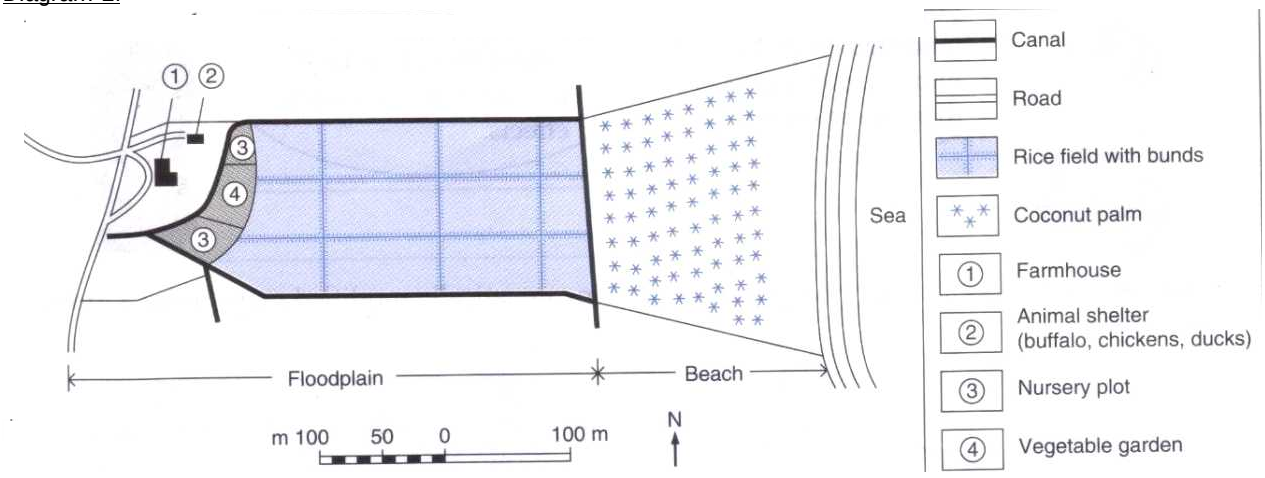
(a) Classify all the farming systems below into the figure above.
   (i) Wet rice cultivation in Java
   (ii) Market Gardening in Genting Highland
   (iii) Aeroponics in Singapore
   (iv) Plantation agriculture

(b) Explain your answer in (a).

(c) Compare wet rice cultivation and plantation agriculture, in terms of the use of a large labour force and the level of technology available in each farming system.

14. Diagram 1 below shows the layout of a farm in a country in Southeast Asia where wet rice cultivation is being carried out. Climograph 2 shows the climatic data of the area carried out during different periods of the year.

Diagram 1:



Climograph 2:

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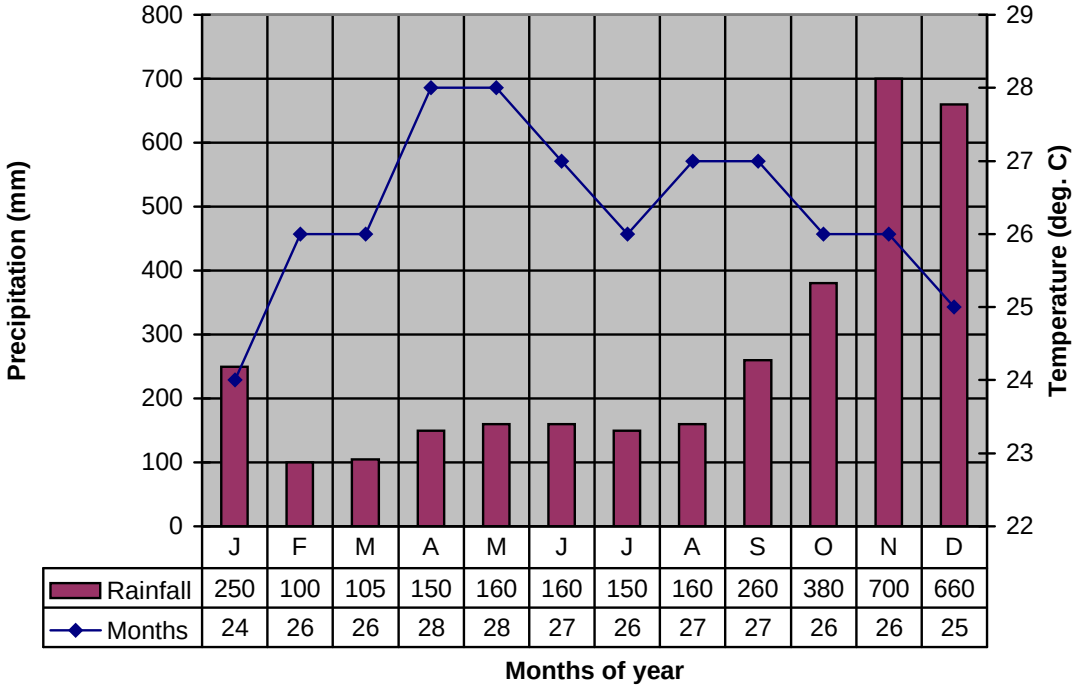

(a) Why are the traditional methods of wet rice cultivation still practised by many farmers in Monsoon Asia?

(b) Studying Diagram 1 and climograph 2, what evidence is there to show that large amounts of water are needed for rice to grow?

(c) Complete the table below by filling the processes involved in the wet rice cultivation over the period of time as shown in the climograph 2.

Month	Farming Activities
January	Ripening
February	
March	
April	Off-season
May	
June	
July	
August	
September	Ploughing the field
October	
November	Rice grows and weeding is carried out.
December	

(d) Describe the physical factors that would encourage wet-rice cultivation in an area.

(e) Describe ways that technology can help to increase agricultural productivity.

16. With the reference to the map 1, table 2 and your own knowledge, Account for the reasons on why plantation is suitable to be cultivated in Peninsular Malaysia and not in the East Malaysia.

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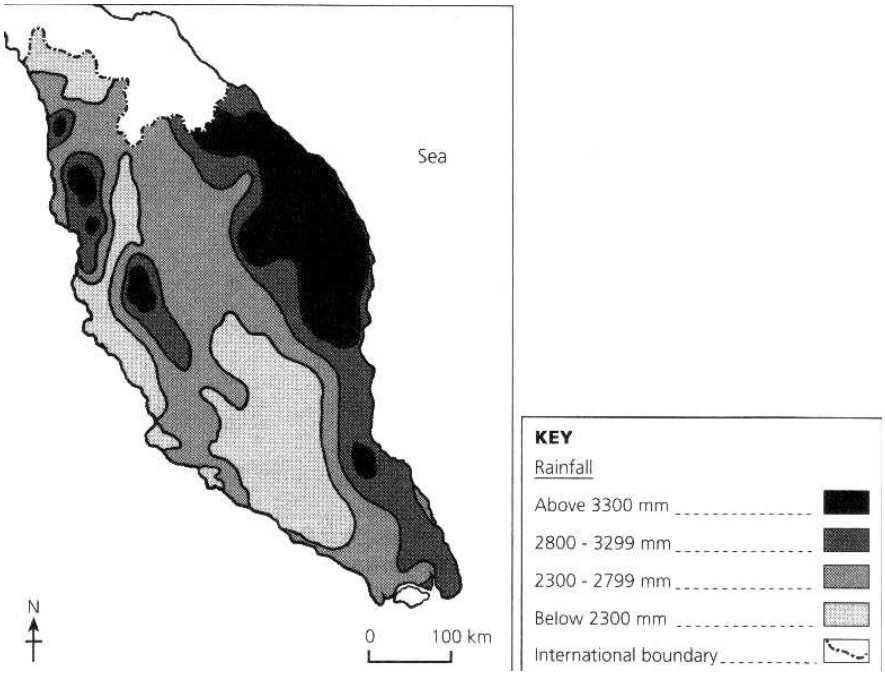

Map 1

Table 2

Average Monthly Temperature	27 degrees Celsius
Relative Humidity	> 80% for most parts of the year

17. Study the map below which shows the distribution of wet rice cultivation in Asia.

(a) Describe and explain the distribution pattern of the wet rice production shown in the map.

(b) With reference to the map below, describe the factors that influence the distribution of wet rice cultivation in Asia.

(c) Give reasons for the recent increase in rice production throughout Monsoon Asia.

(d) Explain how cultivation of wet rice in rain-fed areas is different from that of areas dependent on irrigation.

(e) Explain how science and technology have benefited wet rice farmers.

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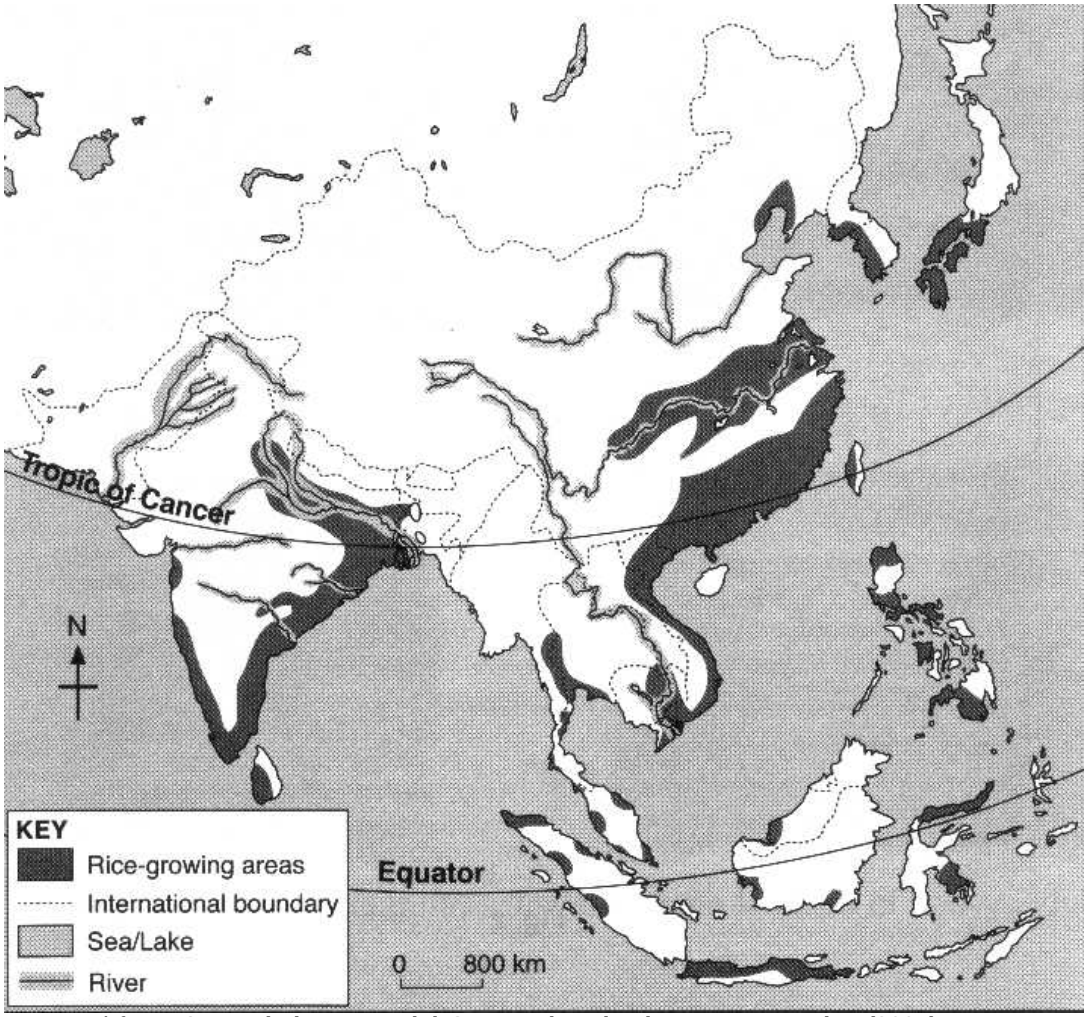

Extracted from: **O Level The Essential Geography Elective Exam Practice (2004), page 19, fig 1**

18. Study the sketch of part of an oil palm plantation owned by Multinational company (MNC) and a small holding in Peninsular Malaysia.

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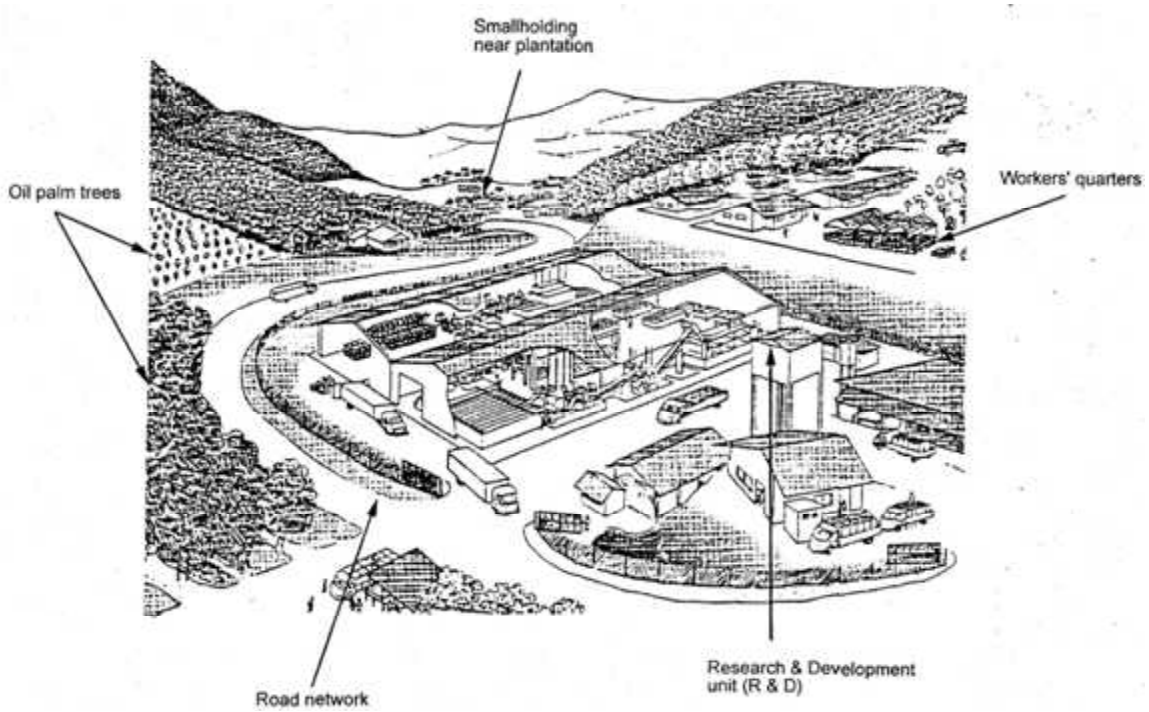

(a) Describe the advantages and disadvantages plantation owners have over small holders.
(b) Explain how the output from a plantation specializing in the production of palm oil is influenced by physical factors and economic factors.
(c) From the sketch above, explain why plantation is said to be a specialized system of agriculture.

19. Study the conversation below between a group of farmers and a government official in the South East Asian country.

(i) List and explain the importance of the inputs needed to grow miracle rice.
(ii) Explain why the government official supports the introduction of miracle rice whilst the group of farmers is against this development.
(iii) Describe two ways that the government could help these farmers.

