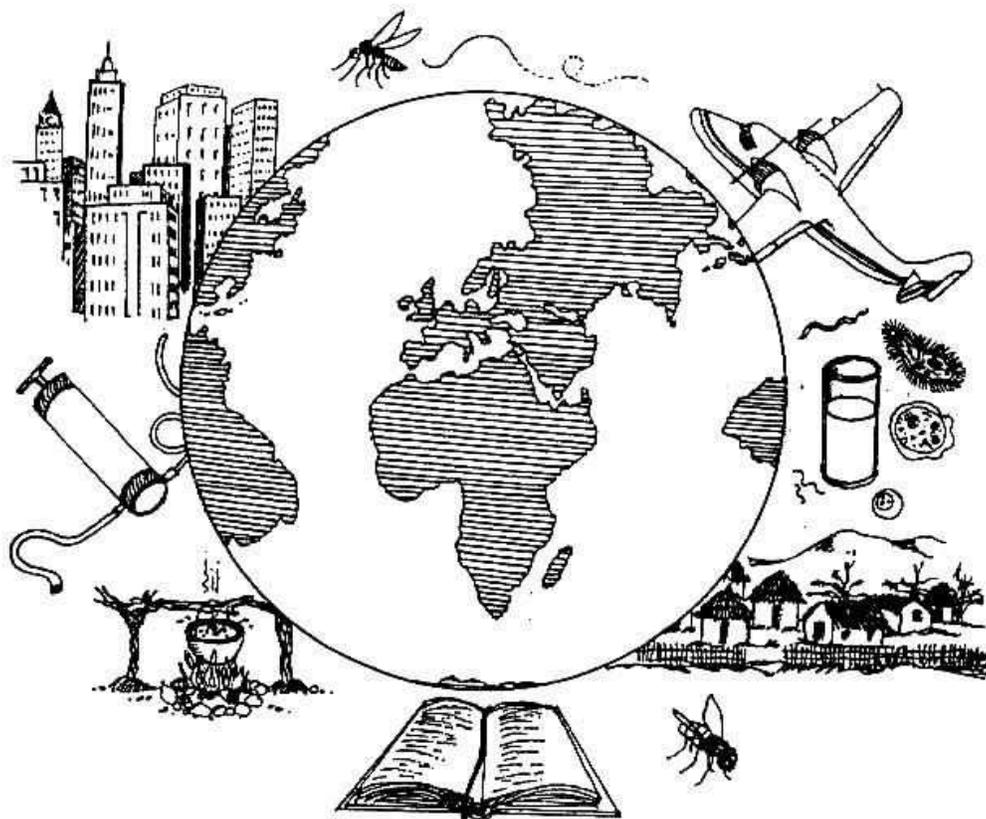
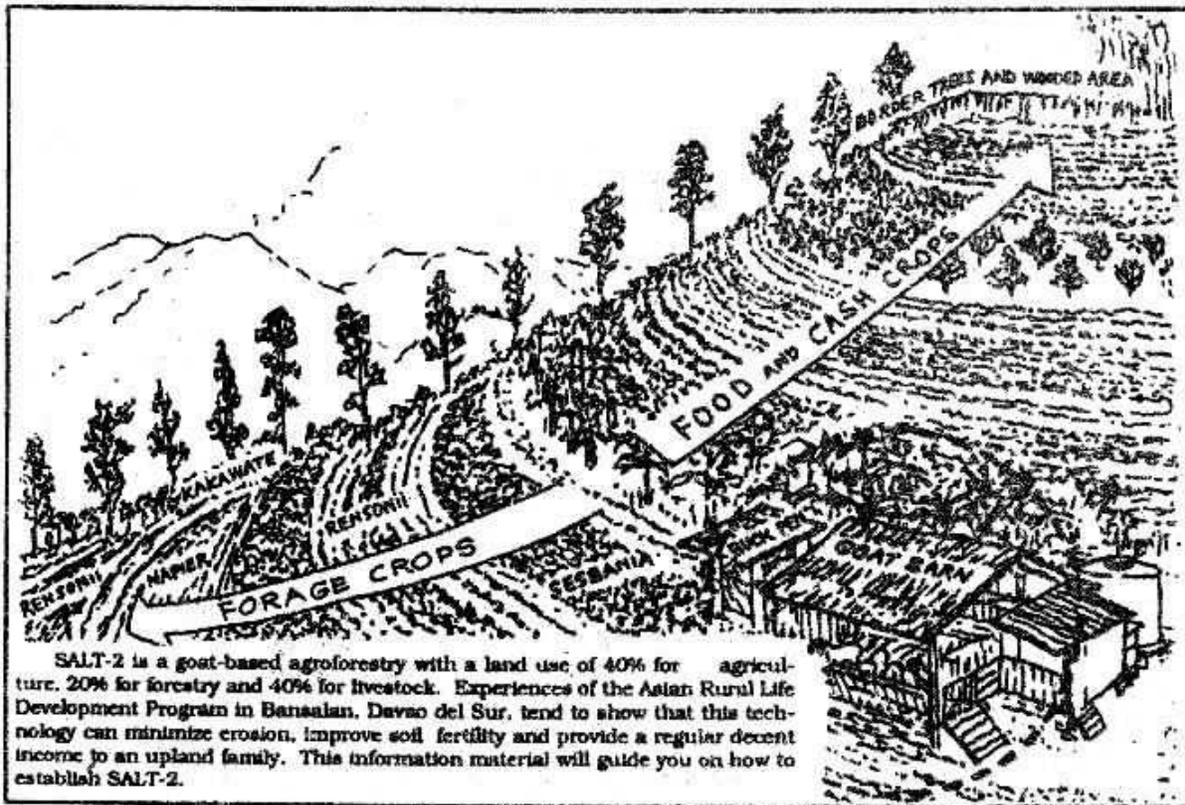


