Unit 4
Developing the reading skills-4

Unit 4 : Developing the reading skills - 4

Lesson 4.1 Reading charts and diagrams-1

Objectives *: After you have studied the lesson, you will be able*

- to find out from a chart how much Modern Variety (MV) rice production contributes to the total rice production in the country,
- to ask *wh-questions* and answer them.

A. Read the chart and the following text.

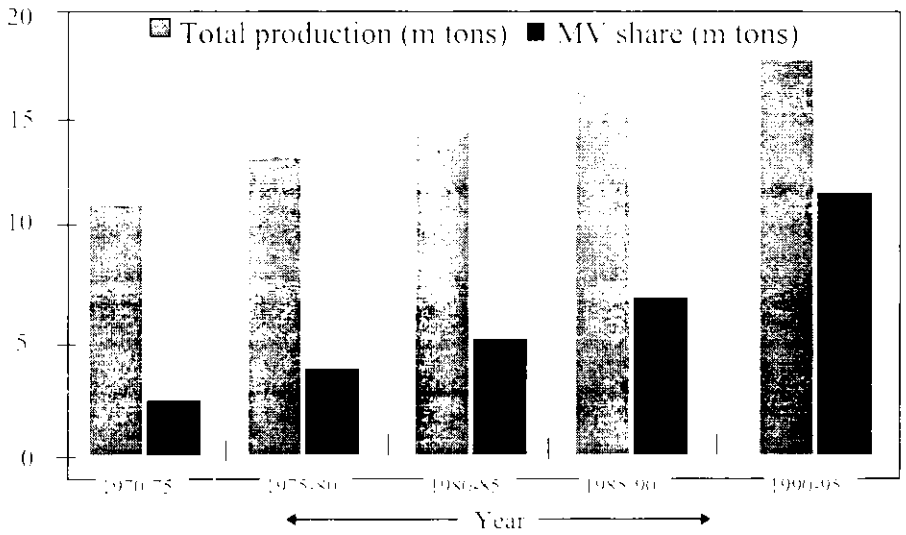


Fig 4.1 : Chart showing total production and MV share

A rice research institute was established in 1970 at Joydebpur. After independence in 1971 the institute became known as Bangladesh Rice Research Institute (BRRI). The Institute developed some 31 high-yielding Modern Varieties (MVs) of rice between 1970-95. The chart above shows how BRRI MVs have greatly contributed to the total rice production in the country.

B. Ask and answer the questions in complete sentences.

Ask two types of question. Type A : You can ask questions about the total rice production at different times. Type B : You can also ask questions about the contribution or share of MV rice to the total rice production.

Example - type A

Q : What was the total rice production in 1989?

A : The total rice production in 1989 was about 16 million tons.

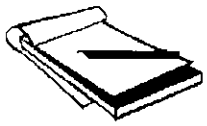
Example - type B

Q : What was the contribution or share of MV rice to total rice production between 1970-75?

A : The contribution of MV rice to total rice production was 24% in 1970-75.

or

The MV rice contributed 24% to the total rice production in 1970-75.



Activity : **Write 5 A-type and 5 B-type questions using the chart and write answers to them. (If you have a partner, ask and answer these questions in pairs.)**

C. Study these words.

contribute (v, pt & pp contributed) - to help to make something successful; to add something to something

production (n) - growth

D. *Activity :* **Write a short paragraph for each 5-year period mentioned on the chart. The first paragraph for the 1970-75 period is done for you :**

1. The total rice production during 1970-75 (or between 1970 and 1975) was about 11 m tons and the MV rice production (or the production of MV rice) during the period is about 3 m tons. So this contributed about 24% to the total production.

E. Self-assessment

Choose the best answer.

1. The MV rice production in 1976 contributed .... to the total rice production.
   a. 25%
   b. 30%
   c. 33%
   d. 40%

2. The total rice production in 1984 was about
   a. 5m tons.
   b. 10m tons.
   c. 15m tons.
   d. 20m tons.

3. During 1970-75 the contribution of MV rice to the total production was about
   a. 1.5 m tons.
   b. 2.5 m tons.
   c. 3.5 m tons.
   d. 4.5 m tons.

