

Participant Handbook

Sector
Agriculture and Allied

Sub-Sector
Agriculture and allied activity

Occupation
Small Poultry Farmer

Reference ID: **AGR/Q4306**



Small Poultry Farmer

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It is expected that this publication would meet the complete requirements of QP/NOS based training delivery, we welcome the suggestions from users, Industry experts and other stakeholders for any improvement in future.



About this book

A small poultry farmer is a person who is responsible for various activities involved in rearing of small poultry birds such as chicken and duck. A small poultry farmer takes various decisions for the viability and sustainability of the poultry farm. He/ She ensures proper care of the poultry birds, their health and productivity, meat or egg production and marketing of the produce. A small poultry farmer should have the ability to make various operational and strategic decisions pertaining to his/her work. The person should be result oriented and be able to demonstrate skills to use various hand tools and other equipments essential for better productivity. The trainee will enhance his/her knowledge under the guidance of the trainer in the following skills:

- **Knowledge and Understanding:** Adequate operational knowledge and understanding to perform the required task
- **Performance Criteria:** Gain the required skills through hands on training and perform the required operations within the specified standards
- **Professional Skills:** Ability to make operational decisions pertaining to the area of work.

The handbook incorporates well-defined roles poultry farming like preparation of shed, handling of birds, feeding and water supply to birds, health maintenance of birds, entrepreneurship and documentation and record keeping etc. The participant should be result oriented and responsible for his/her own working and learning. The participant should also be able to demonstrate skills of using various tools and decision making for instant problem solving.

We wishes all the best for your future in the Poultry farming sector

Symbols Used



Key Learning Outcomes



Steps



Time



Tips



Notes



Unit Objectives



Exercise

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1. Introduction

Unit 1.1 – Origin, domestication and History of poultry



Key Learning Outcomes

- Understand and study the Scopes and Opportunities in the Poultry Industry
- Understand the Role of a Small Poultry Farmer

UNIT 1.1: Origin, domestication and History of poultry

Unit Objectives

At the end of this unit, you will be able to:

- To understand the status of poultry sector in India
- To understand the scopes and opportunities

1.1.1 Introduction

The poultry industry in India has been seeing an Annual rate of 15% for broilers and 10% for layers due to change in food habits of young people and general growth in disposable income of families. The term poultry is although very often used as synonymous to chicken, it includes a number of domesticated avian species such as chicken, duck, emu, geese, guinea fowl, Japanese quail, ostrich, pigeon, rhea, turkey. Most of these species known to thrive well in a variety of agro climatic conditions and can be raised successfully almost anywhere in the world, provided certain minimum management and nutritional requirements are met. Some of them are efficient converters of feed to animal protein, compared to other live stock species. Both chicken and ducks are used for commercial production of eggs and meat. Turkey, guinea utilized to produce meat. Emu and Ostrich for meat, oil, feather and leather.

The word poultry generally referred for chicken only, but it envisages all other avian species also including ducks, turkeys, guinea fowls, quails, emus, geese etc.



Fig 1.1.1 Small Poultry farming



Fig 1.1.1 Duck birds



Fig 1.1.1 Turkey bird



Fig 1.1.1 Turkey Bird



Fig 1.1.1 Guinea Bird



Fig 1.1.1 Ostrich Bird

In ancient times, domestic fowls were used as sacrificial birds. They were kept because of loud crowing of cocks and fighting qualities, which provided good source of entertainment. Much later, their egg laying potential recognized in comparison with other avian species, chicken hens noted for their efficient utilization of biological materials not suitable for human consumption for growth and egg production.

The word chicken originates from old English word 'icen' and Germanic language 'kivkenam' and cock (keuk) the red jungle fowl (RJF) *Gallus Gallus*, most closely resembles domestic fowl. According to Charles Darwin, the original chicken have descended and referred to as red jungle fowl (RJF). The sequence of domestic avian species has been made sequentially.

Sequence of domestication of domestic poultry		
Species	Period	Country(ies)
Chicken	5400BC 2500 to 2100 BC	China- Cishan culture but, the contribution 2500 to 2100 BC of these bird to modern birds doubtful From Harappan culture of Indus valley' may be main source of diffusion through the world.
Geese & Mallard Ducks	2500BC 1500 BC	China Egypt- separately domesticated in Mallard Ducks 1500BC the West. Mallard duck was not domesticated till Middle Ages
Ring-necked pheasants	1300BC	Greece
Turkeys	200 BCto 700 AD	Mexico
Muscovy Ducks	16th Century	Columbia, Peru
Japanese Quail	11th Century	Japan, China, Korea
Guinea Fowl	1500AD	West African birds introduced to Europe by Portuqese explorers

Table 1.1.1 Sequence of domestication of domestic poultry

Domestication of chicken occurred about 7,500 years ago. Coleman (1958) has presented a persuasive argument, on linguistic grounds about the spread of domestic fowl. He traces the gradual change of Sanskrit word "kukuta" from Indian across Asia and Central and Northern Europe until the word becomes "Chicken" and "Cock" in England. There are four known species of the wild jungle fowl. They are *Gallus gallus domesticus* (Red jungle fowl), *Gallus gallus sonneratii* (Grey jungle fowl), *Gallus lafayettii* (Ceylon jungle fowl) and *Gallus varius* (Javan jungle fowl) and they belong to same genus called 'Gallus' meaning cock.