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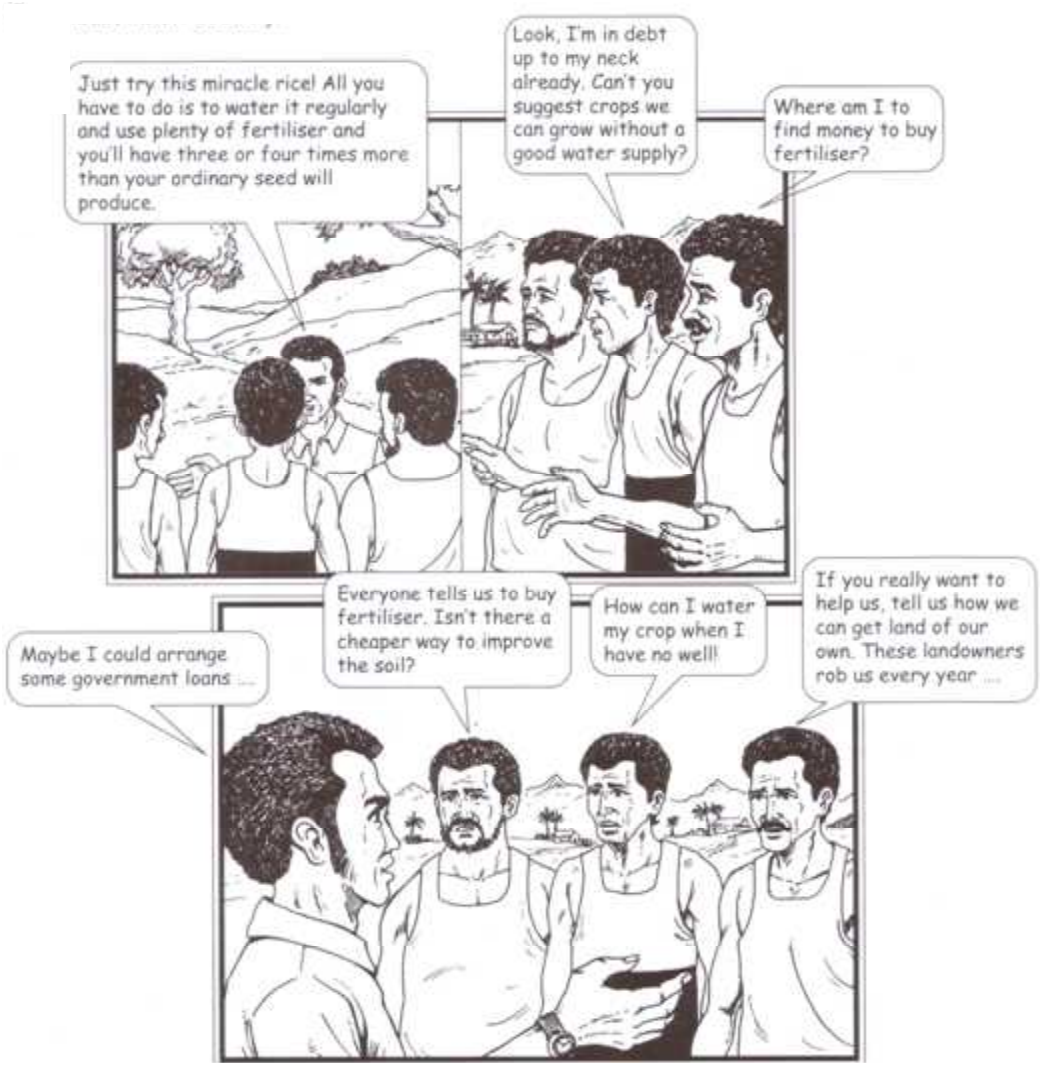

Extracted from: **Our World- a closer look 4 workbook, page 91**

20. The table below was prepared by someone studying a subsistence farm in Sumatra and a hydroponics farm in Singapore.

Type of farm	Cost of Rental	Cost of labour	Cost of Fertilizers	Output
Subsistence farm, Sumatra	NA (Inherited from land from father)	NA (Mainly family members)	NA (Use of natural fertilizers)	Little (No cash value as crops are not sold)
Hydroponics farm, Singapore	$ 120,000 per year	$340,000 for 8 workers including of CPF	$920,000 for high grade fertilizers	$6,000,000 per year.

(i) Based on the table, how does hydroponics farming in Singapore differ from subsistence farming in Sumatra?

(ii) Give reasons why some farmers prefer being subsistence farmers like in Sumatra but others prefer hydroponics farm like in Singapore

(iii) Discuss the positive and negative impacts of hydroponics.

(iv) Describe the constraints faced by market gardening farms in Singapore.

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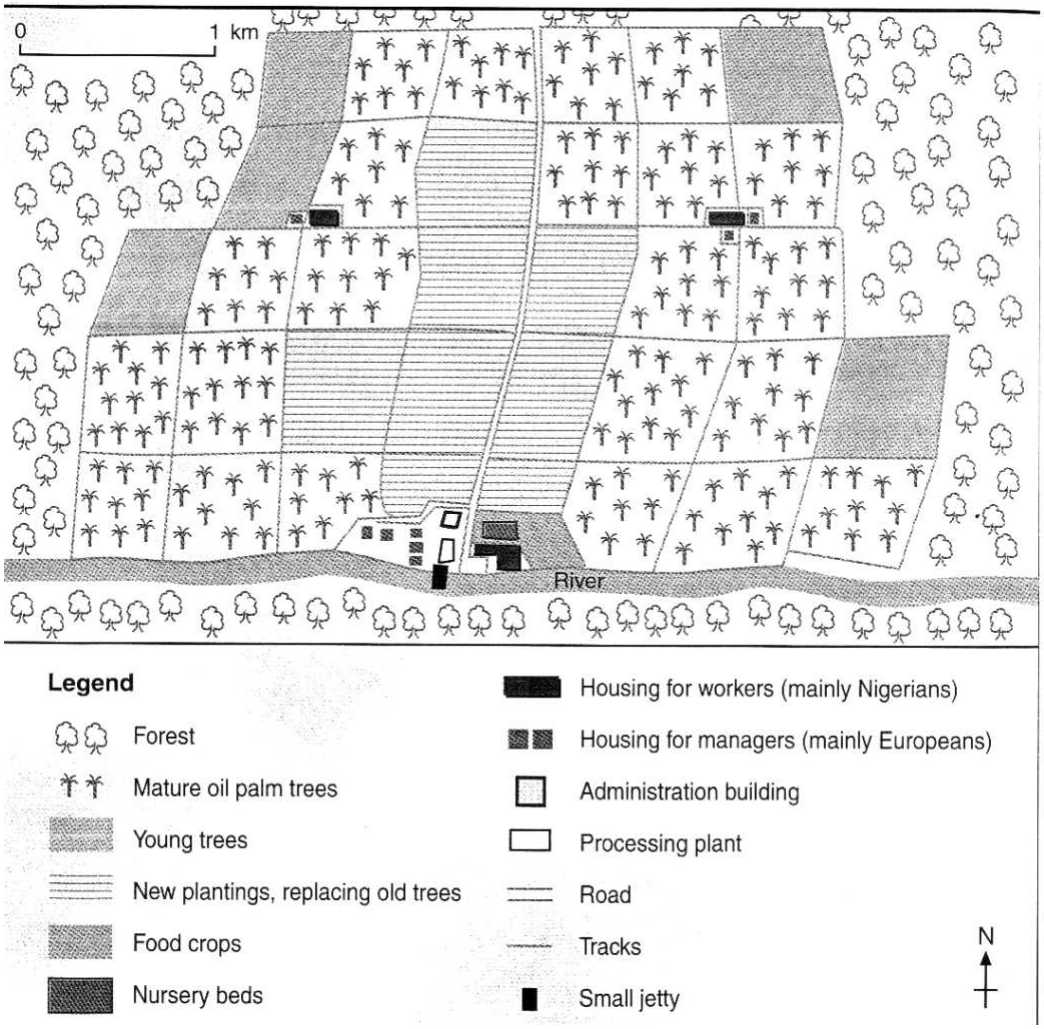
21. Study the map below which shows an oil palm plantation in Nigeria (West Africa). Answer the questions that follows:



Extracted from: **Interactive Geography Elective Activity Book (2001), page 34**

i. Briefly describe the ***layout*** of the oil palm plantation in Nigeria.
ii. Why is plantation agriculture considered as both capital and labour intensive?
iii. Describe the main characteristics of plantation agriculture.
iv. Suggest reasons why the plantation farming system was established in Nigeria.
v. Discuss how R&D has made a significant contribution to the development of oil palm plantations.
vi. Nigeria used to be the largest producer of oil palm. However, over the years, Nigeria is faced with many problems affecting plantation agriculture. Discuss some of the problems and suggest ways to solve them.
vii. Describe how oil palm has influenced:
    1. the natural environment
    2. settlement and communication patterns
viii. With reference to the production of a plantation crop in a country you have studied,
    a. Explain the factors that have encouraged their development.
    b. State the main outputs and markets for the outputs.

22

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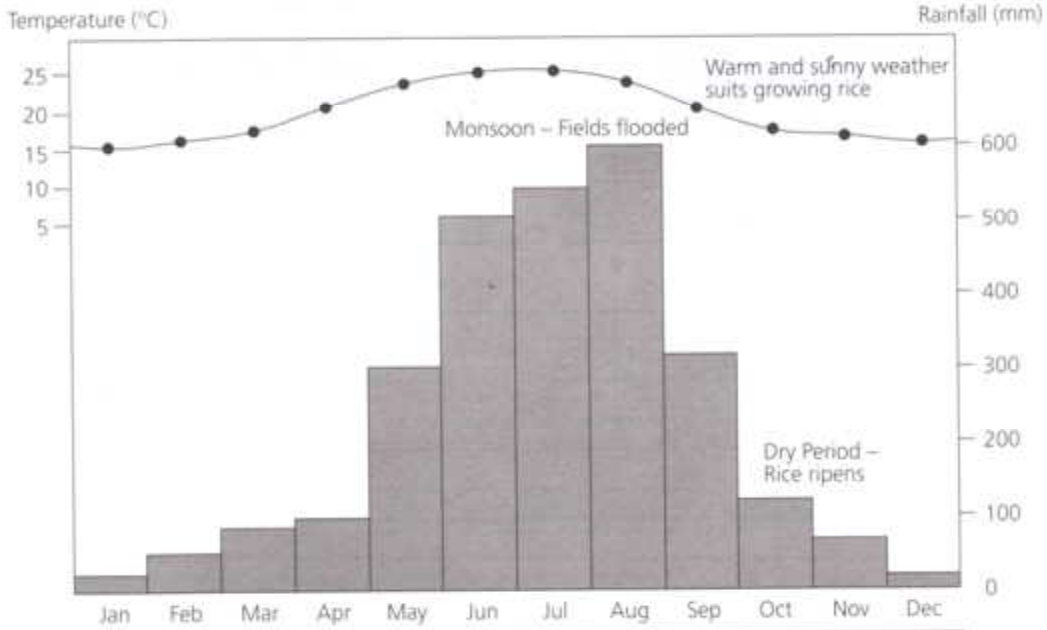
a) How does high-tech farming manage to maintain a profit despite the large capital outlay needed?
b) How can research & development and Technology improve the quantity and quality of the output?
c) Describe the human inputs and the processes of high-tech methods of farming in Singapore?
d) Why does the Singapore government encourage the development of high-tech farming in Singapore?
e) Explain the success of high tech farming in Singapore.
f) Why is it important for Singapore to try to increase its own agricultural production rather than rely on foreign imports of food?
g) Describe some of the difficulties of expanding agriculture in Singapore.

23. The figure below shows the climate of the Ganges Delta, in Bangladesh and Northeast India. The Ganges Delta is place where wet rice farming is practised.



Jan to April	May	June – Jul	Aug – Nov	Dec
Quiet period. Weeding, ploughing and manuring. Some vegetables may be grown.	Sowing in nursery seed beds.	Seedlings transplanted to padi fields.	Growing season. Hand weeding continues.	Rice harvested by hand. Bundling, drying and threshing done.

Extracted from: **Our World- a closer look 4 workbook (2002), page 83, figure 3.8**

(a) Using the information from the figure above, explain how the climate influences wet rice farming in the Ganges Delta.

(b) Describe the advances of technology and methods of cultivation used in the growing of wet rice to increase crop production in the above country.

(c) How would the introduction of Green Revolution change this farming system?

24. The table below shows the farming areas in Singapore from 1970 to 2003.

Year	Farming area ('000)	Farming area as a percentage area of island	Product value ($) (million)

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		area	
1970	13.4	22.9	135
1975	10.59	17.7	254
1980	8.09	13.1	320
1983	6.43	10.4	350
1986	3.97	6.4	258
1993	0.69	1.2	160
1998	1.465	2.4	204
2003	0.815	1.17	185.9

(a) Describe and account for the trend in the size of the farming area in Singapore from 1970 to 2003.
(b) Suggest reasons for this decline in agricultural land area.
(c) Suggest reasons on why our product value never exceeds $ 400 millions.

25. The diagram below shows how the Green Revolution changed traditional farming.

Traditional farming	Green Revolution
⇒ Traditional tools and equipment limit the area cultivated and require abundant of workers.	⇒ Contemporary equipment increases cultivated area and needs fewer workers.
⇒ Drought results in frequent crop failure.	⇒ Irrigation results in 2 or 3 crops per year.
⇒ Diseases and pests destroy 1 third of the crop.	⇒ Chemicals control diseases and pests.
⇒ Traditional strains of grains produce low yields	⇒ Improved strains increase yields twice or thrice.
⇒ Traditional strains in impoverished soil result in low yields	⇒ Chemical fertilizers enhance soil fertility.

(a) Why are poor farmers not always able to take advantage of such advances in farming?
(b) Although scientific farming methods can increase food production, why have these methods not been adopted in all parts of the world, especially in areas that seem to have a food shortage?
(c) Based on the evidence given in the table, explain why this development has resulted in social and economic inequality between the countries' people and between countries.
(d) Why are environmentalists concerned about the agricultural development shown in the above table?

26. Market gardening
a) Why is market gardening described as intensive farming?
b) Why is the farmer able to grow many crops of vegetables in a year?
c) Give reasons why market gardens are located near towns and cities despite the higher land cost?
d) Explain why market gardening uses high human input?

27.

(a) With the help of figure 1 and 2 and studies you have made, describe the trend of oil palm cultivation and explain the change in trend.

(b) What could the impact of this trend be on the economy and the environment of Peninsular Malaysia?

(c) Using figure 3, explain why has oil palm replace rubber cultivation on many plantations in Peninsular Malaysia?