Sloping Agro-Livestock Technology (SALT – 2)

Sustainable Agriculture



Training Pac

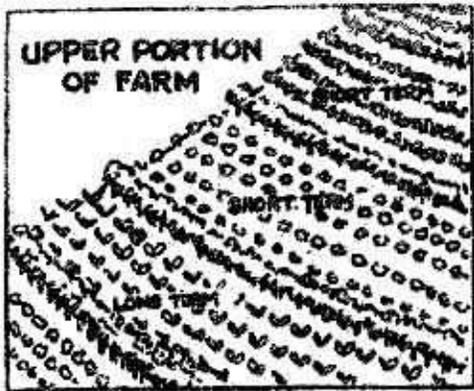


Among others, the upland badly needs food, wood and animal products, like meat and milk. SALT - 2 is an agro-silvi-pastoral scheme that attempts to meet these needs with focus on goat-raising. Although a goat is small, it can produce as much as two liters of milk everyday if it is purebred and its nutritional requirements are met. No wonder the goat is called “a poor man’s cow.” Here is how to put up SALT - 2 in your small farm.

STEP 1: LOCATE AND DEVELOP THE CONTOUR LINES.



STEP 2: ESTABLISH YOUR HEDGEROWS.
Cultivate the contour lines thoroughly, forming raised beds, about 1 m wide. Make two furrows spaced 1/2 m apart on each contour line. Plant thickly your nitrogen-fixing multipurpose tree and shrub pieces (NF-MPTSS) on the furrows. Plant MF-MPTSS also on the uppermost part and along the borders of your land. Apart from conserving the soil, they will provide additional foliage.

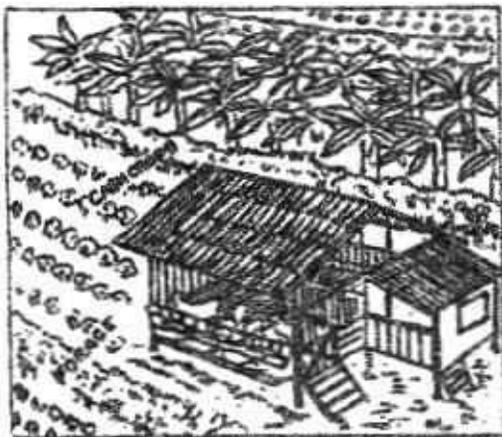


STEP 3: PLANT FOOD AND CASH CROPS.
 Grow your food and cash crops on the upper half of the farm so that loosened soil due to cultivation is caught at the lower half by the forage crops. To avoid further disturbance of the soil, plant $\frac{3}{4}$ of the agriculture area to long-term crops and the remaining $\frac{1}{4}$ to short-term ones.