The first avian species produced intensively was chicken, followed by turkey and guinea fowl. The art of domestication as first practiced on large scale in tropical regions of Asia. Black plumage fowl was known in India but not in Europe, Coleman points out that origin of domestic fowl in both East and West Africa have Indian roots. The Greeks bred their birds primarily for fighting and the Romans bred them for food. Darwin (1890) made inventing types of chicken known in Great Britain late in the 19th Century. Coleman has provided an illustrated description of the breeds and varieties grouped according to the area of origin. American, Asiatic, British and several new breeds were developed in Great Britain notably Sussex and Orpington. Similarly, in the US Plymouth Rock, Wyandotte, Rhode Island Red and New Hampshire were developed. Americans have been world leaders in poultry genetics and selection. Two completely independent events namely rediscovery of Mendel's Principles of Heredity and the development of a reliable and workable trap net between 1930 and 1950 have revolutionized the development of modern poultry and transform poultry progress from an art to science.

The concept of heritability, genetic correlation, selection differential and predictive equation was developed during this period and came in to the general use. Since 1950, the poultry industry narrowed its choice to the three distinct kinds of the stock such as layers, broilers and dual purpose. In all the three, the final commercial product is the multiple cross. White Leg Horn emerged as the exclusive breed in use for production of white shelled eggs; the Rhode Island Red, New Hampshire, Barred Plymouth Rock and Australorp are popularly known as brown eggers and as dual purpose birds. The crosses of White Cornish and White Plymouth Rock became the choice for broiler meat production at the beginning of the 20th Century.

PHEASANT FAMILY

The whole group of birds called Aves (from the Latin avis, meaning a bird), comprises many orders and families, and according to the various characters, birds are classified. Chicken, pheasants, peafowl, guinea fowl and turkey belong to the order Galliformes. Chickens, pheasants and peafowl belong to the Phasianidae (pheasant-like) family and to the sub-family Phasianinae, since the molting of the tail feather is centripetal, the order of molt of feathers being from

the outside to the center of the tail. The chicken is the only member of the pheasant family with a fleshy comb, and so it is placed in the genus called Gallus (cock like with vertically folded tail).

Origin and domestication of other avian species

The word duck originated from old English word and German language. "Ducan" which means to dive. Southeast Asia is home track of ducks. All of the duck breeds *have* originated from mallard or wild duck. Ducks are domesticated in China 3000 years ago. Duck are important both for egg and meat. Asia particularly China is the leading country both in respect of duck egg and meat production. 75% of all the ducks slaughtered and about 66% of all duck meat produced in the world is at China. Chinese prefer light weight duck for roasting. Commercially duck meat industry is based on 'Pekin' duck. Duck eggs are preferred in Asian countries such as China, Vietnam, Malaysia, Myanmar and Thailand and other South East Asian countries.

Geese

Geese were domesticated about 2500 Be. The word geese originated from the word "gans and English word gas (ges)". China is the major producer of geese meat in the world. Geese like duck are raised for meat purpose. Goose feathers are source of extra income as it is used for bedding and clothing industry. Geese were raised entirely by small farmers who kept 10 or at the most 100 birds as a sideline to earn little extra income. In addition to meat, geese supply profitable high. value product like geese down which sold for as much as US \$ 75,000 per ton. Because of lightness and warmth it is used for manufacture of winter parkas, pillows, bed spreads and comfortable and many other high value textiles. Foie grass (fattening of liver) is largely a western delicacy with fatty liver produce and consumed in France. The taste of foie grass spread among Asian countries also.

Geese meat is 25 per cent cheaper to produce than beef and also alternative for meat consumers. The ability of geese to graze on pasture may reduce concentrated feed consumption byupt030%. Species, annual egg production, average egg weight, incubation period and productive life of different avian species and description of sex, young.

TURKEY

Turkeys are natives of North America. They were domesticated 2,200 years ago and discovered in 1498, U.s. is the leading producer of turkeys in the world. Turkeys are produced mainly for meat purpose. Turkey meat is the leanest meat. 7.2 per cent of global poultry meat production is turkey meat. U.s., France and Germany produce half of the turkey meat. There has been significant increase in production in Brazil, Poland and Hungary in recent years. Outside USA and UK, consumers prefer dark meat. Mexico, European Union and Russia imports turkey meat.

JAPANESE QUAIL

(Coturnix coturnixjaponica)

The word quail originated from old French word "caille" (Coturnix coturnix). The Japanese quail belongs to family "Phasianidae." They were domesticated in 1910 and commercially used during 1930. The other variety of quail Bob quail (Colinus Virginian) is very common in western countries.

Quails reared for meat and eggs. Quail meat is an ideal food as authenticated in the holy Bible and Holy Quran.

Quail farming for egg and meat is quite popular in Japan, Hong Kong, Korea, France, Italy, Germany and Britain. Recently Brazil has shown keen interest in quail production. Japan is the leading producer of quail eggs. Spain and France produce the highest amount of quail meat. The Japanese quail is becoming popular worldwide. Quail farming is also growing in Britain. Quail was introduced to India in 1974 at CARI Izatnagar.

PIGEON

The word pigeon is originated from English word "pigeon, Latin pipion". Pigeons were domesticated 5000 years ago and mainly used for meat. Chinese interest in increasing pigeons population as it is one of the popular dishes.