4. In 1987 the production of MV rice was ... of the total rice production.
   a. 1/2
   b. 1/3
   c. 1/4
   d. 2/3

5. The highest growth of MV rice was noticed in
   a. 1983.
   b. 1986.
   c. 1989.
   d. 1992.

Lesson 4.2 Reading charts and diagrams - 2

***Objectives** : After you have read the lesson, you will be able*

- to tell from a chart when the MVs were introduced/released, how long they take for growth and how much they grow,
- to ask and answer *wh-questions,*
- to tell the meanings of these words : yield, release, t/ha.

A. Read the chart to answer the following questions.

Variety	Year of release	Growing season	Growth duration (days)	Rough rice yield (t/ha)
BR1 (Chandina)	1970	T. Aus Boro	110-115 145-150	4.5-5.5 5.5-6.5
BR2 (Mala)	1971	T. Aus Boro	120-125 150-160	4.5-5.5 5.5-6.5
BR3 (Biplab)	1973	T. Aus Boro	120-125 165-170	4.5-5.5 5.5-6.5
BR4 (Brrisail)	1975	T. Aman	145-150	5.5-6.5
BR5 (Dulabhog)	1976	T. Aman	145-150	2.5-3.0
BR6	1977	T. Aus Boro	105-110 135-140	3.0-3.5 3.5-4.0
BR7 (Brribalam)	1977	T. Aus Boro	115-120 150-155	3.0-3.5 4.0-4.5
BR8 (Asha)	1978	T. Aus Boro	120-125 155-160	4.0-4.5 5.0-5.5
BR9 (Sufala)	1978	T. Aus Boro	115-120 150-155	3.0-3.5 4.0-4.5
BR10 (Progoti)	1980	T. Aman	145-150	5.5-6.5
BR11 (Mukta)	1980	T. Aman	140-145	5.5-6.5
BR12 (Moyna)	1983	T. Aus Boro	125-130 160-165	4.0-4.5 4.5-5.0
BR14 (Gazi)	1983	T. Aus Boro	115-125 155-160	4.0-5.0 5.0-5.5
BR15 (Mohini)	1983	T. Aus Boro	120-125 150-160	4.0-5.0 5.0-5.5
BR16 (Shahibalam)	1983	T. Aus Boro	125-130 160-165	4.0-5.0 5.0-6.0
BR17 (Hashi)	1985	Boro	150-155	5.0-5.5
BR18 (Shahjalal)	1985	Boro	170-175	5.0-6.0
BR19 (Mongol)	1985	Boro	160-165	5.5-6.0

Variety	Year of release	Growing season	Growth duration (days)	Rough rice yield (t/ha)
BR20 (Nizami)	1986	Upland Aus	110-115	3.0-3.5
BR21 (Niamat)	1986	Upland Aus	95-100	3.0-3.5
BR22 (Kiron)	1988	T. Aman	135-150	4.5-5.5
BR23 (Dishari)	1988	T. Aman	135-150	4.5-5.5
BR24 (Rahmat)	1992	Upland Aus	100-105	2.5-3.0
BR25 (Naya Pajam)	1992	T. Aman	135-140	4.0-4.5
BR26 (Sraboni)	1993	T. Aus	110-115	3.5-4.0
BRRI Dhan 27	1994	B. Aus T. Aus	110-115 115-120	3.0-3.5 3.5-4.0
BRRI Dhan 28	1994	Boro	135-140	4.0-4.5
BRRI Dhan 29	1994	Boro	155-160	5.5-6.0
BRRI Dhan 30	1994	T. Aman	140-145	4.5-5.0
BRRI Dhan 31	1994	T. Aman	135-140	4.5-5.0
BRRI Dhan 32	1994	T. Aman	130-135	4.0-4.5

Fig 4.2 : Chart showing a list of high-yielding modern rice varieties developed by BRRI

Bangladesh Rice Research Institute (BRRI)
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Gazipur-1701

A1. Ask and answer five questions about each variety.

Example : BR11

1. Q: What's the name of BR11? A: It is called Mukta.
2. Q: When was it released? A: It was released in 1980.
3. Q: When is it grown well? A: It is grown well in T Aman season.
4. Q: How long does it take to grow? A: It takes 140-145 days to grow.
5. Q: How much does it grow ? A: It grows about 5.5 - 6.5 tons per hectare.

You can ask the questions in random order. For example, about the same BR11 MV rice you can begin asking question 4 instead of question 1. You don't have to ask exactly five questions. You can ask only 2/3 questions for each variety. Also you needn't ask questions on all the 31 varieties.

Now ask 15 questions on any 4 varieties and say/write answers to them.