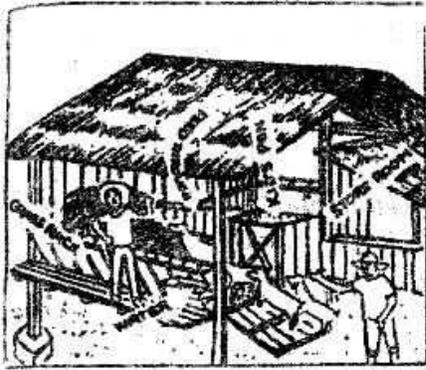
STEP 4: DEVELOP YOUR FORAGE GARDEN.

A project with 12 does and a buck needs a total land area of about $\frac{3}{4}$ hectare. Half of the area is devoted to forage crops and this need to be established 6-8 months before bringing in the goats. Plant only palatable, proteinous, fast-cropping and high-yielding forage crops. A suggested composition of forage crops is 50% *Desmodium rensonii*, 25% *Flamingia congesta*, 20 % *Gliricidia sepium* and 5 % napier and other grasses. Establish them at the beginning of the rainy season in rows of $\frac{1}{2}$ m at $\frac{1}{2}$ ft distance between hills with 1-2 plants/hill.



STEP 5: LOCATE THE GOAT BARN.

Build the barn at the middle of the farm between the boundary of the forage and foodcrops. This will save time and labor in hauling manure out to the farm and carrying forage to your goats. Provide floor space 20-25 sq. ft./goat using local materials. For convenient manure removal, the floor is raised about 4 ft. above the ground with floor slots nailed $\frac{1}{2}$ inch apart. Essential divisions and fixtures in your goat house are kids' separation pen, milking stanchion, milkroom, storeroom, feed trough, grass rack, waterer and salt trough.



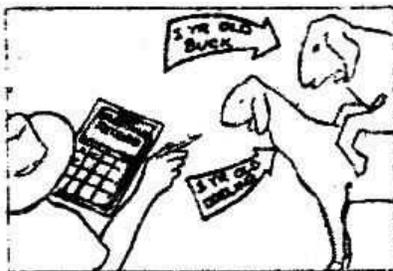
STEP 6: BRING IN THE STOCK AT THE RIGHT TIME.

Do this only when your forage garden has been fully established and you are certain it is already capable of supplying sufficient feeds. This should be about 6-8 months after planting your forage crops. The recommended breeds are either the purebreds, crossbreeds or upgrades of Nubian, Alpine and La Mancha. Without these breeds, start with the biggest and healthiest goat you can buy. A good stocking rate is 1 buck: 12 does per $\frac{1}{2}$ - $\frac{3}{4}$ hectare of a well-developed agroforest farm.



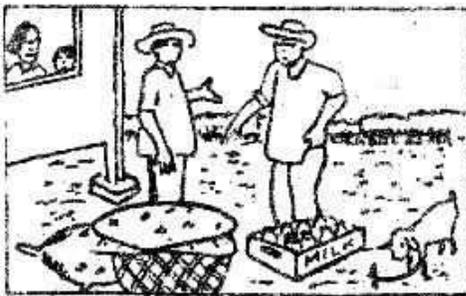
STEP 7: FEED THE GOATS SUFFICIENTLY.

Your goats essentially need concentrates (high energy feeds) daily. A milking doe weighing about 50 kg. And giving 1 liter of milk a day needs 1 kg. Of concentrate and 5 kg. of forage per day. Give the feeds in the morning and in the afternoon. A good concentrate consists of 18% first class rice bran, 23% corn grain or rice middlings, 21% copra meal, 36% ipil-ipil leaf meal, 1% salt, and 1% limestone. A good forage is mixture of 50% *D. rensonii*, 25% *Flemingia*, 20% *Gliricidia*, and 5% napier and other grasses. Provide your goats with salt and plenty of fresh water daily.



STEP 8: BREED THE GOATS

Earlier breeding will stunt the animal. A doe should not be bred until she weighs 45-50 kg. or is about 10-12 months of age. It is best to breed the doe in the second day of the heat period because conception is usually more successful at this time. If it does not become pregnant after being bred over three heat periods, cull it or place it under close observation if it is a valuable breeding animal.