RATITES (Ostrich & Emu)

Ostrich: The term ostrich originated from English and French word "ostrice." Ostriches nativity is Africa. Graham's town district of South Africa is known for domestication of Ostriches intensively on a large scale. Ostriches have been farmed in South Africa since 1857. Egyptian and Roman ladies of noble birth rode ostrich on ceremonial occasion. Greeks kept ostrich in captivity and fattened for table purpose. Increasing attention is being paid to produce low fat red meat. Western Australia is keeping ostrich for leather' production since 1987. It is the Largest living bird. Ostrich farming is spreading slowly but steadily throughout the world. Europeans tried Ostrich rearing for meat purpose during 1860. Export of ostrich feather to Europe from South Africa commenced in 1838. Ostrich farming has been successful in South Africa though Ostrich farming has been tried all over the world.

The word poultry generally referred for chicken only, but in envisages all other avian species also including ducks, turkeys, guinea fowls, quails, emus, geese etc.

Chicken farming includes broiler farming, layer farming and breeder farming which have developed into a commercial status. Rural varieties of chickens have been developed at various centers under government, university and private institutions which are having capabilities of high egg output and meat. These rural varieties are significant because of the reason that they look similar to 'Desi fowls'

in colors but egg production and meat weight gain is comparably high under the same rural low input technology conditions.

Small Scale Commercial Production System and the village or background system are typical representing smallholder poultry production. Although for typical family poultry the classification is widely adopted including south Asia.

Small –scale Poultry production system that may produce meat or eggs or both. The birds are purchased from breeding companies. The products are sold commercially. The farms keep that birds indoors continuously.

The traditional backyard poultry system is characterized by a very basic system with scavenging indigenous poultry, no cross breeds, rather meat production than egg production and part of a mixed farming system.

Poultry Production in India like other developing countries of Asia and Africa is characterized by simultaneously existence of traditional system of low input-low output back yard system of poultry keeping in rural areas and modern intensive system of poultry production which requires high external inputs and utilizes modern production technologies for maximizing productivity and increasing efficiency in urban and peri-urban areas. Both the systems do not complete rather complement each other in efficient utilization of locally available resources, increase job opportunities and provide production has become very popular and has achieved spectacular growth in size as well as in productivity, sophistication and quality during last 40 years. The primary business of poultry keeping has helped in the development of a number of supporting and allied industries like compound feed manufacturing, equipments and machinery, Pharmaceuticals and Biological and egg and meet processing.

Rural Poultry Production: The Rural Poultry Production is being recognized as an important component of socio-economic improvement among the weaker sections of the society. In addition to this, it generates self-employment, provides supplementary income and supplements protein rich food at relatively lower cost.

Depending on the number of birds and manage-mental methods the extensive rural poultry may be classified as,

- | | |
|--------------------------|-------------------|
| 1. Small scale units | 5000-10000 birds |
| 2. Small Backyard Units | 1000 – 5000 birds |
| 3. Village Chicken Units | 10-50 birds |
| 4. Family Poultry | 2-10 birds |

Out of the above, the village chicken production and family poultry are very popular in all most all the costal districts. This is otherwise called free range or scavenging system of poultry keeping.

Traditional free – range (1-10 birds) Low input lo output	Improved free – range (50-200 birds) Low input/medium output	Small-scale Confined (50-200 birds) High input/high output
Majority of rural families	Moderate number of rural families	Few rural families
Owned mostly by women	Owned by women and family	Businessmen, women
Home consumption	Home consumption and sale on local markets	
Small cash income	Family income	Business income
Social & cultural importance	Social Importance	Little social importance
Gifs, religious		
	Micro credit	Credit based on assets
Indigenous breeds	Indigenous/improved breeds	Hybrids(Broiler or layers)
High Mortality	Moderate Mortality	Low mortality
No feeding(Scavenging)	Low feed (Semi-Scavenging)	Balanced Feeds
No vaccination	New castle disease vaccination	Several vaccination schemes
No medication	Little medication/local remedies	Full medication
No housing	Simple housing	House with cages or deep litter
Egg production: 30-50 eggs/y/hen	Egg production : 50-150 eggs/y/hen	Egg production: 250-300 eggs/y/hen
Long broody periods	Short broody periods	No broodiness
Growth rate = 5-10 g/day	Growth rate = 10/20g/day	Growth rate = 50-55 g/day

Table 1.1.1 Poultry Farming



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2. Preparation of Shed

Unit 2.1 – Preparation of shed

Unit 2.2 – Ensure safety and hygiene of the birds



AGR/N4327

Key Learning Outcomes

- Understand and study the Scopes and Opportunities in the Poultry Industry
- Understand the Role of a Small Poultry Farmer

UNIT 2.1: Preparation of Shed

Unit Objectives



- To understand the requirements for shed preparation
- To understand the maintenance of shed

2.1.1 Preparation of Shed

Housing/Shed of Poultry has become necessary in order to :

- Protect them from adverse weather conditions and enemies (Predators)



Fig 2.1.1 Predators

- Have better control and supervision.



Fig 2.1.1 Poultry farm

- Keep the breed pure by scientific breeding
- Feed them regularly as per schedule.



Fig 2.1.1 Feeding

- Collect all the laid eggs every day.



Fig 2.1.1 Layer Farming

- Prevent Pilferage of eggs and birds
- Have control over diseases and exercise preventive vaccination.

2.1.2 Poultry Housing

There are generally four types of poultry housing systems found to be followed among poultry keepers.