B. Study these words.

yield (v/n) - bear; produce. This mango tree did not yield (v) any fruit last year, but its yield (n) this year is satisfactory.

year of release - The year when a particular variety of rice was fully developed and ready for use in the field. In other words, it was the year when a variety was introduced to the public for its growth/cultivation.

t/ha - ton per hectare.

C. Self-assessment

Choose the best answer.

1. Per hectare yield of BR14 T Aus is
   a. 4.0 - 4.5 tons.
   b. 4.0 - 5.0 tons.
   c. 3.0 - 3.5 tons.
   d. 5.0 - 5.5 tons.

2. The variety of rice released in 1993 is
   a. BR9. b. BR16.
   c. BR26. d. BRRI Dhan 30.

3. How long does BR22 take to grow fully ?
   a. 120 - 125 days
   b. 135 - 150 days
   c. 140 - 145 days
   d. 150 - 155 days

4. Dishari grows in the season of
   a. T. Aman. b. T. Aus.
   c. Boro. d. Upland Aus.

5. When was Naya Pajam released ?
   a. 1977 b. 1983
   c. 1992 d. 1994

6. What are the rice varieties that give the highest yield ?
   a. BR1, BR14, BR19, BRRI Dhan 28, BR15, BR21
   b. BR7, BR10, BR8, BR3, BR5, BR1,
   c. BR11, BR2, BR14, BR6, BR1, BRRI Dhan 30
   d. BR10, BR2, BR11, BR1, BR3, BR4

Lesson 4.3 Reading about a process

Objectives *: After you have read the lesson, you will be able*

- to tell about the process of germination together with its conditions,
- to use *if* - and *when* - *clauses* orally or in writing.

A. Look at the pictures and read the passage.

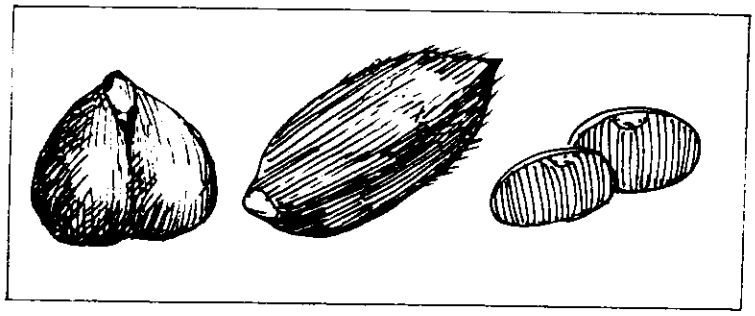


Fig 4.3 : Seeds

Plants grow out of seeds. Seeds remain in a dormant state, if they are kept in a cool and dry condition. But when they are sown or put in a moist soil, they begin to grow or germinate. However, there are certain conditions for the germination of seeds. First, seeds must be alive. They die when they are dried and kept at a very high temperature. If only the amount of moisture in the soil is of right level the seeds germinate. The soil can be too dry or too cold. In either case, seeds will not germinate.

In the first stage of germination the radicle or the root within the seed comes out.

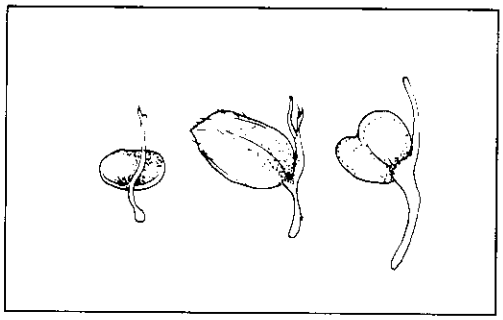


Fig 4.4 : Radicle

The radicle begins to grow downwards. Also the main shoot comes out from the seed and appears above the surface of the soil.