STEP 9: MARKET YOUR PRODUCTS WISELY.

Do not delay marketing your agriculture, forestry, and livestock products. Milk your goats daily, pasteurize the milk and dispose it immediately. Goats are to be marketed at the age of 10-12 months or when weighing from 35-55 kgs.



Step 10: MAINTAIN THE FARM REGULARLY.

Cut your hedgerows 1/2 - 1m from the ground when they begin to shade the field crops. Replant missing hills of the hedgerows, weed and clean the crops and spray with chemicals only if necessary. Deworming of goats, hoof trimming, disbudding, castration and spreading manure to the farm for fertilizer are some of the necessary routine practices to be done in the SALT - 2 farm.

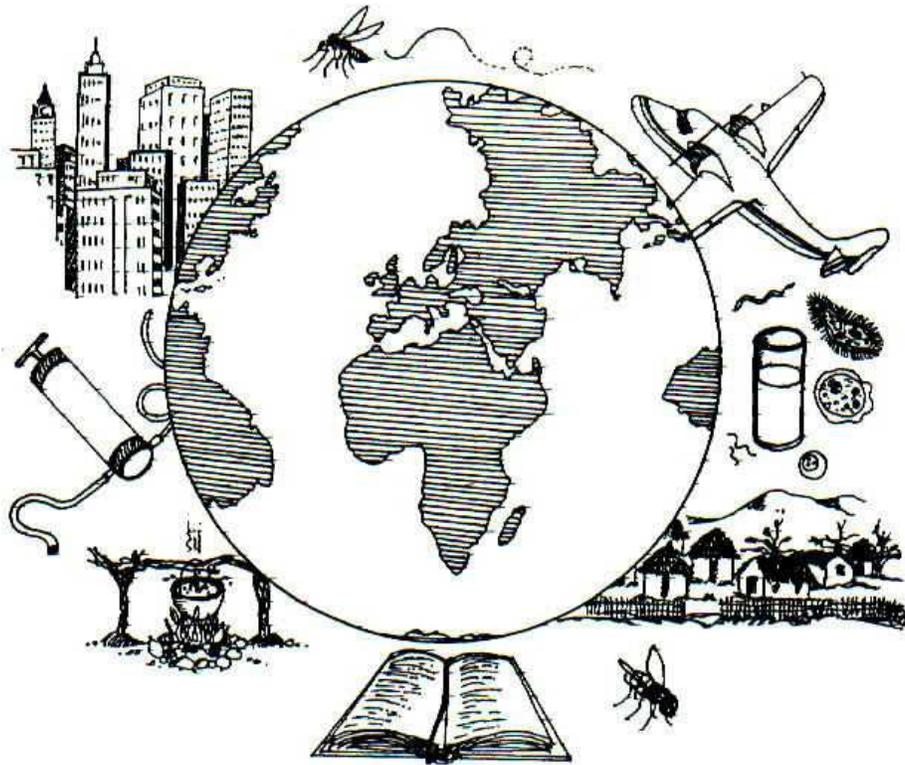
<p>MARK GOATS FOR RECORDING</p> <p>TATTOOING OR EAR NOTCHING OR EAR TAGGING</p>	<p>6-10 SEC. SEARING OF BUD BASE</p> <p>RED-HOT SOLDERING IRON</p> <p>HORN BUD</p> <p>TRIMMED HAIR</p> <p>MEDICATE BURNT SHIN WITH FURACIN OINTMENT</p> <p>CUT TIP BORE HOLE TO FIT AROUND HORN BUD</p> <p>NO. 5 SOLDERING IRON</p> <p>BORE VENT</p> <p>DISBUD ALL HORNED KIDS</p>
<p>CASTRATE EXTRA MALE</p> <p>2-4 MONTH OLD</p> <p>1) HOLD</p> <p>2) PULL SCROTUM</p> <p>3) CUT TIP</p> <p>4) SQUEEZE OUT TESTICLES</p> <p>5) PULL OUT</p> <p>6) MEDICATE</p>	<p>TRIM HOOFS EVERY MONTH.</p> <p>STANCHION LOCK</p> <p>TRIMMED</p> <p>UNTRIMMED</p> <p>HOOF TRIMMER</p>
<p>DEWORM EVERY 3 MONTHS.</p> <p>DRENCHING BOTTLE OR SYRINGE WITHOUT NEEDLE</p> <p>BACKWALL</p> <p>JUST LIFT THE HEAD SLIGHTLY TO ENSURE MEDICINE ENTERS THE STOMACH NOT IN LUNGS</p>	<p>CLEAN BARN DAILY.</p> <p>CLEAN WATER AND FEED RACK</p> <p>SCRAPE DIRT</p> <p>RECYCLE MANURE TO FARM REGULARLY</p>