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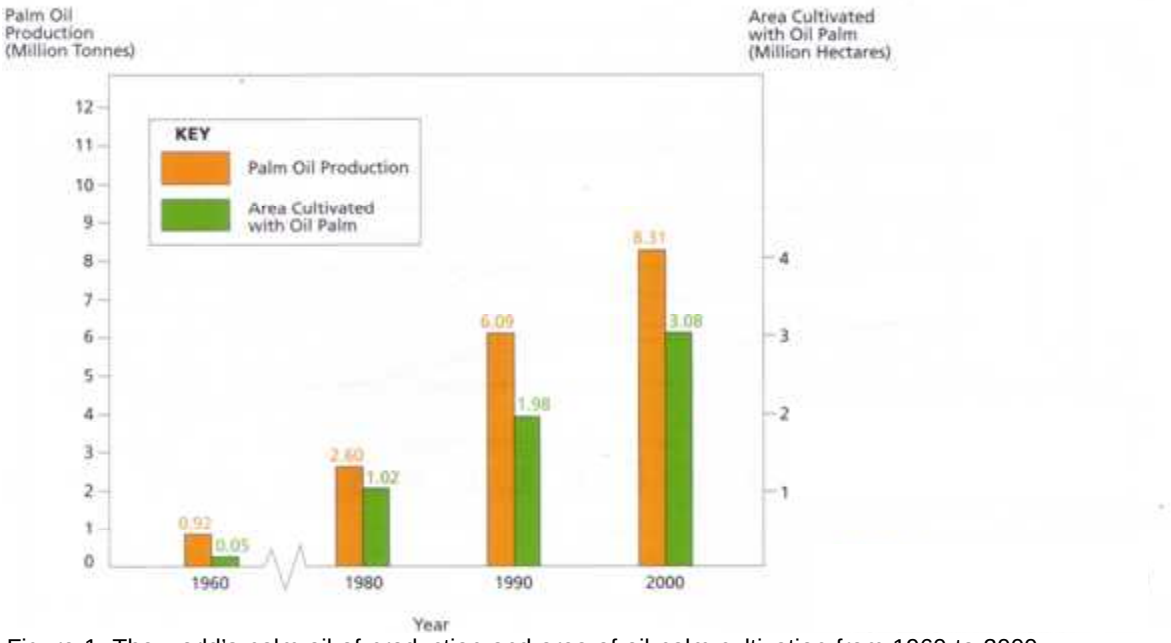

Figure 1: The world's palm oil of production and area of oil palm cultivation from 1960 to 2000

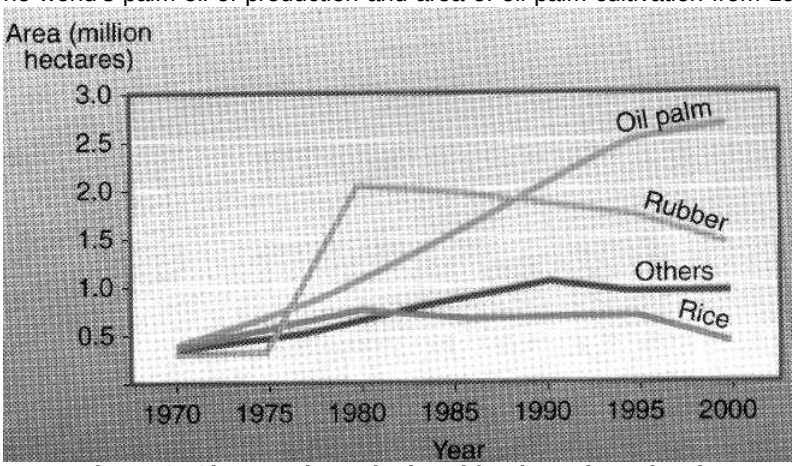

Figure 2: Changes in agricultural land use in Malaysia

Crop	Production (Ha)	Price (Ringgit)	Area lost (Ha)	Revenue Lost (Ringgit)
Oil Palm	8.18 tonnes	$750/t	1,426	8.75M
Rubber	850.6kg	$2/kg	9,049	15.39M

Figure 3: Information about the oil palm and rubber in Malaysia

28. Figure 1.1 and 1.2 below show two different agricultural systems.

(a) How does the farming system in Figure 1.2 differ from that in Figure 1.1?

(b) Give three examples of natural inputs.

(c) Explain how the human inputs in Figure 1.1 and 1.2 might be different.

(d) Show how the human inputs in Figure 1.2 help to produce a surplus of output for sale.

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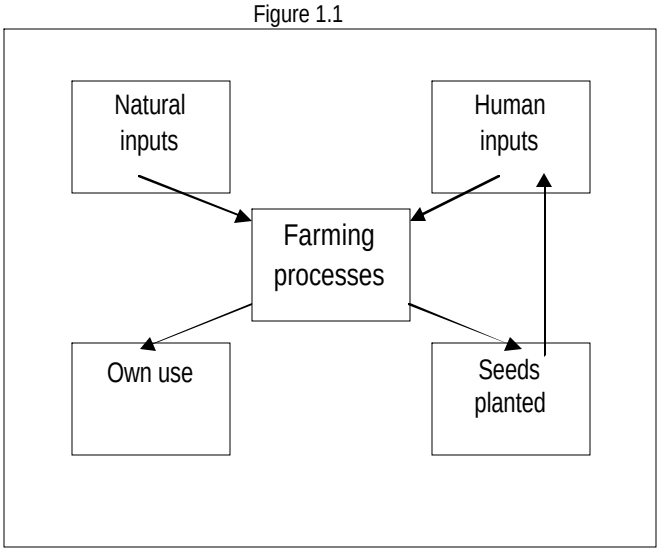
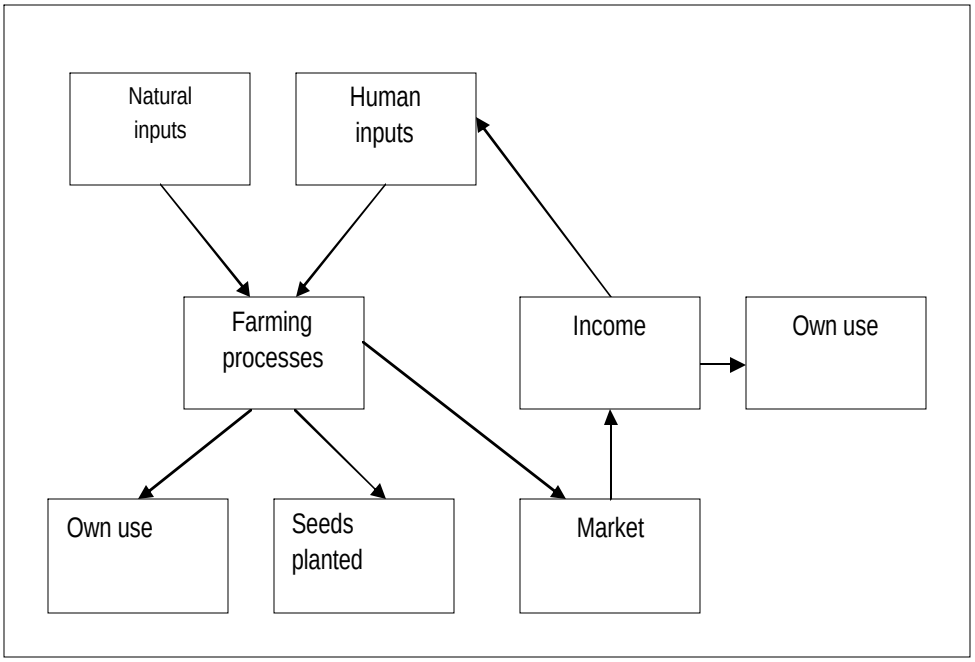
Figure 1.1





29. **Study the text below, which describes the Green Revolution in India.**

The world's worst recorded food disaster occurred in 1943 in British-ruled India. Known as the Bengal Famine, an estimated 4 million people died of hunger that year in eastern India (which included today's Bangladesh). The Green Revolution, spreading over the period from1967/68 to 1977/78, changed India's status from a food-deficient country to one of the world's leading agricultural nations. Until 1967 the government largely concentrated on expanding the farming areas. But the population was growing at a much faster rate than food production. This called for an immediate and drastic action to increase yield. The action came in the form of the Green Revolution. The term 'Green Revolution' is a general one that is applied to successful

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agricultural experiments in many developing countries. India is one of the countries where it was most successful.

Extracted from: http://edugreen.teri.res.in/explore/bio/green.htm

(a) Describe how the Green Revolution had a positive impact on the economy and life in India.

(b) Despite the promising impact of Green Revolution, explain why some people are concerned about the negative consequences of the Green Revolution.

(c) How can the government help to improve the negative consequences of Green Revolution?

30. Modern developments in agriculture include high technology market gardening such as hydroponics and aeroponics farms. In Singapore such farms are found in the agrotechnology parks.

a. What are some characteristics of these high-tech farms?

b. Identify some benefits and problems of these high-tech farms.

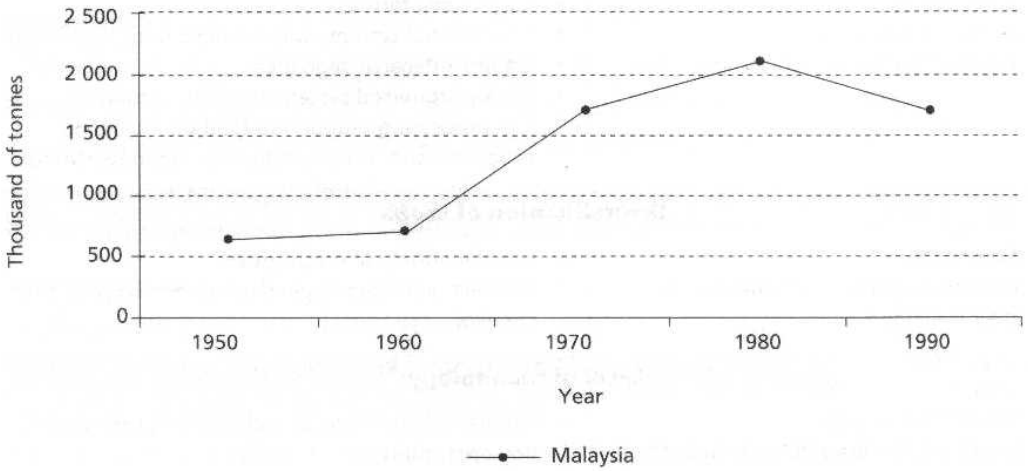
c. How does traditional market gardening and high-tech differ in methods of farming?

31. Agricultural practices and methods in Singapore have changed drastically over the past 25 years. What were some of the changes? Cite examples to support your answer.

a) A farmer wants to grow wet rice for commercial. Describe which factors temperature, soil, demand, seeds must be considered before he starts planting rice.

b)

(i) With reference to the graph below, describe the changes of rice production between 1950 and 1990 in Malaysia.



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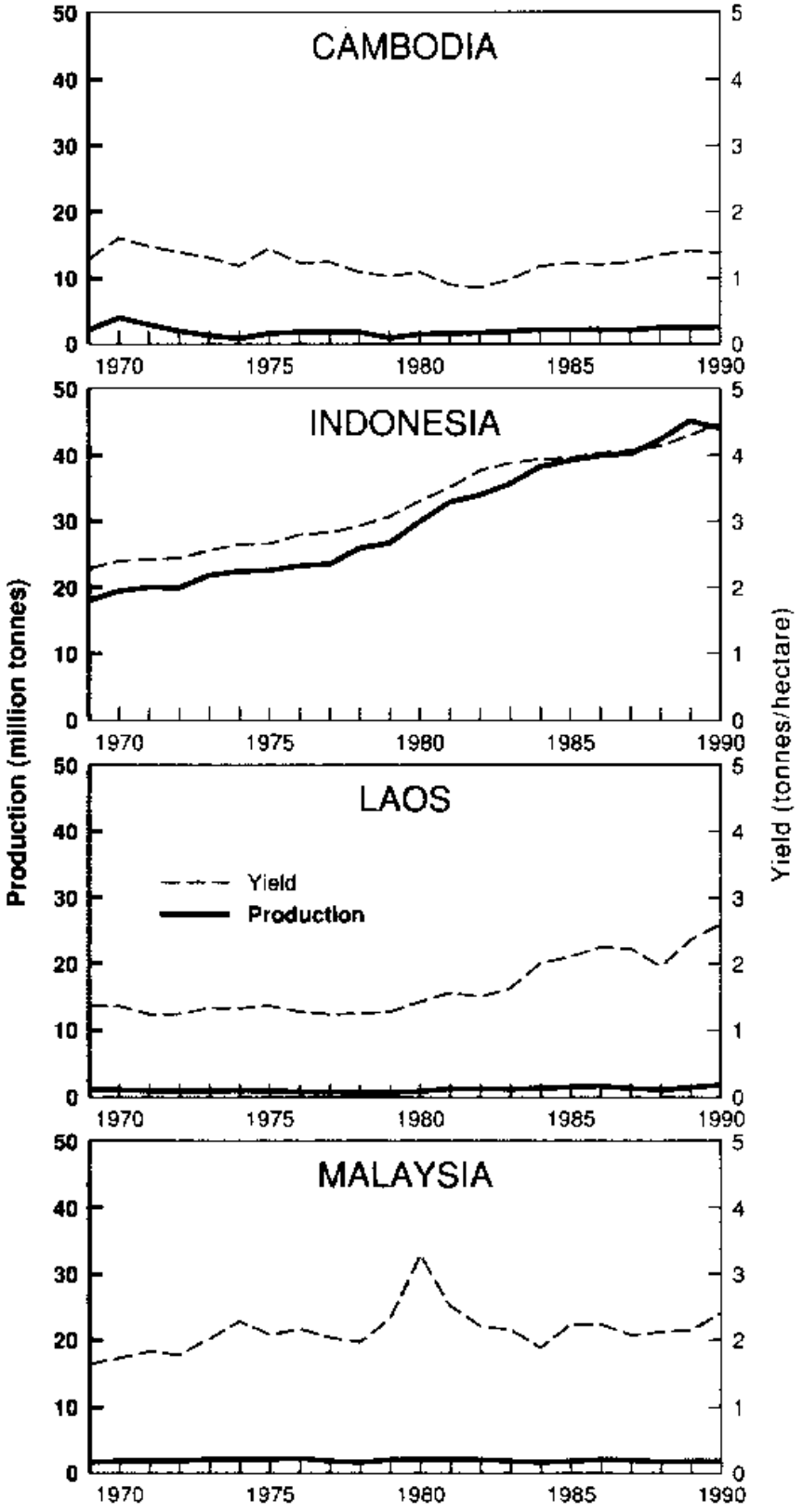

Sources: IRRI, *World Rice Statistics* (various years).

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(ii) With reference to the graph above, describe the **trend** in rice yield between 1950 and 1990 in Malaysia. Suggest reasons for such pattern.

(iii) Compare Malaysia's rice yield with Indonesia, explain why there is a chasm between the two countries.