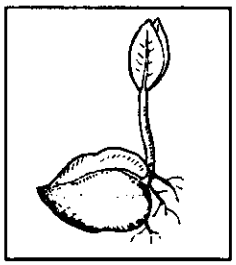


Fig 4.5 : Main shoot

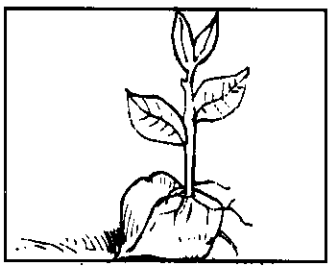
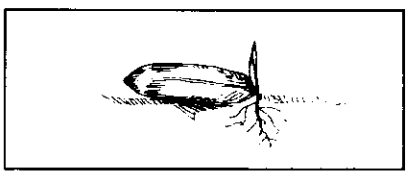
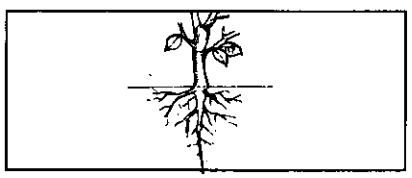
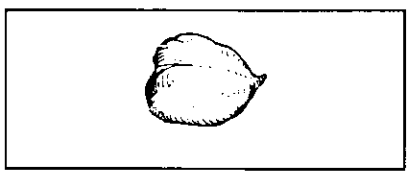
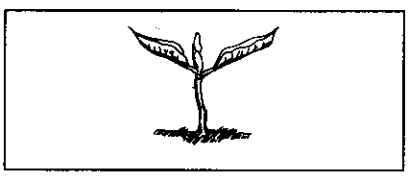
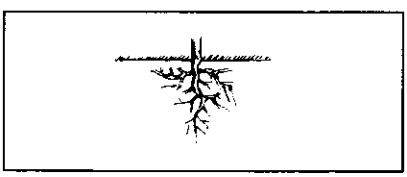
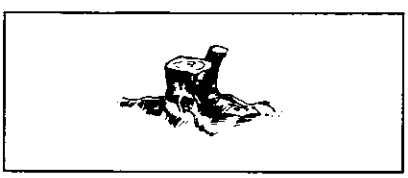


Fig 4.6 : Stem and leaves

Then gradually the root system begins to spread through the soil. Also the shoot begins to grow and produce stems and leaves.

B. Match the words with the pictures.

1.	seed	a)	
2.	shoot	b)	
3.	stem	c)	
4.	radicle	d)	
5.	root	e)	
6.	root system	f)	

C. Study these words.

dormant (adj) - inactive; in a resting state. 'A seed remains dormant' means it is not growing now, but it is capable of growing later on.

moist (adj) - slightly wet

moisture (n) - water; tiny drops of water

germinate (v) - grow

radicle (n) - the primary root

shoot (n) - a plant that has just began to grow

stem (n) - thin, upright part of a plant

D. Complete these sentences.

1. If you keep a seed in a cool and dry condition, it will .....
2. When a seed is dried and kept at a very high temperature, it .....
3. A seed germinates when .....
4. A seed does not germinate .....
5. The radicle or the root comes out when .....
6. If the seeds are dead .....

E. Self-assessment

Choose the best answer.

1. A seed grows when
   a. it is dormant.
   b. the soil is not very cold or dry.
   c. it is sown.
   d. the soil too wet.

2. The radicle
   a. is the same as the shoot.
   b. grows and spreads upwards.
   c. comes out breaking the surface of the soil.
   d. is the first root that grows under the ground.

3. What does a seed grow at first ?
   a. the root
   b. the stem
   c. leaves
   d. the shoot

Lesson 4.4 Reading about agricultural technology

***Objectives** : After You have studied the lesson, you will be able*

- to tell why technologies should be used in our cultivation,
- to describe the functions of some agricultural machines,
- to use relative clauses with : *that*
- to tell about the functions of the *power tiller, seed-drill, paddy weeder, knapsack sprayer, power pump.*

A. Read what the Agricultural Extension Officer (AEO) and some villagers are talking about.

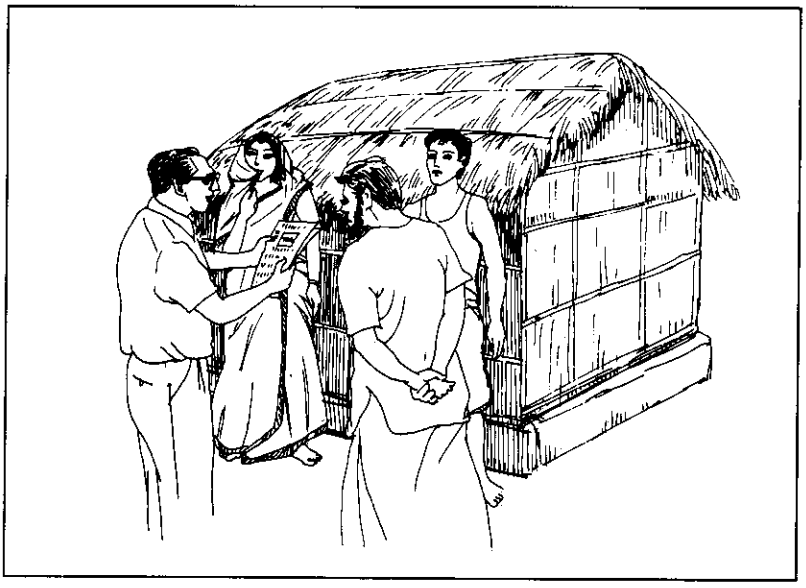


Fig 4.7 AEO talking to villagers

AEO : Do you know why the food that you grow is not enough for you?