1. **Free range System** : Free range system of poultry housing is very old and has been for centuries by general farmers. Free range system is used where there is no shortage of land. This system allows abundant space to the birds on land where they can find an appreciable amount of food in the form of herbaceous seeds and insects, provided they are protected from predatory animals and infectious diseases including parasitic infection. Presently, this system is almost outdated.



Fig 2.1.2 Free Range system of Poultry Farming

2. **Semi – Intensive System** : This System is adopted where the amount of free space available is limited to each bird is about 20-30 square yards and it is necessary to allow each bird to run outside. Wherever possible this space should be divided giving a run on either side of the house of 10-15 squares yards per bird, thus enabling the birds to reach fresh grounds.



Fig 2.1.2 Semi- intensive system of Poultry farming

3. Folding Unit System : This system of housing is a new innovation. In portable folding unit's birds being confined to one small run, the position is changed each day. This gives them fresh grounds and the birds find a considerable proportion of food from the herbage and are healthier and hardier. The disadvantage of this system are that food and water must be carried out to the birds and eggs brought back and there is some extra labour involved in the regular moving of the fold units. The most convenient folding unit to handle is one which is made for 25 hens. A floor space of 1sqft should be allowed for each bird in the house and 3 sq.ft. in the run, so that a total floor space to the whole unit is 4 sq. ft per bird. as with the intensive system.



Fig 2.1.2 Folding Unit System

4. **Intensive System** : In this system the birds are confined entirely to the house, with no access to the land outside. It is adopted where land is limited and expensive. Among different types of intensive systems, cage system and deep litter system are the most common.



Fig 2.1.2 Intensive System of Farming

a) **Cage or Battery System** : This is the most intensive type of poultry housing and is useful, where only a small quantity of floor space is available. Now-a-days in large cities hardly a poultry keeper can spare open lands to rearing birds. For all such people this system is very useful for keeping birds with minimum space. In the battery system each bird is confined to a cage which permits limited movement to stand and sit comfortably. The usual floor space is 14*16 inches and height is 17 inches.



Fig 2.1.2 Cage System of Poultry Farming

b) **Deep Litter System** : In this system, the birds are kept in large pens upto 250 birds each on floor covered with litters such as straw, saw dust or leaves up to depth of 8-12 inches. Deep litter resembles dry compost. In other words we can define deep litter with poultry manure until it reaches a depth of 8-12 inches.

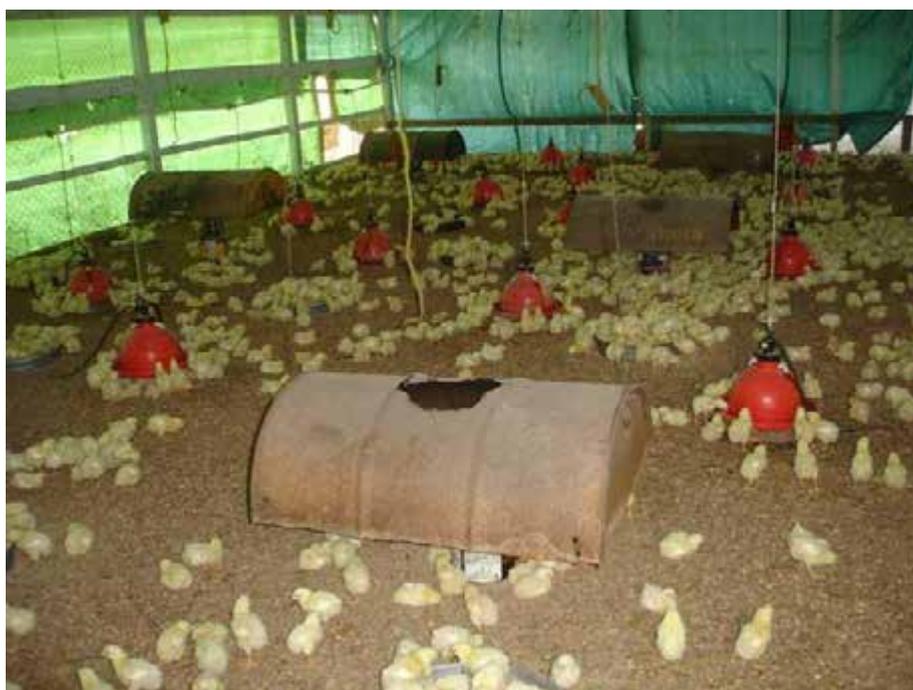


Fig 2.1.2 Deep Litter system of Poultry Farming

While adopting deep litter system, following are some basic rules that should be kept in mind in this system.

- Floor Space of 3.5-4 sq.ft should be provided to each bird.
Provide sufficient ventilation to enable the litter to keep in correct condition.
- Keep the litter dry. This is probably the master work in a deep litter system. If the litter gets soaked by leaking from the roofs or from water vessels, it upsets the whole process and would have to start over again. All probable precautions should be taken to maintain the litters completely dry.
- Turn the litter regularly. Turning the litter at least once a week is very important in maintaining a correct build-up deep filter.