32. Study figure A and B and answer the questions that follow.

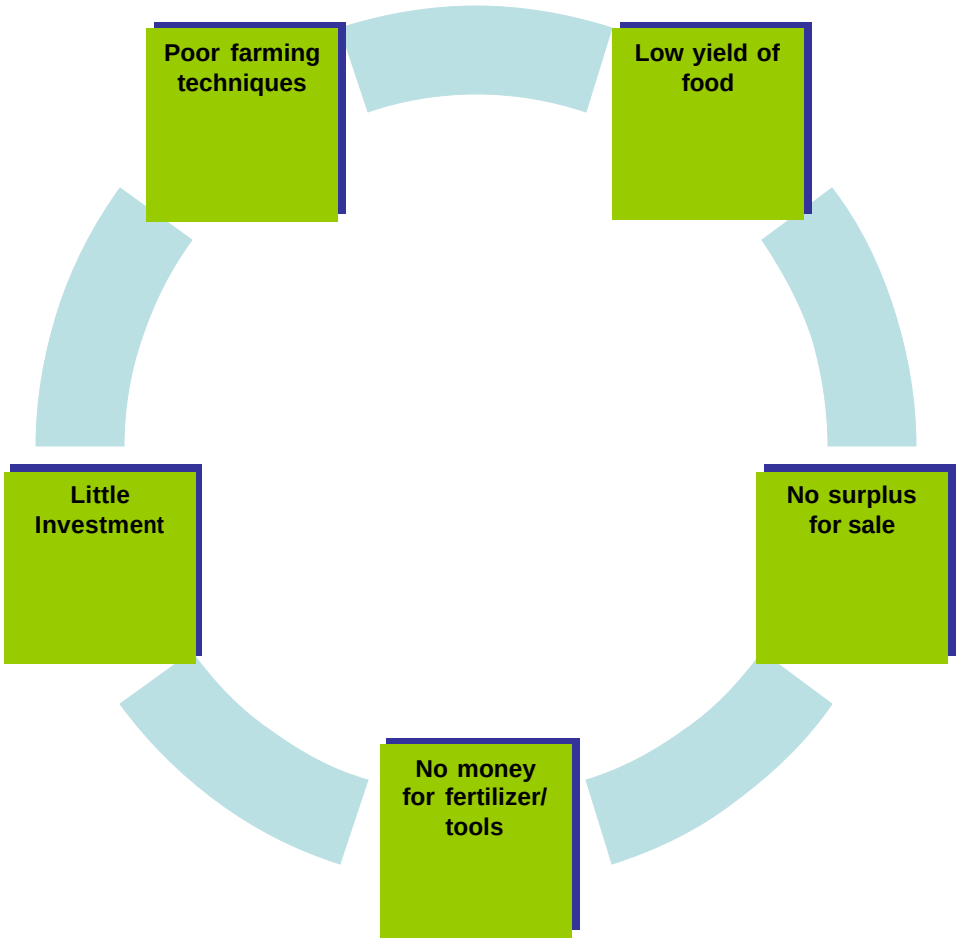

Figure A

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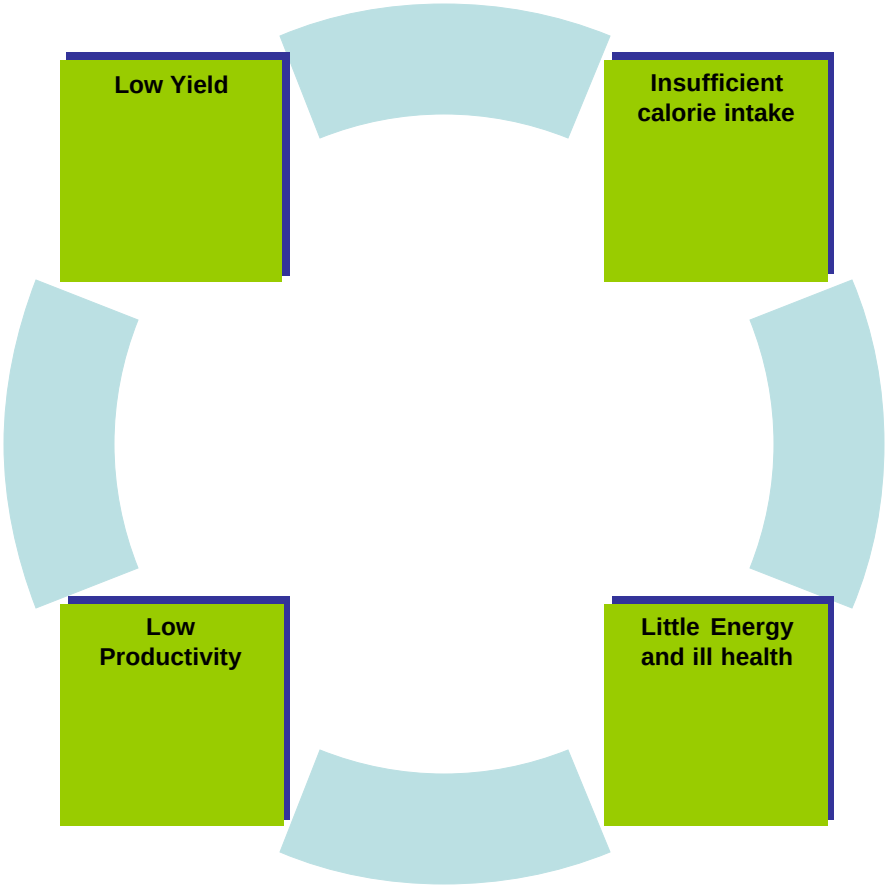

Figure B

(a) Insert the arrows to complete figure A and B's link.

(b) What are the problems caused by the lack of food in some parts of the world?

(c) Explain why farmers in poor areas are trapped in the viscous cycle of poverty?

(d) How can changes in poor farming techniques and low yield help farmers to break out the cycle of poverty?

(e) How can the solutions be achieved?

33. Study the diagram which shows a cycle of successful farming.

a) Annotate to the diagram above where "High production relative to the amount of labour put in."
b) How far does this apply to modern farming in Singapore? Give an example of a farming system which follows such a cycle in Singapore.
c) How might this process of farming affect food imports?

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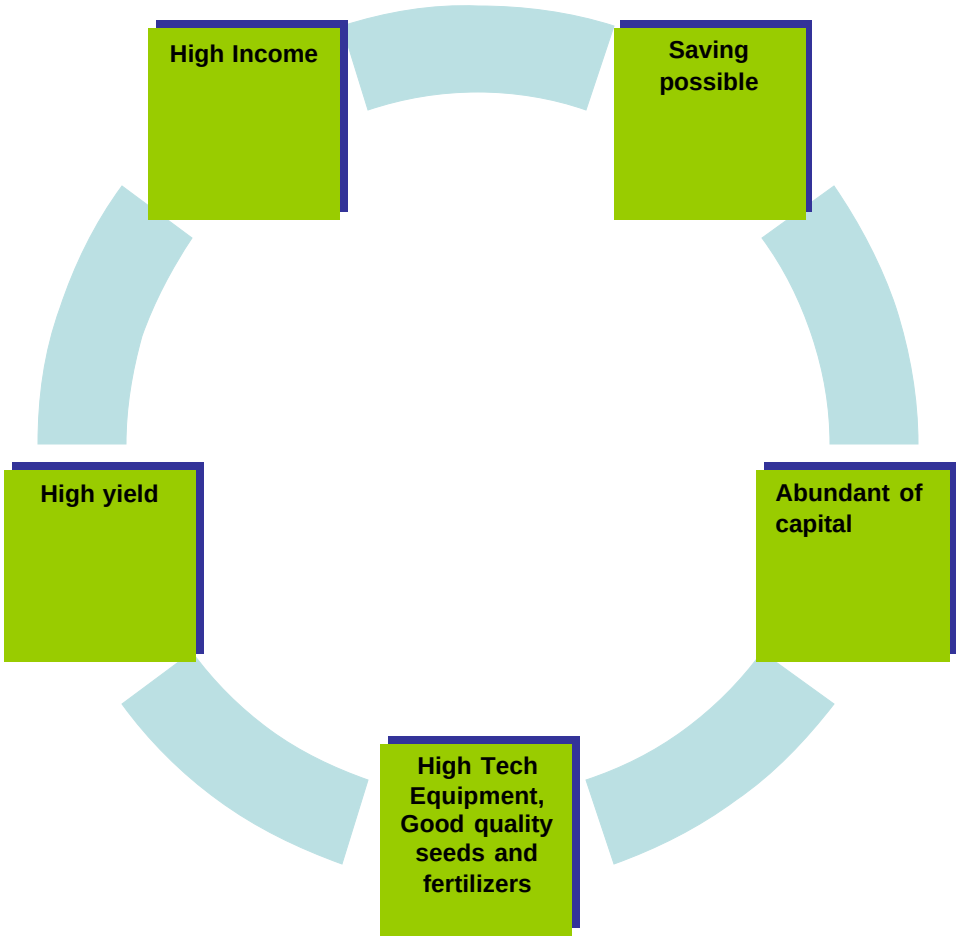

36.

(a) Figure 1A below shows the reasons on why agricultural poverty may continue for many years in some parts of Monsoon Asia

a. With reference to Fig. 1A, explain why agricultural poverty may continue for many years in some parts of monsoon Asia.

b. With reference to Fig. 1A, suggest ways to solve the problem of agricultural poverty in these countries.

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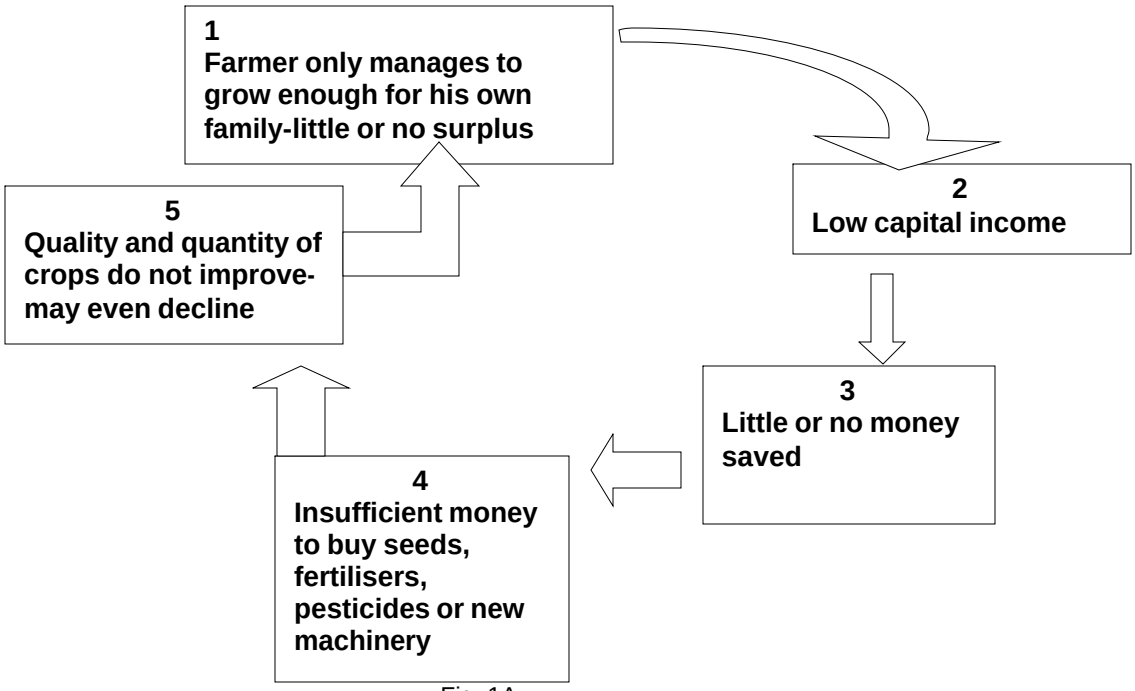
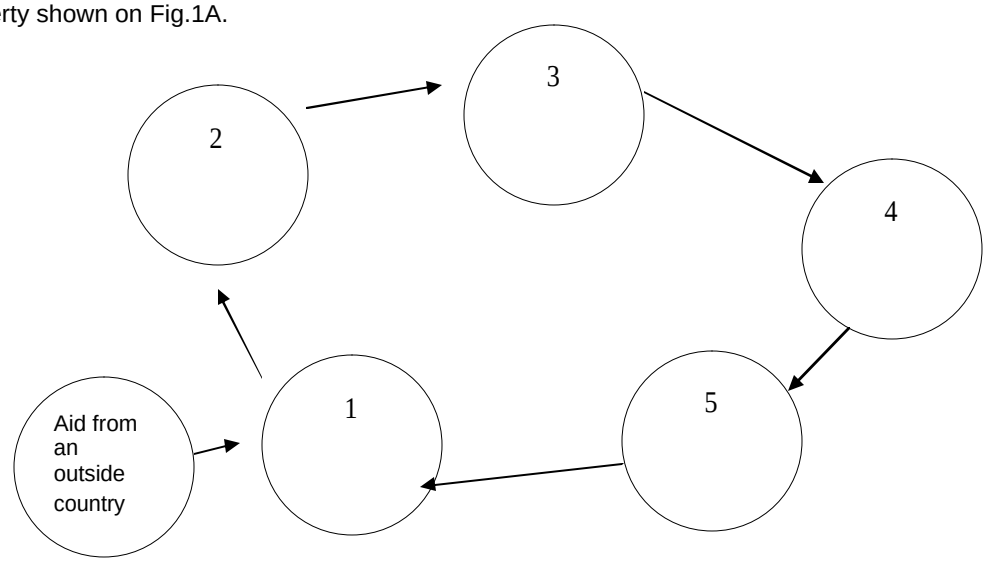


Fig. 1A

(b) Complete Fig. 1B by adding the letters A-E in the spaces provided for each of the following labels:

A surplus food crops for sale
B investments in farming
C higher output of food crops
D new seed varieties, fertilisers, some machinery

The completed diagram should explain how aid from an outside country can help to break the cycle of poverty shown on Fig.1A.



37.

(a) With reference to Monsoon Asia, explain how physical and human factors have influence subsistence wet rice cultivation.

The compiler of this worksheet would like to thank the Times publisher- Our world: A closer look, Canberra sec, Federal publisher- Interactive geography textbook & workbook for providing the resources to successfully compile this geography worksheet.

(b) With reference to Peninsular Malaysia, describe how rice cultivation as a farming system is modernized.

(c) Read the article below on the Brazil's agriculture.

South America aims to fill the world's larder

South America has taken the world on a historic shift in food production that is turning the largely untapped frontier heartland of the continent into the world's new breadbasket virtually overnight.

One of the last places on earth where large tracts are still available for agriculture, the region, led by Brazil, has had an explosion of farm exports over the past decade.

AGRICULTURE is now a US $150 billion (S$249.8 billion) - a year business in Brazil, accounting for more that 40% of the country's exports.

Today, farmland stretches to the horizon. With a climate that varies little the year round, it is not unusual to have two or even three harvests a year and to see combine harvesters clearing fields with planters sowing another crop in their wake.

"With the great climate and fertile soil we have here, I can't imagine any other place that gets the kind of productivity that we do," said Mr Pivetta

Changes in economic policies have also spurred the boom. At the beginning of the 1990s, for example, Brazil lifted longstanding restrictions on imports, leading to a buying spree on tractor, combine harvesters, fertilizers, pesticides and seeds.

To counter the South American advances, the US and Europe have increased their farm subsidies.

Extracted from: **The Straits Times, 13/12/2004**

With reference to the above article, explain how environmental factors and the role of government have brought success to Brazil's agricultural exports.

38.

(a) Describe the main features of plantations specializing in the cultivation of oil palm and processing of palm oil.
(b) Describe how external factors have influenced the growth of plantation agriculture in South East Asia.
(c) What factors have encouraged the development of oil palm plantations in Peninsular Malaysia?
(d) What are the disadvantages and advantages of a plantation system of agriculture compared with subsistence farming?
(e) Why do many plantations now cultivate more than one main crop?
(f) Explain why plantation agriculture is an important agricultural system to Peninsular Malaysia.

39.

(a) The photo below shows a traditional type of farming system. Identify the farming system shown in the photo below and discuss the factors leading to its development in Asia.

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Source: http://www.askasia.org/image/photos/i107b.htm

(b) How does Monsoon Asia makes an ideal location for wet rice cultivation

(c) " Subsistence farmers in Monsoon Asia have little money to spend". Explain this statement.

(d) Explain the role of education in assisting a country to move from poverty to a significant level of economic development.