Jamil : We don't have enough land to grow food for all of us. We've grown in number, but our land hasn't grown in size.

AEO : Yes.

Rabeya : And also we are trying to get too much from our land. We are growing as many as three crops every year.

AEO : You're very right. The land that used to produce enough food for 6 people 30 years ago, now cannot produce food for 60 people.

Sharif : What shall we do then?

AEO : What do you think you should do?

Rabeya : We are too many. We should keep our family within a reasonable size.

AEO : Yes. But we should also do something more. And that's what I'm going to talk about today with you. The rice that our farmers usually grow cannot meet our need. We need MVs that have been developed by BRRI for increased production. The traditional method that the farmers follow in cultivating the land cannot increase production. You have to use modern agricultural technology to increase production. All this means you have to use MV seeds and mechanised implements or tools. Also you have to learn how to use them. For example, instead of the old wooden plough that is drawn by bullocks you should use the power tiller. Similarly, You can use a seed-drill, a paddy weeder, a power pump and a knapsack sprayer for efficient cultivation and increased production.

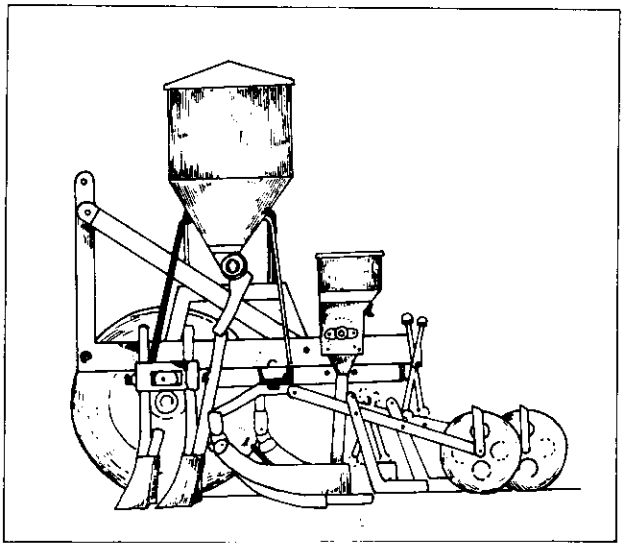


Fig 4.8 : Seed-drill

A power tiller can perform deep ploughing, harrowing, removing deep-rooted weeds, opening new lands, etc.

A seed-drill is used for seeding rice, wheat, jute mustard, etc. It weighs about 15 kg.

A paddy weeder is used for weeding. It is used in wet rice fields. It weighs from 5 to 6 kg.

A knapsack sprayer is used for spraying insecticides. It has a barrel that can contain about 23 litres of liquids.

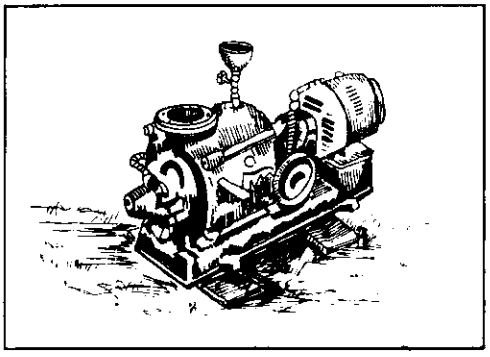


Fig 4.9 : A power pump

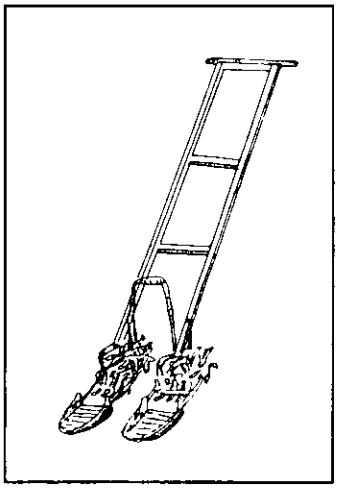


Fig 4.10 : A paddy weeder

Power pumps are used for irrigating lands. They are suitable for drawing surface water.