SOURCE OF INFORMATION

Asian Rural Life Development Program – Author/Trainer with permission from
Harold Watson

Simple Agro-Livestock Technology (SALT – 2)

Sustainable Agriculture



Workbook

Name: _____

Read pages 1 – 2 of the Training Pac

Answer the following questions

1. What does SALT – 2 stand for? _____

2. What is SALT – 2? _____

3. How much milk does a purebred goat produce each day? _____

4. What is a goat known for? _____
5. What is step one of SALT – 2? _____
6. What is step two of SALT – 2? _____
7. What does NF-MPTSS stand for? _____

8. What is step three of SALT – 2? _____
9. Where do you grow your food and cash crops? _____

10. What is step four of SALT – 2? _____
11. What are the suggested composition of forage crops? _____

12. How much land area does 12 does and a buck need? _____

13. What is step five of SALT – 2? _____
14. Where do we build the goat barn? _____

15. Name the essential divisions and fixtures in your goat house:
 - (a) _____ (e) _____
 - (b) _____ (f) _____
 - (c) _____ (g) _____
 - (d) _____ (h) _____

Score exercises 1 - 15

Read pages 3 – 4 of the Training Pac

Answer the following questions

16. What is step six of SALT – 2? _____
17. What are the recommended breeds of goats?
- (a) _____
- (b) _____
- (c) _____
18. Without these breeds, what type of goats do you start with? _____
- _____
19. What is a good stocking rate for one buck? _____
- _____
20. What is step seven of SALT – 2? _____
21. What feeds are essential for goats? _____
- _____
22. What is step eight of SALT – 2? _____
23. A doe should not be bred until: _____
- _____
24. What is step nine of SALT – 2? _____
25. What age is a goat good for market? _____
- _____
26. What is step ten of SALT – 2? _____
- _____

Score exercises 16- 26

STOP!

DO NOT look back at the Training Pac while completing the Review.

Review
(5 points each)

Matching

1. ____ Simple Agro-Livestock Technology (a) goat
2. ____ A purebred goat produces (b) locate and develop contour lines
3. ____ “A poor man’s cow” (c) concentrates and forage
4. ____ STEP 1 (d) STEP 2
5. ____ Nitrogen Fixing Multi Purpose Tree and Shrub Species milk (e) as much as 2 liters of each day
6. ____ Establish your hedgerows (f) SALT - 2
7. ____ STEP 6 (g) NF-MPTSS
8. ____ STEP 9 (h) bring in stock at the right time
9. ____ Plant food and cash crops (i) STEP 4
10. ____ Develop your forage garden (j) locate the goat barn
11. ____ STEP 5 (k) market your products wisely
12. ____ STEP 7 (l) STEP 10
13. ____ Maintain the farm regularly (m) the biggest and healthiest goat you can buy
14. ____ Start with these goats (n) STEP 3
15. ____ Feed essential for goats (o) feed the goats sufficiently
16. ____ STEP 8 (p) she weighs 45 – 50 kg or is about 10 – 12 months of age
17. ____ A doe should not be bred until (q) $\frac{3}{4}$ hectare
18. ____ What age is a good goat for market (r) breed the goats
19. ____ 12 does and a buck need a total land area of (s) Nubian or Alpine
20. ____ A breed of goat (t) 10 – 12 months or weighing 35 – 55 kg.

Score exercises 1 – 20

DO NOT look back at the Training Pac while completing the Pre-Test.

STOP!

You must now prepare yourself for the PRE-TEST. In preparation, you may want to follow one or more of these suggestions:

1. Review the Contents.
2. Review every incorrect exercise in the Reviews.
3. Reread each section of the Training Pac.
4. Relearn each section you still do not completely understand.