40. Look at the photograph below which shows an area where rice is cultivated.

The compiler of this worksheet would like to thank the Times publisher- Our world: A closer look, Canberra sec, Federal publisher- Interactive geography textbook & workbook for providing the resources to successfully compile this geography worksheet.

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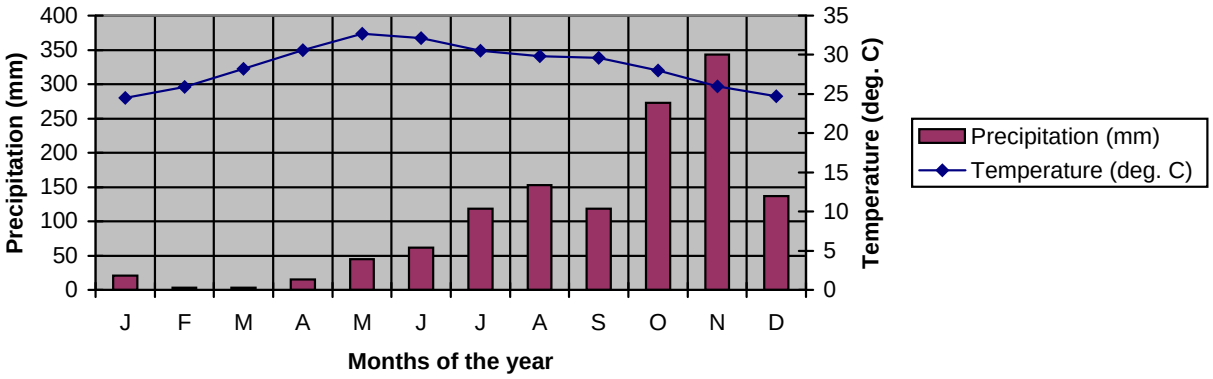
(a) Explain why the area shown on the photograph has both advantages and disadvantages for rice cultivation.

(b) Suggest why the cultivation of rice in this area is labour-intensive.

(c) Why is the cultivation of rice now less labour intensive in areas such as the Kedah Plain in Peninsular Malaysia?

41. Study the climograph of area X



(a) With reference to the climograph, explain the effects of such a climate on wet rice cultivation.
(b) If farmers organise their farming activities based on the climograph, how many crops of rice can they grow?

42. The below newspaper article describes a new method of high tech farming which may be used in Singapore.

The GrowTech 2000 system converts an ordinary 12 metre shipping container into a greenhouse with computer-controlled climatic conditions.

The system can increase yield over 100 times using the same land area. It uses only 20% of the labour of traditional farms and plants can be grown regardless of the weather.

Inside the container vegetables are planted in stacked foam trays and fed with mineral and nutrient enriched water.

When they are ready to be harvested, a robot arm plucks the vegetables and puts them down a chute to a waiting basket.

Extracted from The Straits Times, 2/3/2002

(e) Excluding land and labour, state the inputs needed in the GrowTech 2000 system.
(f) Explain how GrowTech 2000 system can be useful for economical needs.
(g) Apart from cost, why is it important to Singapore that the GrowTech system uses only 20% of the labour used by traditional farms?
(h) Why does Singapore continue to develop new technologies for growing vegetables?

43. The maps below show the agricultural land use in Singapore in the past and at present.

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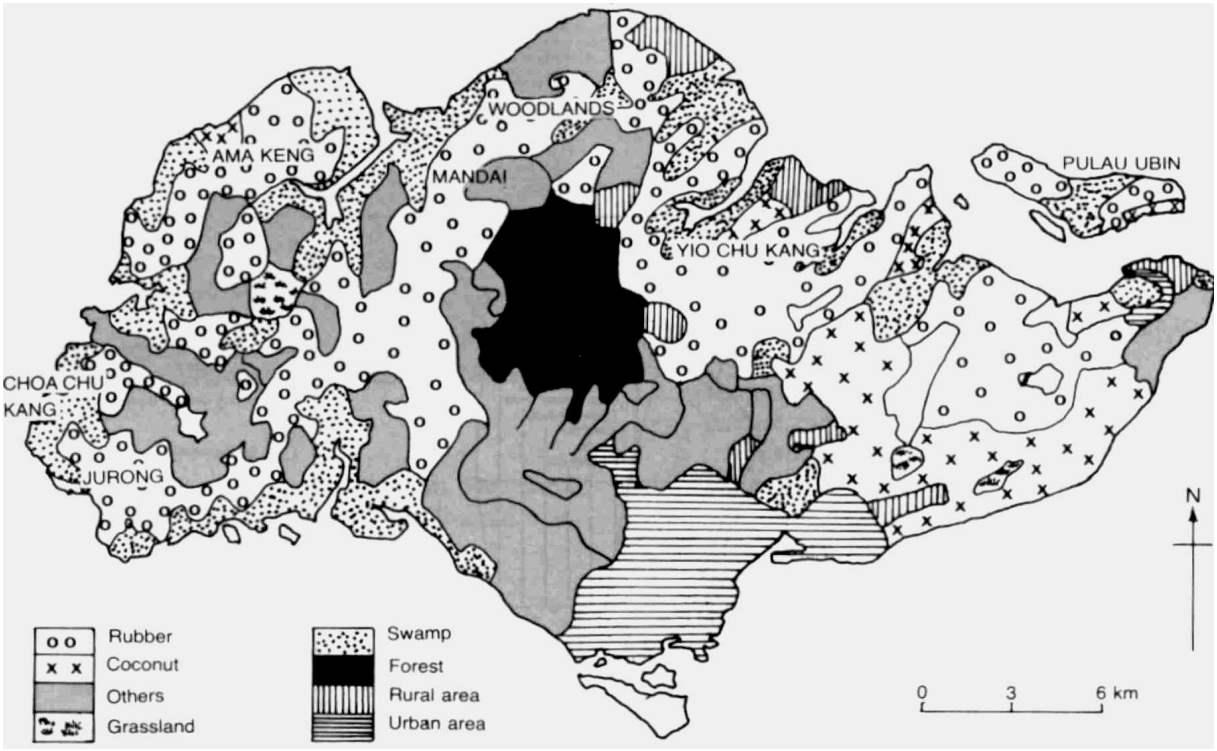
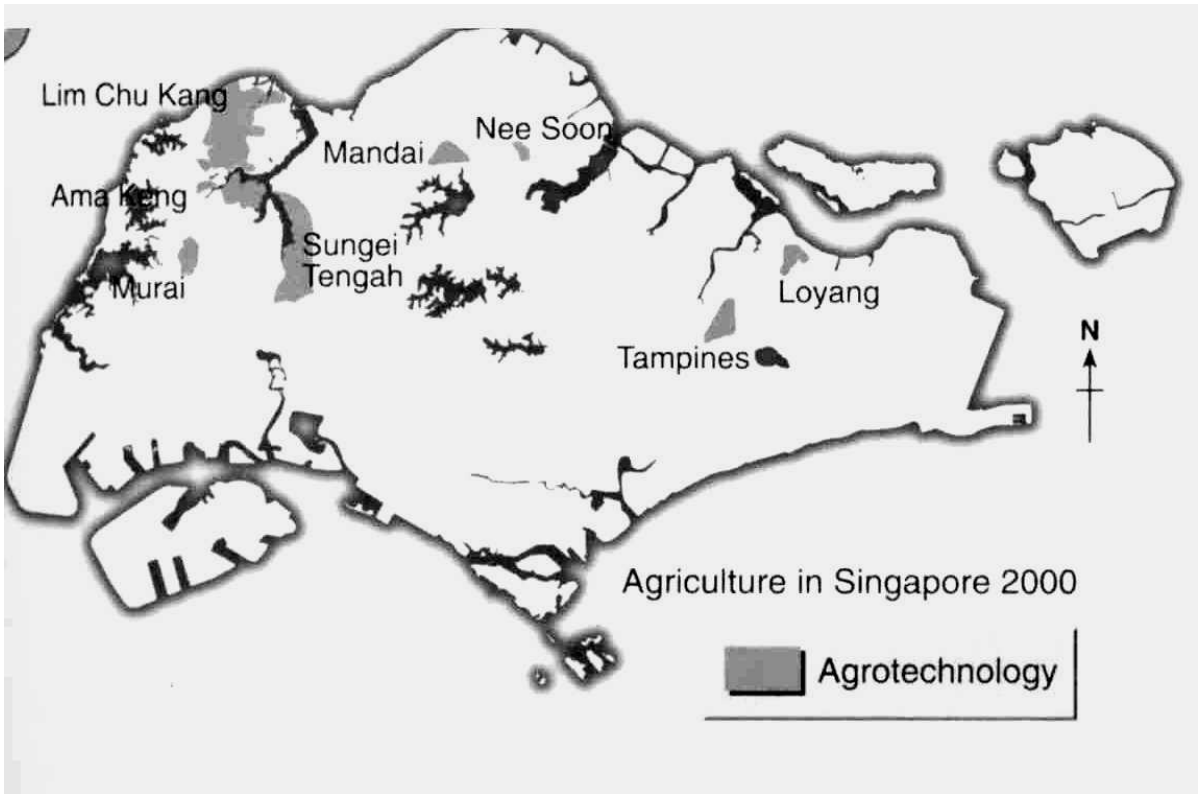


Map A: Agriculture in Singapore 1950



Map B: Agro technology Farms in Singapore 2000

The compiler of this worksheet would like to thank the Times publisher- Our world: A closer look, Canberra sec, Federal publisher- Interactive geography textbook & workbook for providing the resources to successfully compile this geography worksheet.

A) With reference to map A & B, **Describe** and **account for** the changes in the land use shown.
B) With reference to map A & B, **Explain** the changes in agricultural production in Singapore.
C) **Suggest** the socio-economic problems arising from such a change.
D) **Explain** why high-tech farming is preferred farming method in Singapore.

44. Photographs A and B show an agricultural system that is found in Singapore. Photograph A shows how it was practised in the early 1900s and Photograph B shows how it is practised today.

Photograph A

Photograph B

(a)

(i) Using evidence from the photographs, compare the two methods of cultivation.

(ii) Why is the method of cultivation shown in Photograph A seldom practised in Singapore today?

(iii) Identify the agricultural system shown in Photographs A and B. Suggest advantages and disadvantages of this system for farmers with small farms.

(iv) Explain why method B is often practised in countries like Singapore and Japan.

(b) Country C is a poor, developing country with a large population but small land area. Ninety percent of its population are subsistence farmers. The government is thinking of introducing the method shown in Photograph B to farmers in their country. Would you recommend this method? Explain your answer.

45. The diagram below shows a sketch of an area under cultivation in Peninsular Malaysia.

(a) Use evidence from the sketch to identify the agricultural system.
(b) Describe the factors which affect the distribution of this agricultural system.
(c) With reference to a named country in Monsoon Asia, describe some of the benefits and problems this form of agriculture may bring to the country.
(d) Describe and explain some of the changes that have occurred in the practice of this agricultural system.

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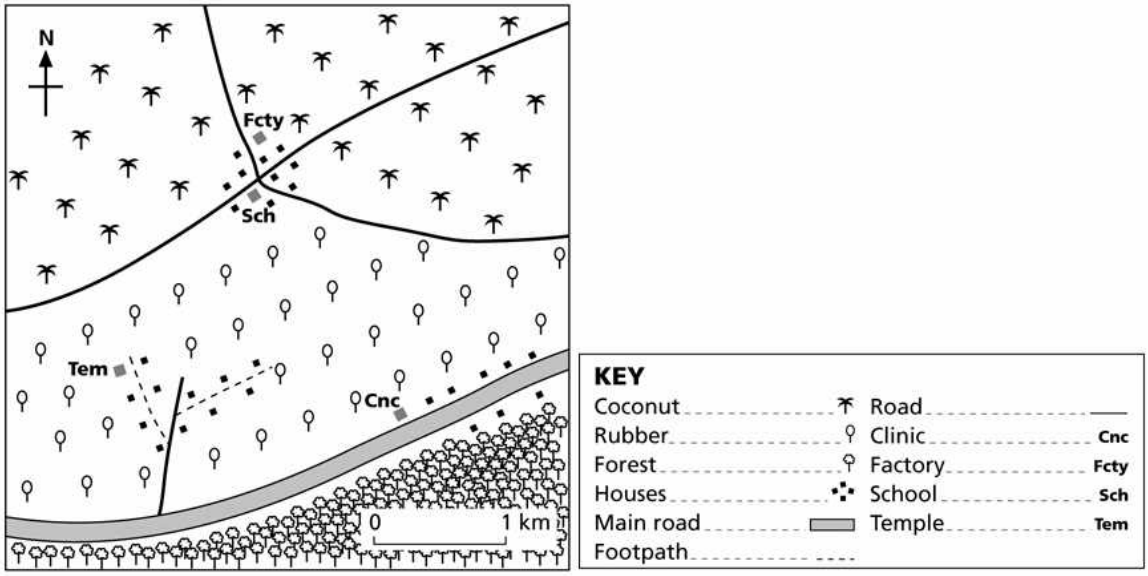

46. Refer to the photographs below that show two stages in rice cultivation as practiced in Japan.

Source: http://www.fortunecity.com/tattooine/apollo/281/japanagri/Rice/Rice.htm

(a) Based on these photographs and studies you have made, suggest differences in the method and output of rice cultivation practiced in Japan compared to the method practiced by farmers in less developed countries.

(b) Consider the effects of adopting the Japanese method of rice cultivation by less developed countries like Indonesia and India.

47.

a) The figure below shows an extract from The Straits Times on the palm oil industry in Malaysia.

> MALAYSIA has been struggling to sell its stocks of crude palm oil (CPO) due to lower exports and stiff competition from the second biggest producer of the commodity[1], Indonesia.
>
> The two nations produce about four fifths of the world output of palm oil.

The compiler of this worksheet would like to thank the Times publisher- Our world: A closer look, Canberra sec, Federal publisher- Interactive geography textbook & workbook for providing the resources to successfully compile this geography worksheet.

In November, Malaysia's stocks of palm oil hit a historical high of 1.52 million tonnes.

Palm oil exports due to lower demand from India, Turkey, Egypt and Europe.

The world's biggest buyer, India added to the depression by tripling import tariffs last year to as much as 44% to protect its own producers and refiners.

Extracted from: **The Straits Times, 17 March 2001, Too much oil, too few buyers**

[1]commodity refers to the palm oil.

(i) With reference to the above article, suggest reasons why there is a surplus of crude palm oil output in Malaysia. [3]

(ii) What could the impact of surplus of crude palm oil output be on the economy and the environment of Malaysia? [4]

b) Study figure 1, and with reference to studies you have made of agricultural systems:

Oil palm plantations are large estates, covering many hectares, in parts of Peninsular Malaysia. Most of the land is used for growing oil palms, but in or near the center of the plantation there is a series of large buildings. Many people work on the plantations and some of them are always trying to find ways to increase yields.

(i) Describe two features in figure 1 that suggest it cannot be a part of a smallholding.

(ii) Capital is one of the inputs of Oil Palm plantations. Why do Oil Palm Plantations need a lot of capital?

48. The figure below shows a photograph taken in Singapore in the 1980s.

b. Briefly describe the landuse shown in the photograph.

c. Identify the agricultural system shown. Give evidence from the photograph to support

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your answer.

d. Name an area apart from Singapore where this agricultural system may be found.

e. The land use shown has changed since the time the photograph was taken. Suggest the changes that might have taken place. Give reasons to account for the changes.