These mechanised tools can do the jobs they are made for much faster and more efficiently than humans and animals. Also the present high price of bullocks often compels the farmers to go for mechanised implements. However, such problems as unavailability of fuel, spare parts, lack of practical training for the users, etc. should be solved before the tools are used widely and practically.

B. Put T against a statement that is true and F against one that is false. If a statement is false write why it is so. Write the names of the speakers of true statements.

1. We cannot grow enough food for us.
2. Our farmers grow only two main crops a year.
3. Our land is limited.
4. More children in a family can work for the betterment of their family life.
5. The same land that now produces food for a large number of people used to produce food in the past for a small number of people.
6. The farmer and his cows can work in the fields more quickly than machines.
7. The farmers should be trained in how to use mechanised tools efficiently.

C. Match the items in Column B with the items in Column A.

Column A	Column B
1. A knapsack sprayer uses	a. is used for removing the wild, unwanted plants from the wet rice fields
2. Power tillers	b. to sow rice in your field
3. A paddy weeder	c. chemical substances to kill harmful insects
4. A power pump	d. go deep into the ground and break the soil
5. You can use a seed-drill	e. is fitted at the pond to supply water to the nearby rice field

D. Join each of the following pairs of sentences using *that*. No 1 is done for you. You can also use *which* in place of *that*.

1. a. A power tiller is used to break up large pices of soil.
   b. It can open new lands.

Ans. A power tiller *that/which* is used to break up large pieces of soil can open new lands.

2. a. A seed-drill is a machine.
   b. It can sow rice quickly.

3. a. Mr Jamil Ahmed bought a seed-drill.
   b. The seed-drill weighs 15 kg.

4. a. The paddy weeder weighs 6 kg.
   b. It takes about 15 hours to weed one hectare of land.

5. a. The knapsack sprayer has a barrel.
   b. The barrel can contain about 23 litres of insecticides.

6. a. Rabeya and her brother bought a power pump.
   b. The pump can irrigate all their lands.

7. a. The traditional method is used in cultivating land.
   b. The method cannot increase production.

E. Self-assessment

Choose the best answer.

1. 'Our land has not grown in size'.
   This means that
   a. our land cannot grow enough food.
   b. it cannot be increased.
   c. our farmers cannot buy any land.
   d. the size of our land has decreased.

2. Mechanised implements include
   a. the wooden plough.
   b. the ladder.
   c. the spade.
   d. the power tiller.

3. Harrowing means
   a. using a machine to break up the soil.
   b. frightening people.
   c. telling ghost stories.
   d. working hard.

4. A paddy weeder is used to weed
   a. a dry rice field.
   b. a wet rice field.
   c. a wet jute field.
   d. a flower garden.

5. A mechanised tool
   a. can work by itself.
   b. can work more quickly than a traditional tool.
   c. can be used by any farmer.
   d. is more expensive than a pair of bullocks.

Lesson 4.5 Review and test

A. Read the chart and make and answer 10 questions like the example.

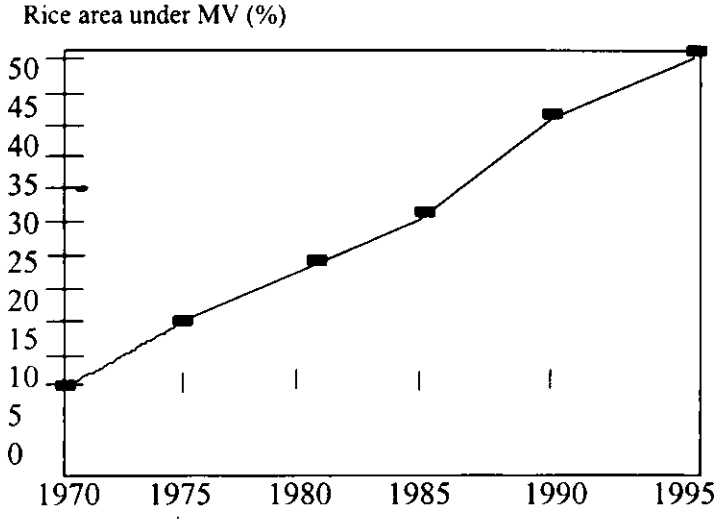


Fig 4.11 : Trends in MV rice coverage in Bangladesh, 1970-95

Example

Q : What percentage of area did MVs cover in 1985?