Pre-Test

Answer the following questions (6 points each question)

1. What does SALT – 2 stand for? _____

2. How much milk does a purebred goat produce each day? _____

3. What is a goat known for? _____
4. What are the recommended breed of goats?
 - (a) _____
 - (b) _____
 - (c) _____
5. Without these breeds, what type of goat do you start with? _____

Name the 10 steps of SALT – 2: (7 points each answer)

6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

Score exercises 1 – 15

STOP!

You must now prepare yourself for the Final Test. In preparation, you may want to follow one or more of these suggestions:

1. Review the Objectives.
2. Rewrite every incorrect exercises in the Pre-Test.
3. Reread each section of the Training Pac.
4. Relearn each section you still do not completely understand.

Simple Agro-Livestock
Technology
(SALT – 2)

Score key

SIMPLE AGRO-LIVESTOCK TECHNOLOGY
SALT – 2
SCORE KEY

Page A

- 1) Simple Agro-Livestock Technology
- 2) Is an agro-silvi-pastoral scheme that attempts to meet these needs with focus on goat raising.
- 3) As much as 2 liters of milk
- 4) “A poor man’s cow”
- 5) Locate and develop the contour lines
- 6) Establish your hedgerows
- 7) Nitrogen Fixing Multi Purpose Tree and Shrub Species
- 8) Plant food and cash crops
- 9) On the upper half of the farm so that loosened soil due to cultivation is caught at the lower half of the forage crops.
- 10) Develop your forage garden
- 11) 50% Desmodium rensonii
25% Flamengia Congesta
20% Gliricidia sepium
5% Napier and other grasses
- 12) A total of about $\frac{3}{4}$ hectare
- 13) Locate the goat barn
- 14) At the middle of the farm between the boundary of the forage and food crops.
- 15) (a) kids separation pen
(b) milking stanchion
(c) milk room
(d) store room
(e) feed trough
(f) grass rack
(g) waterer
(h) salt trough

Page B

- 16) bring in the stock at the right time
- 17) (a) purebreds
(b) cross breeds
(c) or upgrades of Nubian, Alpine and La Mancha
- 18) start with the biggest and healthiest goat you can buy.
- 19) 12 does per $\frac{1}{2}$ - $\frac{3}{4}$ hectare of a well developed agroforest farm
- 20) Feed the goats sufficiently

Page B (continued)

- 21) Concentrates (high energy feeds) and forage (high fiber feeds)
- 22) Breed the goats
- 23) She weighs 45 – 50 kg or is about 10 – 12 months of age
- 24) Market your products wisely
- 25) At the age of 10 – 12 months or when weighing from 35 – 55 kg.

Page C (Review)

- 1) f
- 2) e
- 3) a
- 4) b
- 5) g
- 6) d
- 7) h
- 8) k
- 9) n
- 10) i
- 11) j
- 12) o
- 13) l
- 14) m
- 15) c
- 16) r
- 17) p
- 18) t
- 19) q
- 20) s

Page D (Pre-Test)

- 1) Simple Agro-Livestock Technology
- 2) As much as 2 liters of milk
- 3) “A poor man’s cow”
- 4) (a) purebreds
(b) crossbreds
(c) or upgrades of Nubian, Alpine and La Mancha
- 5) start with the biggest and healthiest goat you can buy.
- 6) Locate and develop the contour lines
- 7) Establish your hedgerows
- 8) Plant food and cash crops
- 9) Develop your forage garden

Page D (continued)

- 10) Locate the goat barn
- 11) Bring in the stock at the right time
- 12) Feed the goats sufficiently
- 13) Breed the goats
- 14) Market your products wisely
- 15) Maintain the farm regularly

FINAL TEST

Simple Agro-Livestock Technology (SALT – 2)

NAME: _____

DATE: _____

SCORE: _____

Final – Test
(10 points each answer)

Name the 10 steps of SALT 2:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

SIMPLE AGRO-LIVESTOCK TECHNOLOGY
SALT – 2
FINAL TEST KEY

- 1) Locate and develop contour lines
- 2) Establish your hedgerows
- 3) Plant food and cash crops
- 4) Develop your forage garden
- 5) Locate the goat barn
- 6) Bring in the stock at the right time
- 7) Feed the goats sufficiently
- 8) Breed the goats
- 9) Market your products wisely
- 10) Maintain the farm regularly