49.

a) Figure 1a and 1b show the crude oil palm prices and production in Malaysia in the year 2003. Describe and explain the relationship between Crude Oil Palm production and the price.

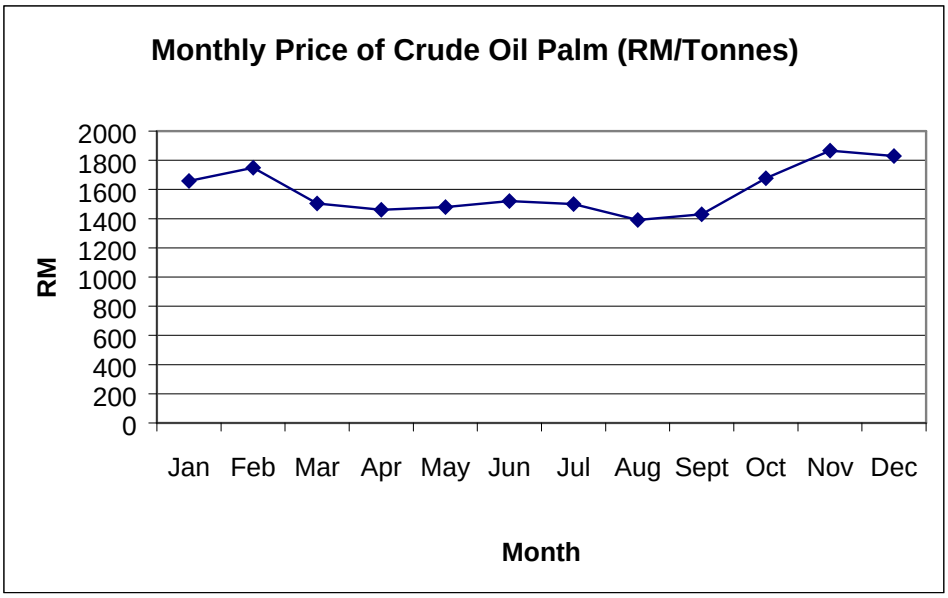

Figure 1a

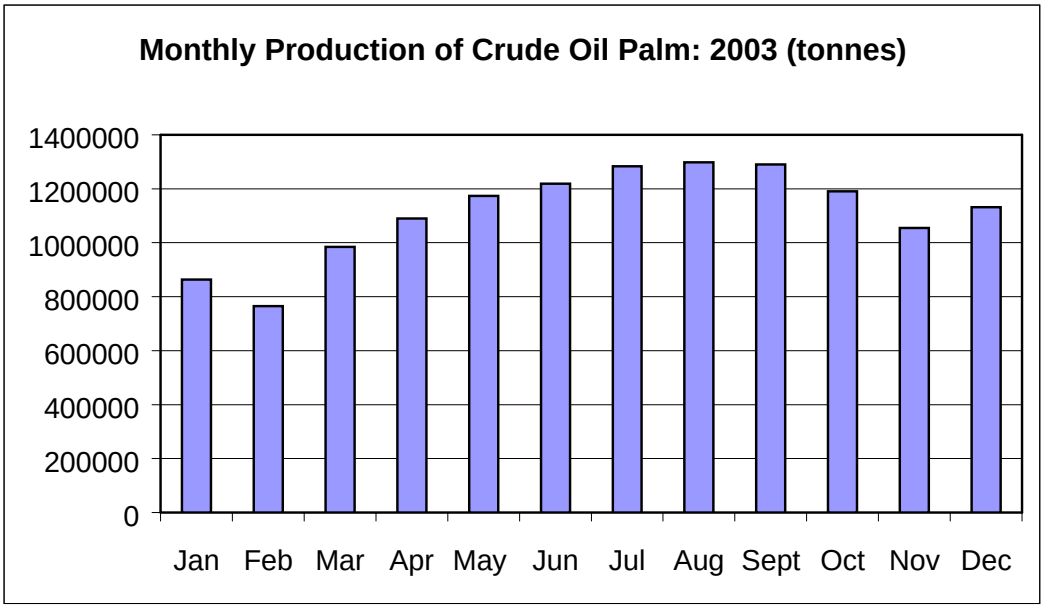

Figure 1b

The compiler of this worksheet would like to thank the Times publisher- Our world: A closer look, Canberra sec, Federal publisher- Interactive geography textbook & workbook for providing the resources to successfully compile this geography worksheet.

b) Using information from Figure 2, discuss the factors that will attract plantation owners to purchase the land to further develop Oil Palm.

NEW, Sandakan, Sabah, Malaysia

land area: 2,000 acres
Yielding oil palm estate
Gentle terrain
with office/accommodation
Mid point-Pitas/Sandakan
4 km of tarred highway frontage
Potential for commercial centre to serve the new vast oil palm community -Hardware/mini mart/petrol station/workshop/ budget hotel
RM 13,800 per acre

Source: http://www.malaysialand.com/oil_palm_land.htm

Figure 2

c) Briefly state how a privately owned plantation estate may develop into an agribusiness. Discuss the changes that take place in cultivation practices and labour inputs in agribusinesses.

51.

a) How can collectives aid in the success of Green Revolution?

b) With reference to the diagram below and examples you have studied, explain how modern agricultural practices designed to increase productivity, can have harmful effects.

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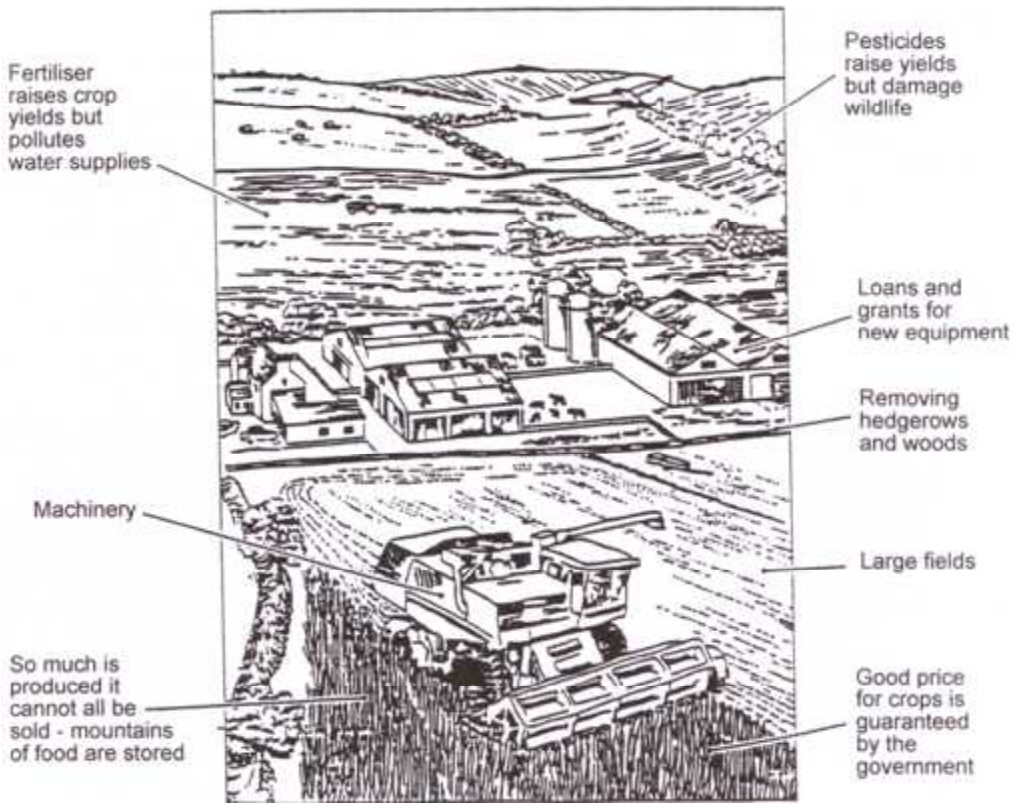

c) With reference to Figure A, account for Farmer's B performance.

Name	Yield (kg)	Size of farm (ha)
Farmer A	2730	5
Farmer B	636	4
Farmer C	476	2

Figure A: A report of the yields of the farmers in Palanpur, a village in India in 1968. The farmers were all given miracle seeds to plant in 1968.

52.

a) With the aid of the photograph below, describe the main features of a market garden.

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b) Consider how the following factors will affect a farmer's choice in starting a conventional soil-grown farm in Singapore:

Availability of land

Cost

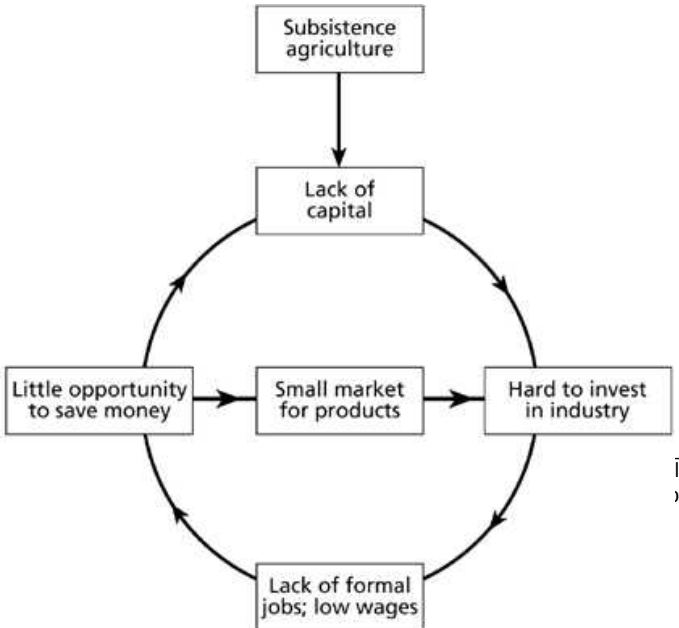
Availability of financing

Technical know-how

Market demand

c) Using examples you have studied, describe how market garden in Cameron Highlands is different from high tech farming in Singapore with regards to the methods of production.

53. The diagram below shows a typical cycle in less developed country whose main production is based on subsistence agriculture.



(a) How does the diagram above explain the relationship between subsistence agriculture and low standard of living due to lack of capital.

(b) Given that the country is mainly cultivating wet rice. How does the above diagram show the problem of subsistence wet rice cultivation?

(c) Hence, suggest ways on how the government should overcome the problems faced by subsistence wet rice cultivators.

54.

(a) List and explain the main human and physical inputs of plantation agriculture.

(b) The local people in Malaysia (Sarawak) have this to say about oil palm plantations. Read the extract below on the social and environmental impacts of oil palm monoculture.

Logging companies have been destroying forests through large-scale unsustainable logging, causing irreparable damages. However, their activity has only been the prologue for something even worse.

When wood resources began to decrease and world demand for palm oil increased, many logging companies opted to redirect their activities to oil palm plantation.

For local people, this means that final appropriation of their traditional territories by the companies.

As a local person said, "Logging companies destroy our forest and leave. Plantation companies destroy our forest and stay!"

(i) Explain why local people would be unhappy over the establishment of oil palm plantations in their country.

(ii) Taking into consideration the social and environmental impacts of oil palm plantation, why does the Malaysian government still want to expand its oil palm areas?

55.

ii. Map A below shows the distribution of an agricultural area.

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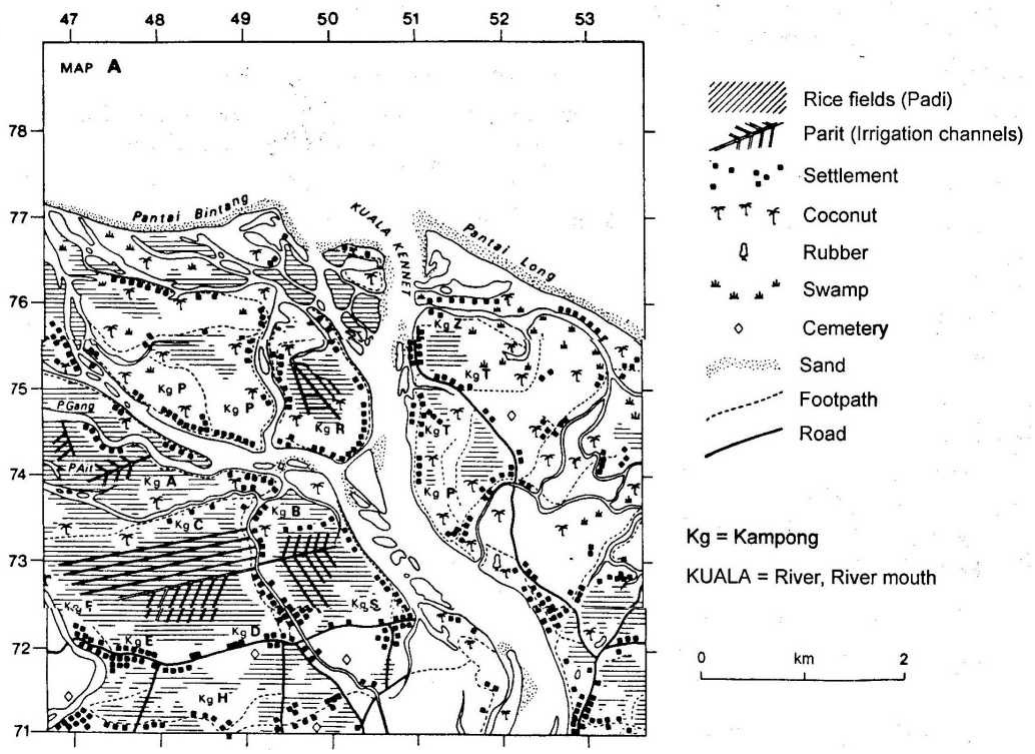
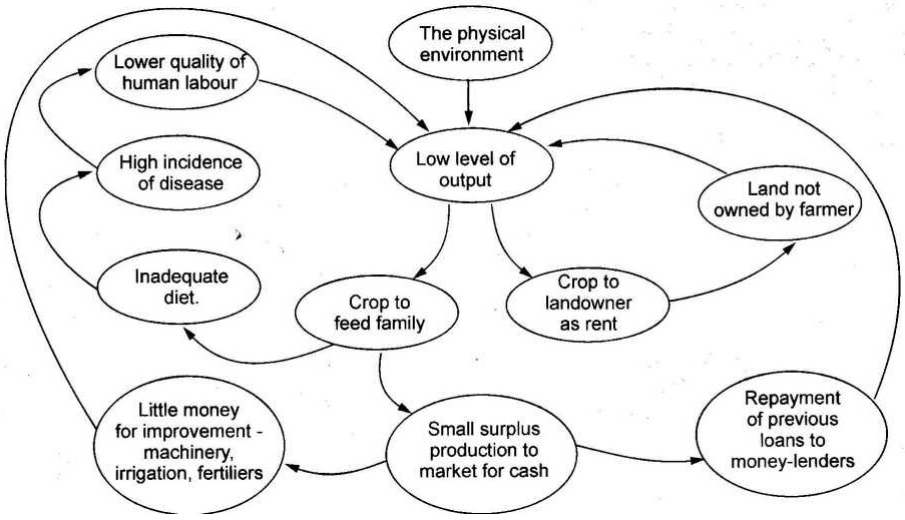
iii. What is the main agricultural activity taking place in the area shown? Using map evidence, explain why this area has suitable conditions for this agricultural activity.

(ii) Account for its distribution of the padi fields.

(iii) Which group of farmers is likely to experience better harvests? Farmers living on the west or farmers living on the east of Kuala Kennet? Explain your answer with specific reference to the map.