A : MVs covered about 30% of areas in Bangladesh in 1985.

B. Read the following chart and make and answer 10 questions like the example.

Name of Cereal	Total cropped area (in thousand hectares)	Yields (in thousand tons)
Rice	10/78	18341
Wheat	630	1176
Barley	12	8
Maize	3	3
Millet	18	15
Sorghum	0.40	0.40
Other cereals	64	46

Fig 4.12 : Cereals-growing areas and yields in Bangladesh 1992-93

Example

Q : What was the total area for the cultivation of barley in 1992-93 ?

A : 12,000 hectares.

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* Bangladesh Rice Research Institute publication No 119, February 1997, Gazipur 1701

Q : How much barley did the land (12,000 hectares) yield in 1992-93 ?
A : 8,000 tons.

C. Make 5 sentences from the following table.

If/when	a farmer sows good seeds	- seeds will not germinate
	a seed germinates	- be careful that the chemicals do not enter your nose or month
	the soil is very cold	- you can use a power pump to irrigate the fields
	you spray insecticides	- it begins to grow its shoot and root
	you have a pond near your rice fields	- he can get a good crop

D. *Activity :* Go to a village and find answers to the following questions

1. What agricultural implements/tools are the villagers using? Give statistics
2. Are they trained to use these implements? If not how are they using them?
3. Do they have any problems in using the implements? If they have any, who is there to help them?
4. Talk to some farmers and find out

(a) whether draught animals (eg bullocks used to draw the plough) are more/less expensive than power tillers; (b) how they feel about the use of mechanised implements.

Answer Key Unit - 4

Lesson 4.1

E. 1. b, 2. c, 3. b, 4. a, 5. d

Lesson 4.2

C. 1. b, 2. c, 3. b, 4. a, 5. c, 6. d

Lesson 4.3

B. 1. c, 2. d, 3. f, 4. a, 5. b, 6. e

D. 1. If you keep a seed in a cool and dry condition, it will *remain in a dormant state.*
2. When a seed is dried and kept at a very high temperature, it *dies.*
3. A seed germinates when *the level of moisture in the soil is right.*
4. A seed does not germinate *if the soil is too dry or too cool.*
5. The radicle or the root comes out when *the seed germinates.*
6. If the seeds are dead *they will not germinate.*

E. 1. b, 2. d, 3. a

Lesson 4.4

B. 1T (AEO), 2F (They grow more than two crops a year.), 3T (Jamil), 4F (More children do not find more work, as our land is limited.), 5T (AEO), 6F (Mechanised tools can do the jobs faster.), 7T (AEO)

C. 1. c, 2. d, 3. a, 4. e, 5. b

E. 1. b, 2. d, 3. a, 4. b, 5. b

Lesson 4.5

C. 1. If a farmer sows good seeds he can get a good crop.
2. If a seed germinates it begins to grow its shoot and root.
3. If the soil is very cold seeds will not germinate.
4. When you spray insecticides be careful that the chemicals do not enter your nose or mouth.
5. If you have a pond near your rice field you can use a power pump to irrigate the field.

Introduction to Developing Writing Skills

Writing is a productive skill. That is, we produce language, not orally but in writing. We write a note, a letter, an account, a description, etc. to communicate information, ideas, opinions, feelings etc. to the reader(s). While we write in this way for communication we need to know the mechanics of writing (i.e. handwriting). And more importantly for writing than for speaking, we need to know how words and phrases are used to make sentences and how sentences are used in a paragraph to express a point or idea. In other words, in order to be proficient in writing you have to know how to use vocabulary and structures (sentence patterns) and also you have to know correct spellings and rules of punctuation. As students on the B.Ag.Ed. programme you need to develop your skills in writing mainly descriptions, letters and reports. And this you can do practising writing in an organised way, using guidelines, clues and models given in units 5, 6 and 7– and not just by reproducing on paper what you have memorized. Thus unit 5 shows how to write descriptions, unit 6 shows how to write letters and the last unit shows how to write reports and descriptions. All the 15 lessons for developing your writing skills have been carefully graded on the principle of 'from simple to difficult', and if you practise writing according to the tasks set in these lessons, hopefully you will be able to express in writing your own experience, observations, ideas and feelings.