Deep Litter System: For deep litter we can use many materials as a medium for starting the build up in a pen. It can work quite well with a wide range of organic materials. The cost and ease of obtaining the material will be main guide. Suitable dry organic materials like straw (needs to be cut into 2-3 inch length), saw dust, leaves, dry grasses, groundnut shells, broken maize stalks and cobs, bark and trees in sufficient quantities to give a depth of about 6 inches in the pen should be used. When the litter has built up, it would be very difficult for anyone to say what material was initially used. Nothing else has to be added. The droppings of the birds gradually combine with the material used to build up the litter. When a pen is not overcrowded, these can be regularly absorbed and correct condition maintained. If stirring and even distribution is kept up. In about 2 months, it has usually become deep litter, and by 6 months, it has become built up deep litter. At about 12 months of old stage, it is fully built up. Extra litter material can be added to maintain sufficient depth. The litter pen should be started when the weather is dry and is likely to remain so for about two months for the operation of bacterial action. Start new litter will be started each year with pullets and continue with it for their laying period. Laying birds can be kept in houses with 2 or 3 floors one above the other. Sometimes the litters may get damp in spite of all precautions, at that time about 0.5kg of super-prosperous may be thoroughly mixed up with litters spreading the 15 square feet of floor space. When this is not available hydrated time can be used at the same level.

Advantages of deep litter system:

The deep litter system has the following advantages

- Birds and eggs are safe as deep litter intensive pens have storage wire netting or expanded metal.
- Litter as source of food supply. It may be surprising to know that built up deep litter also supplies some of the food requirements of the birds. They obtain "animal protein actor" from deep litter and some work indicates that it could mean that birds obtain sufficient of this to enable a suitable feed ration to be prepared only with a vegetable protein such as groundnut meal included in the feed.
- Well managed deep litter kept in dry condition has a sterilizing action. The level of coccidiosis and worm infestation is much lower with poultry kept on good deep litter than with birds or chickens in bare yards and bare floor sheds particularly where water spillage is allowed.

- In well Managed litter, there is no need to clean a pen out of whole year. The only attention is the regulate stirring and adding of some material as needed.
- On an average 35 birds can produce in one year about one to deep litter fertilizer. The level of nitrogen in fresh manure is about 1% but on well built deep litter it may be around 3% nitrogen. it also contains about 2% phosphorous and 2% Potash. it value is about the three times that of cattle.
- The Litter maintains its own constant temperature, so birds burrow into it when the air temperature is high and thereby cool themselves. Conversely, they can warm themselves in the same way when the weather is very cool. Accordingly it is valuable insulating agent.

Provision of proper housing is essential for getting maximum benefits from poultry keeping. It is not necessary that housing for poultry birds should be expensive. What is more important that there should be proper protection of birds from different harmful agencies. It should also have proper arrangements for necessary equipments and operations. Also, housing should be such each bird should feel comfortable and gives maximum production.

Exercise



1. Mention the types of Poultry housing. Explain

Answer: -----

Notes



A large rectangular area enclosed by an orange border, containing 25 horizontal lines for writing notes.

UNIT 2.2 : Ensure Safety and Hygiene of the birds

Unit Objectives

- To ensure the safety and hygiene of poultry birds

2.2.1 Safety and Hygiene

An essential and vital part of any package of bio security is the set of disinfection programs. The effectiveness of latter lies on the efficiency of disinfection procedures should be alternating between terminal and continuous disinfection in a flock cycle. A good disinfectant should have broad spectrum activity, rapid acting with long residual activity, non -corrosive, effective in presence of organic matter, effective over wide pH range and temperature, non-toxic and non-polluting to environment.

The terminal disinfection after culling of birds is an indispensable part and should be followed mandatorily. It aids in cutting down infective agents for the next cycle of Poultry.

The steps involved in terminal disinfection are,

1. Removal of equipment and used litter material from house.



Fig 2.2.1 Removal of used litter material from house

2. The floor, roof and walls should be scraped off dust, cleaned with water and allowed to dry.
3. A detergent should be used for soaking the floor and cleaned thereafter with jet of water.
4. All the equipments feeders, waterers, brooders etc., should be soaked in good disinfectant, scrubbed and cleaned.
5. Flaming of shed should be practiced wherever possible; else blow lamp can be used for side walls and wire mesh.
6. The jute bags and curtains should be cleaned and disinfected appropriately.
7. The disinfectant should be allowed to stay in the water lines for 6-8 hours and thereafter flushed with water sanitizer and normal water 2-3 times. This procedure would remove any bio-films that are being formed in the pipelines, and plays an effective role in increasing the efficiency of routine water sanitation.
8. The entire house should be whitewashed inside and outside.
9. The equipments and fresh litter must be placed inside the house with curtains and the entire shed has to be sprayed with disinfectant, covering all surfaces, cracks and crevices.
10. The shed has to be made air-tight and fumigated at 2x concentration (Bleaching Powder/ KMnO_4 200g; formalin 400ml/1000ft³).
11. The premises should also be adequately disinfected (at least 10ft. around the farm).
12. Daily recking should be done to avoid cake formation and ammonia formation.
13. Remove dirt and dust everyday by cleaning the poultry shed to the best possible extent.
14. Scrape the feeders time to time to avoid fungal contamination.
15. Clean the bulbs and tube lights and remove cobwebs in the shed periodically.
16. Avoid water logging around the shed in rainy season.
17. Spray suitable disinfectant periodically as per recommendation in presence of birds

After the above steps, the shed should remain closed and a downtime of at least 10-14 days should be allowed before placement of next batch of chicks.