(b) How does the figure below explain the relationship between the low level of output and the farmers' poverty?



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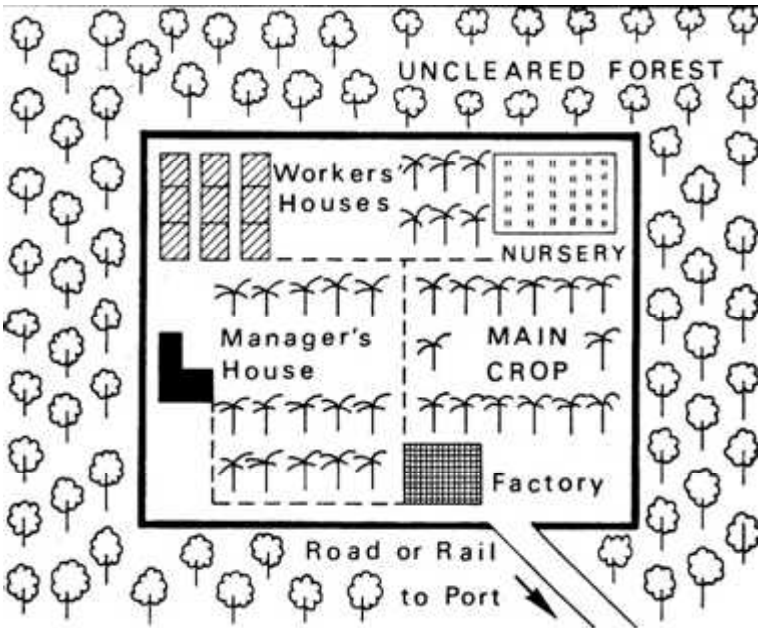
(a) Explain why the Malaysian government encourages its subsistence paid farmers to practise new methods of farming.

56. Look at the figure below.



(c) Using information from the figure above, describe the general characteristics of a plantation.

(d) Using information from the figure above, explain why forests are uncleared at the perimeter of the plantation.

(e) Explain how land and human inputs have been utilized in the organization of a plantation in the figure above.

(f) Use the climatic graph to state which of the two climates shown, at station A or station B would be more suitable for oil palm cultivation. Give reasons for your choice.

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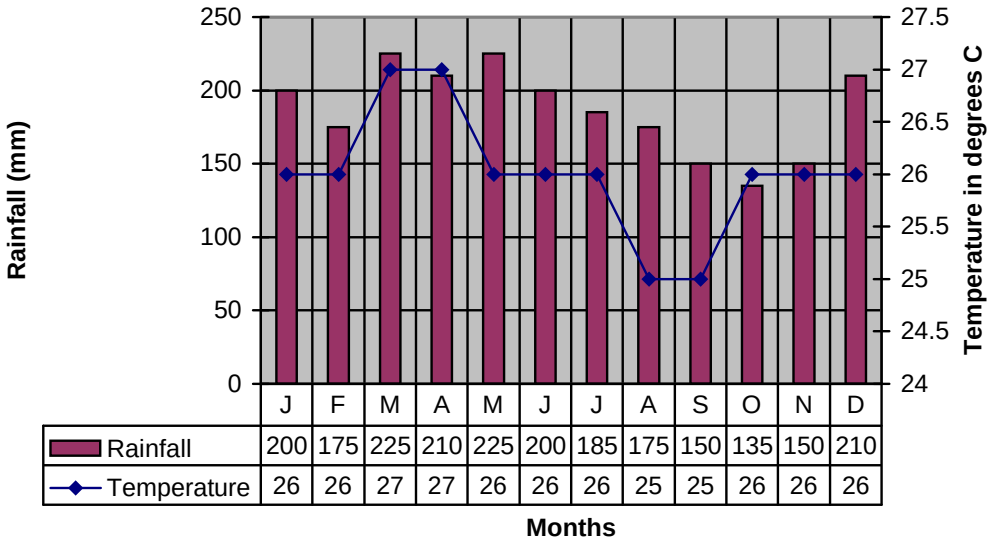
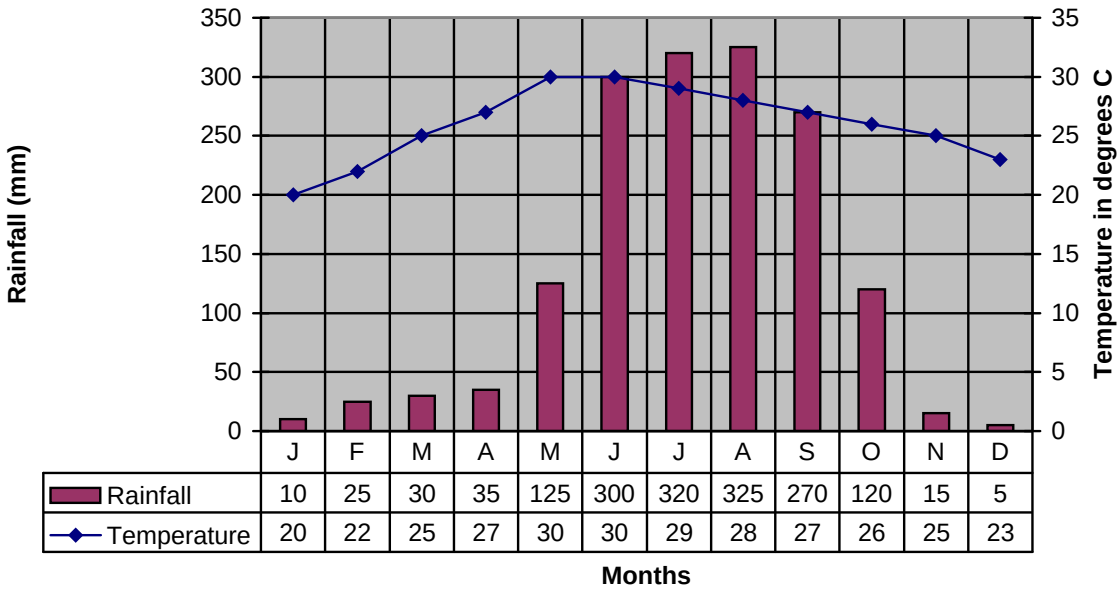
Station A



Station B



58.

a) Look at the picture below on high tech farming.

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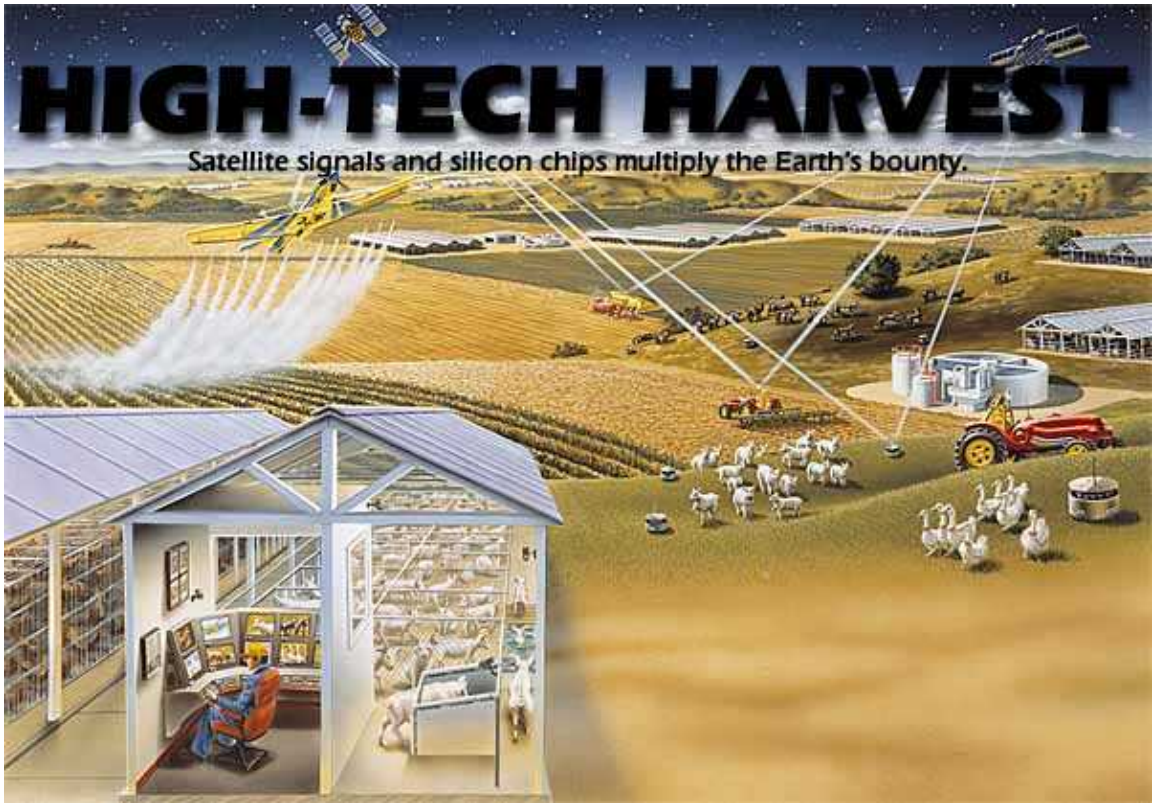

Extracted from:

http://popularmechanics.com/science/research/2000/8/high_tech_farming/index.phtml

(i) Using the diagram above, discuss the characteristics of high-tech farming

(ii) Using the diagram above, explain why is high-tech farming capital intensive?

(iii) High-tech farming is believed to be the alternative to the traditional methods of agriculture in Singapore which has limited land area and competing land demands. Do you agree with this statement? Give reasons to support your answer.

b) Study the diagram below which shows a cycle of successful farming.

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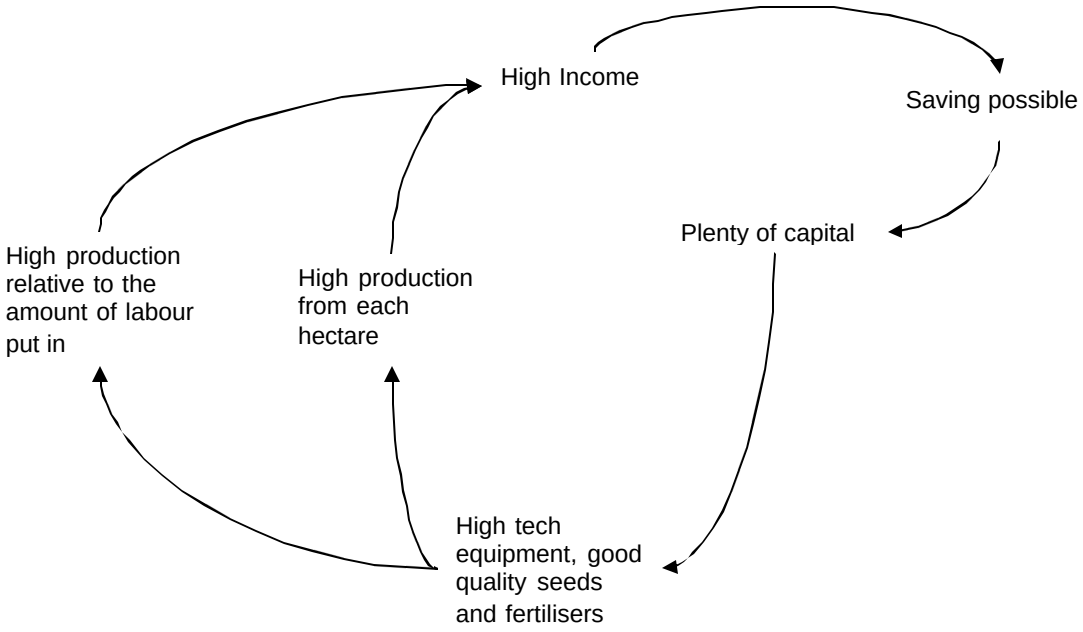


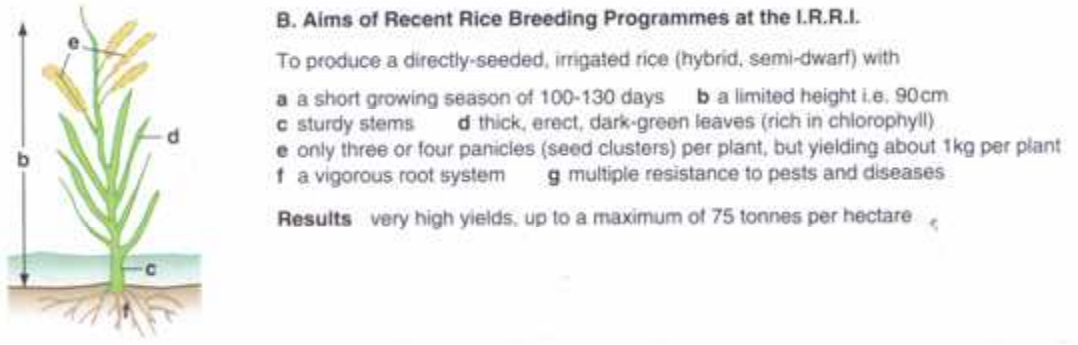
Extracted from: **Our World- a closer look 4 workbook (2002), page 98**

(i) How far does this apply to modern farming in Singapore? Give an example of a farming system which follows such a cycle in Singapore.

(ii) How might this process of farming affect food imports?

59.

a) Read the below information on the characteristics of IR8 rice.



Extracted from: **Core Higher Geography (2000), pg 254, fig 8.38**

(i) Identify the type of rice shown above and explain how its features can help farmers increase the productivity of rice cultivation

(ii) However, there are some farmers who are reluctant to use the seeds of the type of rice shown above. Account for the reasons for their decision.

b) The figure below gives some views expressed by different people on the issue of genetically modified (GM) food. In your opinion, do the benefits consuming GM food outweigh their risks?

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There isn't enough research to back the claim that GM foods are safe. Companies dealing in GM foods might not reveal the entire findings of their research. Consumers have the right to know if the foods they are buying are genetically modified.

Ms Thelma Chong
Nutritionist in a government hospital

It's ridiculous to label all GM foods. Anyway, GM foods have been around for so long. Why bother now? The world's most important task is to feed its 6 billion population. GM foods are here to stay.