Continuous disinfection comprises of providing foot and wheel dips with good disinfectant., facilitating disinfection of personal entering the sheds and vehicles respectively. The channel waterers and premises should be regularly disinfected. Continuous disinfection should be made a mandatory in the routine farm chores and should not be ignored. Surface disinfection should be carried out on daily basis. In case of disease outbreak, spraying of a good disinfectant daily or on alternate days, till the infection subsides, enables in reducing the mortality and morbidity to a great extent.

Manure management

Whatever the type of confinement, proper attention must be paid to manure management. Adult birds produce 500 g of fresh manure (70 percent moisture content) per year per kg of body weight. To preserve its fertilizer value, manure should be dried to about 10 to 12 percent moisture content before storage. This will retain the maximum nitrogen content for fertilizer value. Nitrogen in the form of urea is the most volatile component of manure, and is lost as ammonia if moisture content is too high in the stored material. If the moisture content is too high, then the stored manure releases ammonia, carbon dioxide, hydrogen sulphide and methane, which can have serious physiological effects on humans. Some of these components are also greenhouse gases, which contribute to the global increase in ambient temperature. Poultry manure is very useful as an organic fertilizer, as animal and fish feed and as a raw material for methane gas generation in biogas plants for cooking fuel.

Other hygiene management measures

Good ventilation discourages the spread of diseases and pests. In overnight houses, the provision of perches or loosely plaited bamboo mats (such as those used for sieving) placed on the floor can help to keep them dry.

If the birds are housed inside, the floor should be swept daily. An outside chicken house should be cleaned every week to break the breeding cycle of the common housefly. It takes about seven days to complete the breeding cycle from fly egg to hatching of the adult housefly. Wood ash and sand spread on the floor will discourage lice infestation. Mothballs (naphthalene) crushed with ash can also be applied to the feathers or the wings of the birds, or placed where the chickens usually take their dust baths. If the chickens are already infested with mites, the house can be fumigated (while the chickens are outside) with a rag drenched in kerosene. Lice live on the birds, and dust baths with naphthalene powder in the ash will be more effective than dust alone.

The practice of keeping chickens and ducks together should be discouraged. This results in wet floors, giving rise to diseases such as Fowl Cholera. Ducks are also much more tolerant than chickens to Newcastle Disease, and are thus often carriers of this viral disease. Adults and young stock of any poultry should be housed separately to minimize cross-infections and injuries from bullying.



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3. Handling of Poultry Birds

Unit 3.1 – Handling of Poultry Birds

Unit 3.2 – Monitoring of Birds



AGR/N4328

Key Learning Outcomes



- Understand the behaviour of Poultry birds
- Identify and use the tools/equipments required
- Follow the procedures to place the birds into the accommodation
- Handling of Birds
- Regular monitoring of Poultry birds
- Regular cleaning of the shed, floor and water containers and nests according to the bird accommodation and specification

UNIT 3.1: Handling of Poultry Birds

Unit Objectives

- To understand the behavior of Poultry Birds
- To monitor the Poultry House

3.1.1 Handling of Poultry Birds

Handling of birds in shed is the important practice. Improper management may lead to stress in Birds and it causes the poor productivity in the farming.

What is stress? Stress may be defined as anything which adversely affected the physiology of living being. It is considered as greatest challenge to the well being and performance of poultry. Stress problems to be an unidentified killer which weakness the immunity and poultry becomes susceptible to various diseases which ultimately results in reduced production and even death.

How the stress Occurs:

Stress occurs due to the factors called stressors which adversely affect the physiology of poultry. There is involuntary change on lymphoid organ which causes depletion of body protein and it demands for adequate nutrients which reduces the appetite and feed intake is reduced. Poultry becomes prone to diseases and production is adversely affected.

- Environmental Stress: These may be natural, like flood, draught, cyclone, earth equate etc.
- Physiological Stress: Egg productions and faster growth rate are the physiological stress.
- Management Stress: There are various management factors which causes stress to the birds. Some of them are high temperature, high humidity, poor ventilation, overcrowding and poor sanitation etc.
- Nutrition due to ill health: Imbalanced of nutrients and deficiency of one or more nutrients are the main causes of nutritional tress.
- Stress due to ill health: Bad health is the main stress for poultry. The main causes are various infections, parasites and toxins. Summer seasons are the most critical period for poultry in our country. In this season due to heat stress there is decreased feed intake, egg production with increased number of cracked and poor egg shell quality eggs, reduced immunity to disease, fertility, hatchability in several stress. There is mortality which cause great economic lass to poultry farmers. Therefore it is better to adopt management practices timely.

Proper Handling of Birds in the shed contains following points:

1. Wear suitable personal protective equipment when handling poultry birds in their accommodation/sheds
2. Check that the equipment, materials and accommodation are suitable for reception of the birds, prior to their arrival
3. Establish suitable environmental conditions for the poultry birds
4. Handle and move the birds correctly and safely
5. Introduce birds into the accommodation in a way that minimizes stress and Maintains their health and hygiene
6. Follow standard operating procedures while carrying out work

Notes



A large rectangular area enclosed by an orange border, containing 25 horizontal lines for writing notes.