Mr Leonard Tay
General Manager of a company dealing with health food supplements

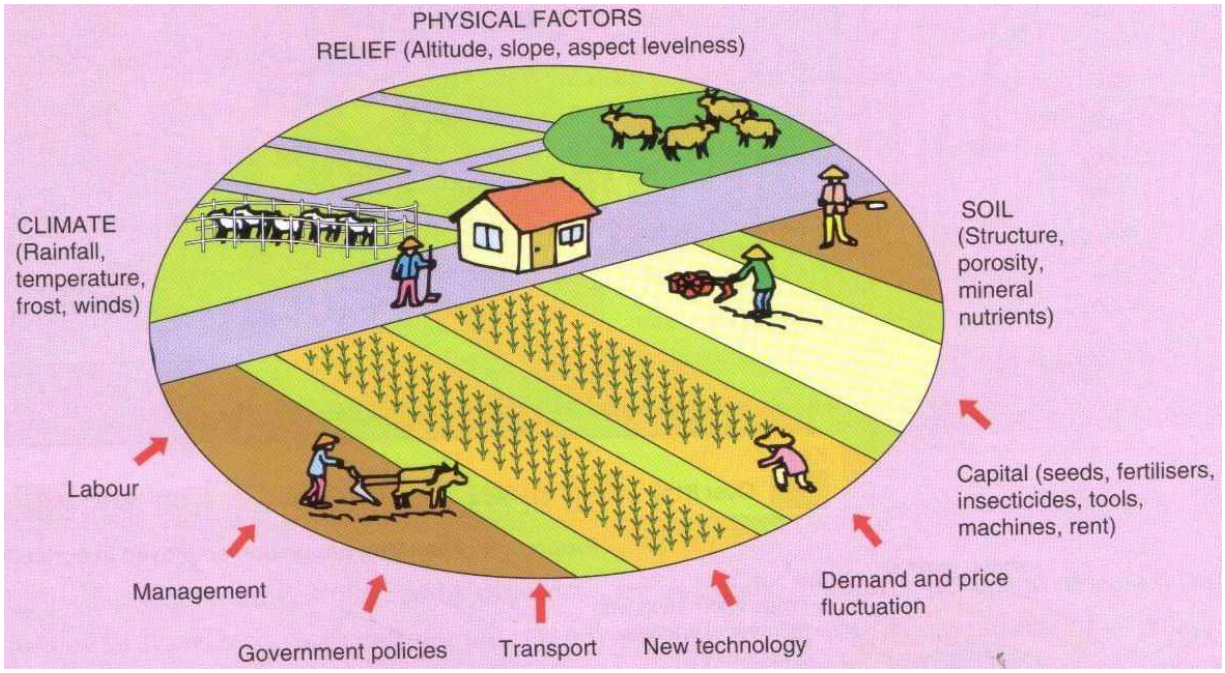
We as consumers have the right to know what we are consuming. We also have to be informed of the effects of such GM foods. We are directly affected by the introduction of GM foods.

Ms Rita Ravi
A concerned customer

My food crops are more beneficial than GM foods. GM foods have taken away some of my business.

Mr Tan Ah Ho
A commercial farmer

60. The picture below shows the physical, human and economic factors influencing wet rice cultivation.



Extracted from: **Human Geography from Longman publication 2005**

a) Explain how the physical factors influence subsistence wet rice cultivation.

b) Describe differences between subsistence wet rice cultivation, focusing on the human and

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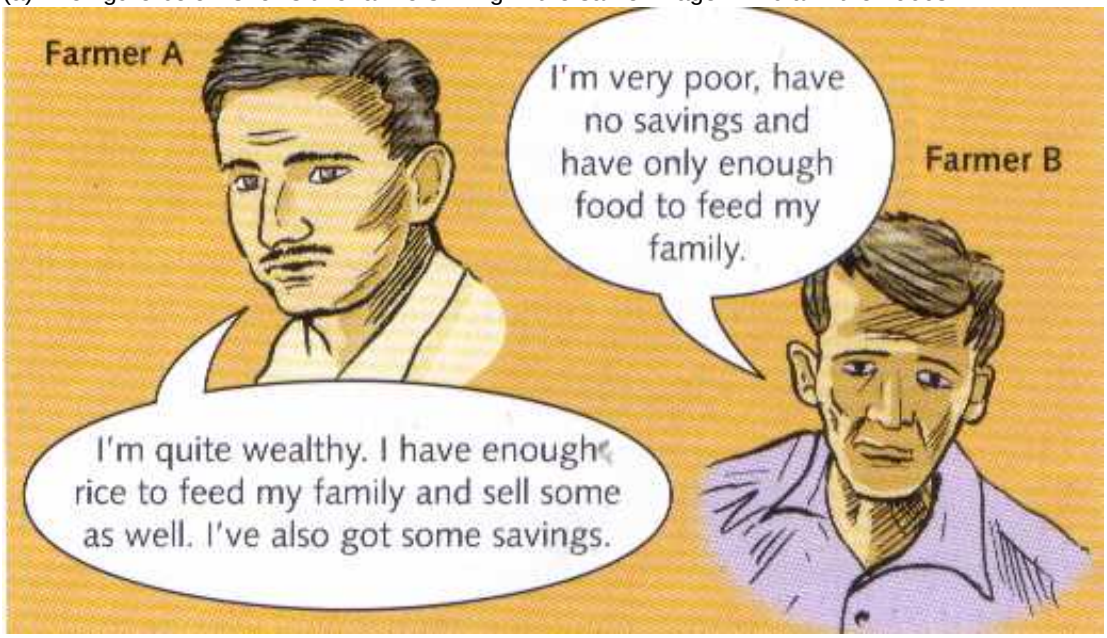
economic factors only.

c) Explain why small-scale wet rice cultivation tends to be vulnerable from demand and price fluctuation as shown in the picture above.

61.

(a) The figure below shows two farmers living in the same village in India in the 1960s.



Extracted from: **The New Wider World (2001), page 105, diagram for question 5(f)**

Explain why, in the next few years, Farmer A became very wealthy while Farmer B became even poorer and suggest what could be done to help Farmer B. [7]

(b) The figure below shows the rice production in parts of Asia using modern farming techniques.

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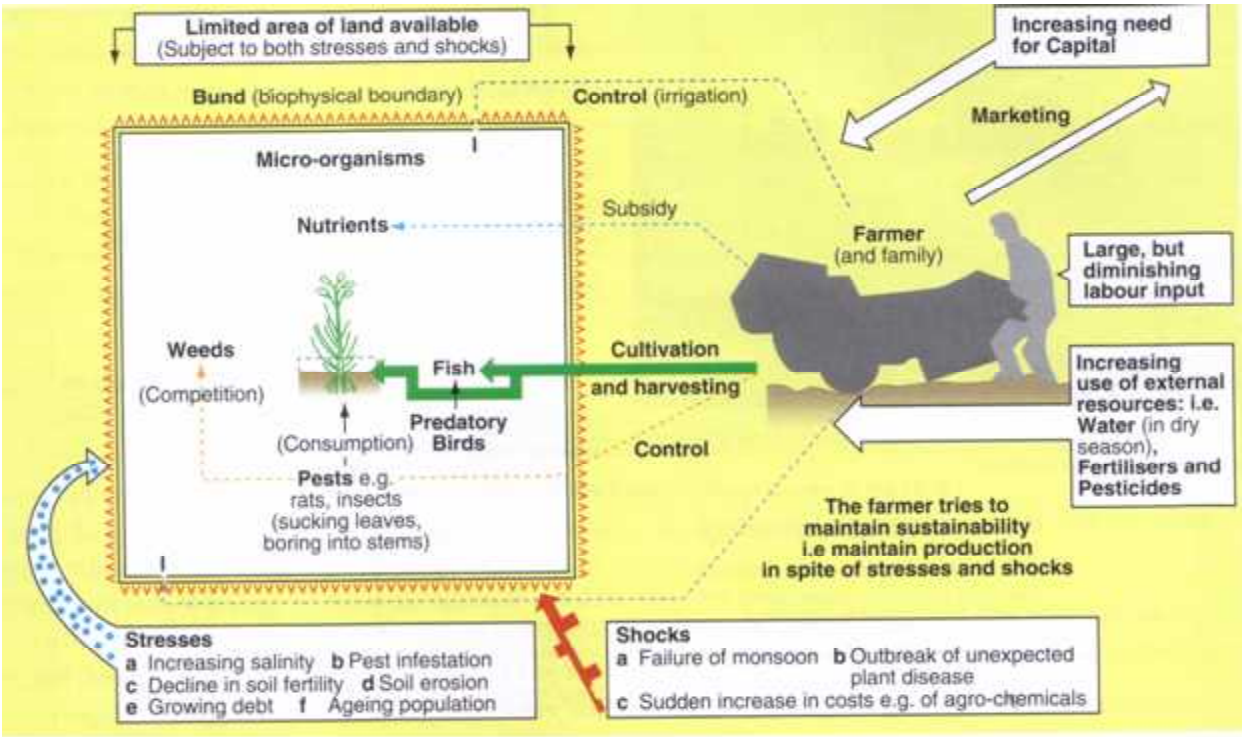
Study the questions carefully before answering, for experience tells us that careless or superficial reading of questions can lead to one losing precious marks. It can also result in costly waste of limited time during an examination.



Extracted from: **Core Higher Geography, 2000, pg 252, fig 8.35**

With the aid of the above figure, explain why modern farming techniques are adding pressure to the existing farmlands.

(c) Describe and give reasons for the changes in agricultural trends in Singapore over the years.

Time Period	Focus of agriculture
Before 1980s	Outputs for consumption and for processing manufacturing industries
1980s to 2000	High tech market gardening
2000 and beyond	Regional centre for agrotechnology

62. The photograph below shows part of an estate (plantation) in Masai, Johore in Peninsular Malaysia.

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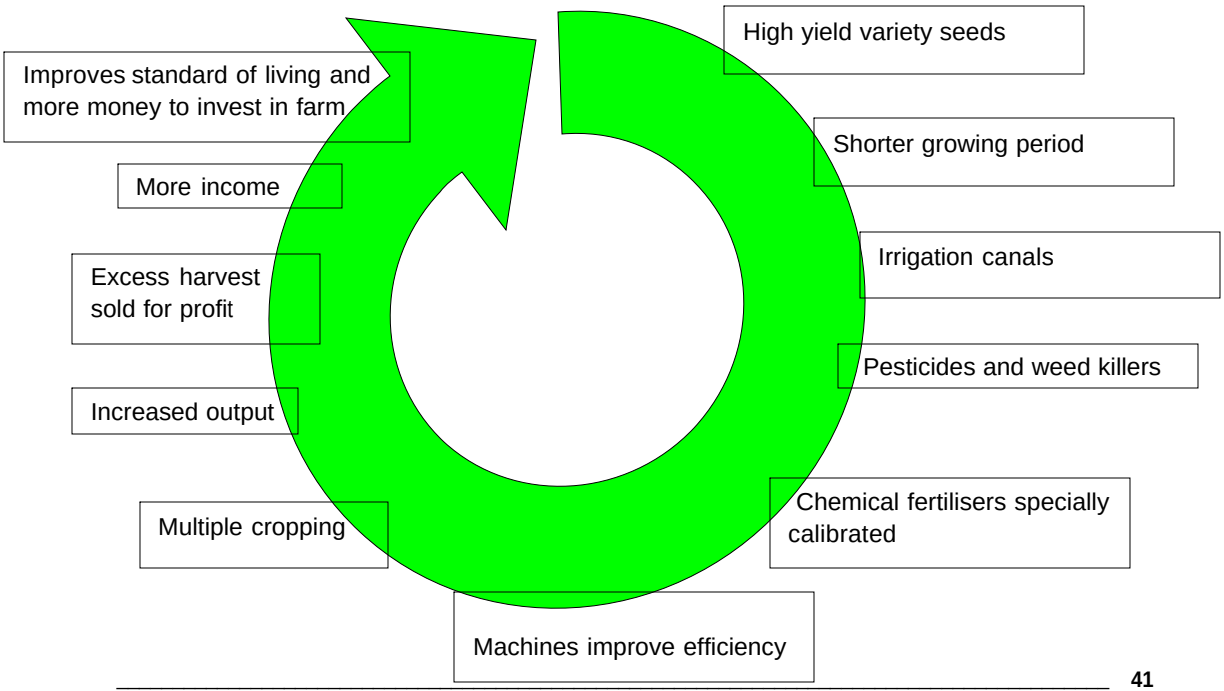
(a) With evidence from the photograph only, state the type of crop grown and describe the characteristics of this plantation.

(b) Explain the importance of this kind of plantations to Malaysia.

(c) This kind of plantation is most successfully developed in Malaysia. What are the factors contributing to its success?

63.

a) The figure below shows the changes introduced by Green Revolution.



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With reference to the figure above, explain how Green Revolution has brought improvement to the rural community.

b) Study Figures A and B which show development of a rural area in India.

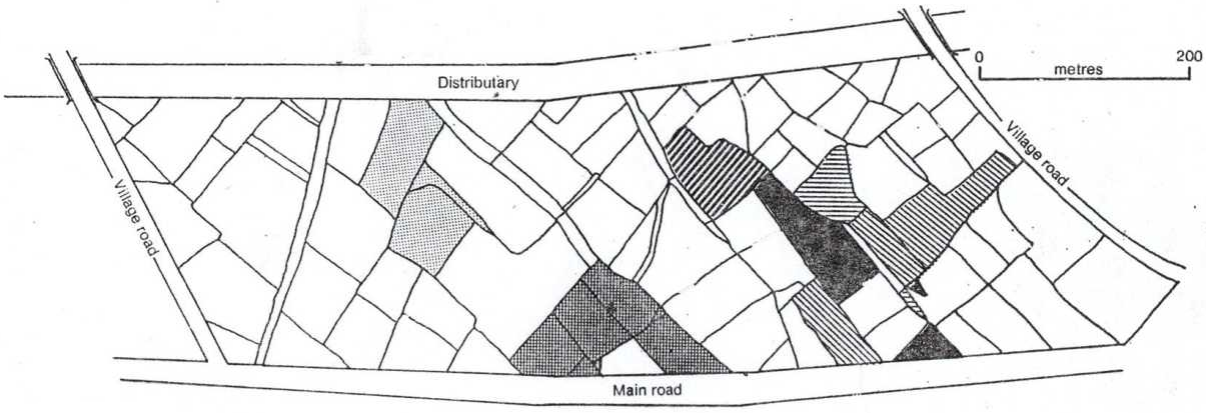

Fig A Land reform in an Indian village: Before

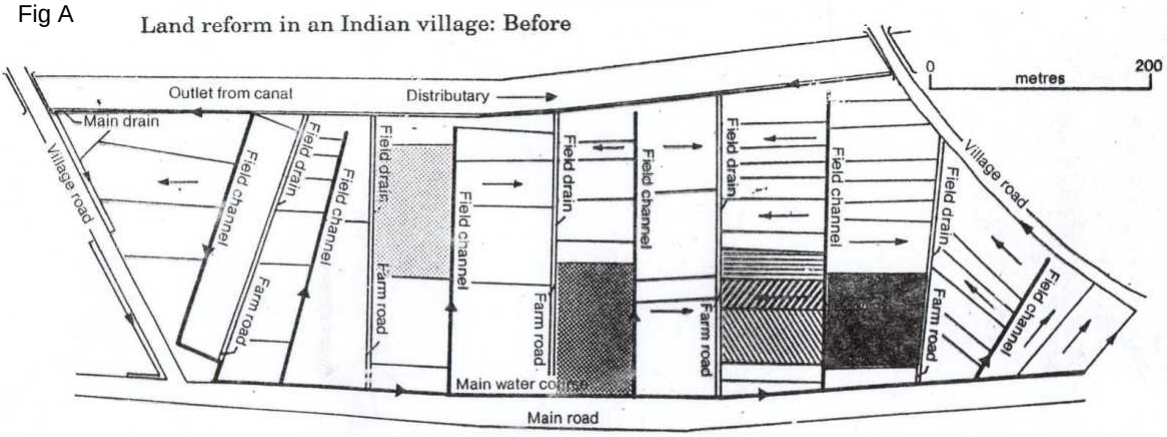

Fig B Land reform in an Indian village: After

Compare the two figures and describe the changes in:

(i) the shape and size of the farm plots and other evident inputs made to the farms.

(ii) Suggest how the changes described in (i), as well as other inputs that you have studied that may help to improve the agriculture and lives of the farmers in the area.

(iii) Suggest reasons why some farmers such as those in rural India have to practise intensive farming.

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