UNIT 3.2: Monitoring of Birds

Unit Objectives



- To understand the health and hygiene in the farm

3.2.1 Monitoring of Birds

There are some tasks that will need to be handled on a daily basis to ensure their health, but there are also some tasks that should be performed on a monthly basis as well as yearly for their well-being. The Basic functions include following points:

1. Monitor the birds carefully, to ensure their on-going health and hygiene is maintained
2. Adjust and replenish materials as required by the birds
3. Arrange for regular cleaning of the shed, floor and water containers and nests according to the bird accommodation and specification
4. Arrange for regular disposal of bird waste and other wastes as per prescribed procedures



Fig 3.2.1 Monitoring of Birds

(Source: backyardchickencoops.com.au)

One of the most important daily tasks in chicken care will be to ensure they have access to feed and fresh water. In addition to ensuring they have access to water throughout the day, make sure their water is clean. Chickens can be somewhat choosy and will not drink water that is dirty. When chickens are not drinking enough water they can easily become dehydrated and this can lead to illness or death.

Do check flock daily to ensure they are all active and appear to be healthy. Chickens can become ill quickly and it is always best to stay on top of such matters. If you notice that chickens do not appear to be bright and healthy, it is important to consult your veterinarian as soon as possible.

There is no need to scrub the eggs; in fact, this can actually remove a delicate membrane that is meant to protect the egg from bacteria. You can gently rub them under warm water to clean them. When refrigerated, eggs can be easily kept fresh for two to three weeks.

Keep in mind that eggs should be collected from the chicken nesting boxes on a daily basis in order to prevent hens from sitting on them. Collecting the eggs regularly will also help to prevent them from enticing predators.

There are some tasks that you will need to tend to each month. Generally speaking, the bedding in the nesting boxes and chicken coop/house will need to be changed monthly for sanitary reasons. If the bedding is not changed fairly frequently it can cause ammonia to build up and this can be dangerous to your chickens, resulting in respiratory illness.

During the cooler months, you will need to take care to ensure the chickens are provided with protection from cold drafts. Chickens do surprisingly do well in the cold; however, they absolutely cannot tolerate drafts. Drafts can quickly result in the death of even the hardiest of chickens. This is why it is imperative that you protect their living space from possible drafts. One way to do this is to enclose their chicken coop or yard with plastic sheeting.

Just as drafts in the cooler months can be a health risk to your chickens, so can excessive heat during the warmer months. You will need to ensure your chickens have access to water that is fresh and clean at all times. This cannot be stressed strongly enough. You will also need to provide your chickens with shade and ventilation. Keep in mind that it is fairly common for egg production to drop during times of extreme heat. This is certainly an indication that hens are experiencing some stress, but generally egg production will increase once the heat wave has receded.

Exercise



1. What are the steps involved in the disinfection of Poultry House?

Answer:

A series of horizontal dashed lines provided for writing the answer to the question.

Notes



A large rectangular area enclosed by an orange border, containing 25 horizontal lines for writing notes.



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4. Provide feed and water for Birds

Unit 4.1 – Resources of feed

Unit 4.2 – Prepare feed and water supplies for birds



AGR/N4329

Key Learning Outcomes

- Feed Compositions required for the poultry birds
- Preparation of feed with appropriate mixture of feed and supplements
- Calculate the quantity of feed to be delivered to birds
- Regular inspection and monitoring of Poultry birds
- Proper Maintenance of feed and water equipment
- Disposal of waste from feeding and watering system
- Understand the Feed Conversion Ratio of Poultry birds

UNIT 4.1: Resources of Feed

Unit Objectives

- To understand the feed composition and resources

4.1.1 Resources of Feed

A regular supply of low-cost feed, over and above maintenance requirements, is essential for improved productivity in the three farming systems used in poultry production:

- free-range - poultry roost in trees at night;
- backyard - poultry are confined at night; and
- semi-intensive - poultry are enclosed during the day in a very limited scavenger resource base.

When feed resources are inadequate, a few birds in production are better than more birds just maintained, but without enough food for production.

Extensive Systems

Farmers attempt to balance stock numbers according to the scavenging feed resources available in the environment in each season. Under the free-range and backyard systems, feed supplies during the dry season are usually inadequate for any production above flock-maintenance level. When vegetation is dry and fibrous, the scavenging resources should be supplemented with sources of minerals, vitamins, protein and energy. Under most traditional village systems, a grain supplement of about 35 g per hen per day is given.

There have been various approaches to utilising a wider base of feed resources for the flock. One is the use of poultry species apart from chicken. Waterfowl, especially ducks, may be distributed throughout the wetland rural areas, where they can feed on such resources as snails and aquatic plants in ponds and lagoons. Another approach is the integration of poultry with the production of rice, vegetables, fish and other livestock.

Semi-Intensive System

Under the semi-intensive system, all the nutrients required by the birds must be provided in the feed, usually in the form of a balanced feed purchased from a feed mill. As these are often expensive and

difficult to obtain, smallholders use either unconventional feedstuffs or “dilute” the commercial feed by supplementing it with grain by-products (which supply energy and some protein). A well-balanced feed however is difficult to achieve, as grains and plant protein sources (the by-products of a few oil seeds) are becoming increasingly unavailable for livestock, and premixed trace minerals and vitamins are usually too expensive for smallholders. Phosphorus and calcium can be obtained from ashed (burnt and crushed) bones; and calcium from snail shells, fresh or seawater shellfish shells, or limestone deposits. Salt to supply sodium can come from evaporated seawater or land-based rock salt deposits. These mineral sources are rarely used. Feed provided for birds kept under this system is therefore of a much poorer quality (unbalanced by dilution with crop by-products) than under either the extensive or fully intensive system.

AVAILABLE FEED RESOURCES

The size and productivity of the village flock ultimately depend on the human population and its household waste and crop residues, and on the availability of other scavengable feed resources. There is a clear relationship between egg production and nutrient intake. These feedstuffs were mostly by-products of home food processing and agro-industries, and were similar to those found in other tropical countries.

The Scavengable Feed Resources Base (SFRB) include:

- household cooking waste;



Fig 4.1.1 Household Cooking waste

- cereal and cereal by-products;



Fig 4.1.1 Cereal Waste and by products

- roots and tubers; oilseeds:



Fig 4.1.1 Oilseeds as Poultry Feed

- trees, shrubs (including *Leucaena*, *Calliandra* and *Sasbenia*) and fruits;
- animal proteins;
- aquatic plants (*Lemna*, *Azolla* and *Ipomoea aquatica*); and,



Fig 4.1.1 Azolla

- commercially prepared feed.

Feed Ingredients:

Cereals and cereal by-products

Examples of grains for supplementing scavenging poultry include millet, sorghum, maize, and rice in the form of whole and broken grains.

Amounts supplied are inadequate when using the surveyed estimate of 35 g supplement grain/bird/day. This and the tannin content of sorghum have led to a search for alternative grains and the evaluation of agro-industrial by-products.

Dehulled rice grain

This can be used with vegetable and animal protein supplements for all types of poultry. Rough or paddy rice, off-coloured rice and broken rice have been used up to 20 to 30 percent in poultry rations. Rice bran has a moderate quality protein of 10 to 14 percent, approximately 10.4 MJ of ME/kg (2500 kcal of ME/kg), and about 11 percent Crude Fibre (CF). It is rich in phosphorus and B vitamins. Because of its high oil content (14 to 18 percent) it easily goes rancid. For this reason it should make up no more than 25 percent of the ration. This also applies to rice polishings. Rice bran usually includes rice polishings, but is often adulterated with rice hulls/husks, which are very high in fibre and silicon, and have a low nutritive value. Nevertheless, rice bran is still an important feed resource.

Maize starch residue (MSR)

This is a by-product of the extraction of starch from fermented, wet-milled maize, which is used as a breakfast cereal in West Africa. It usually has more than 16 percent Crude Protein, although the amount varies according to the maize variety and processing method.

By-products from local breweries and other local industries

Brewer's grain and yeast have become common ingredients for poultry rations, but the process of drying the wet by-product can be very expensive.

Legumes and legume by-products

Non-traditional legumes, such as boiled jack bean (*Canavalia ensiformis*) and sword bean (*Canavalia gladiata*), have been shown to be acceptable to laying hens, although they should not form more than ten percent of the ration because the sword bean is of low nutritive value. Winged bean (*Phosphocarpus tetragonolobus*) contains approximately 40 percent Crude Protein and 14 percent oil, and its overall nutritive value is very similar to that of soybean and groundnut cake for broiler meat chicken (Smith *et al.*, 1984). Winged bean leaf foliage is also acceptable to laying hens. Unless the plant is grown with stake supports, the yield is very low, which makes its cultivation on a large scale less economical. However it is suitable as a feed and fodder crop for smallholder poultry.

Soybean (Glycine max)

This crop is being grown increasingly for human consumption. If the cotyledons (fleshy beans) are used for human food, the testa (bean-seed coat) is given to poultry. Raw soybeans heat-treated by boiling for 30 minutes and then fed to scavenging birds in amounts of up to 35 percent of the ration resulted in satisfactory performance in broilers and laying hens. In pullets and layers fed raw soybeans with no heat treatment as 12 percent of the ration, there was a significant reduction in body weight at 20 weeks, as well as a delay of four days in the onset of sexual maturity (as measured by age at the 50 percent egg

production). The heat treatment destroys a trypsin (a digestive enzyme present in the intestine of poultry) inhibitor, which, if left intact, prevents digestion of raw soybean.

Cowpea (Vigna unguiculata)

This legume crop is grown solely for human consumption in Africa. Its by-products, especially the testa (seed coat), are used as a feed for small ruminants and have also been fed to poultry. The testa represents about six percent of the weight of the whole cowpea, but is usually discarded (in West Africa) when the cotyledons are made into a puree for a locally popular fried cake. With its crude protein content of 17 percent, its apparent metabolizable energy (AME) value of 4.2 MJ of AME/kg (1005 kcal AME/kg) and its mineral profile (44 g ash/kg; 9.0 mg Ca/g; 0.9 mg P/g), cowpea testa should be a good feed resource, but the presence of tannin (53 mg/g) and trypsin inhibitor (12.4 units/mg) limits its utilization. Cowpea testa should not make up more than ten percent of the total feed of a poultry ration.

Roots and tubers

Cassava (Manihot esculenta)

This is grown in large quantities in Africa, Asia and Latin America, both for human consumption and as a livestock feed. Cassava and its by-products (in the form of leaves, small tubers, pulp, peels, chaff, *gari* [fermented grated tubers], *gari* sievings, whole fermented roots and ensiled cassava meal) are used. The dried chips are high in energy and fibre but low in protein. In regions where cassava is used for human food, the peels are the most useful part of the cassava plant for feeding livestock. Amounts of 20 to 45 percent cassava peel meal (CPM) have been fed to chickens, but its use is limited because of the high content of the poison hydrogen cyanide (HCN), as well as high Crude Fibre, low protein content and dust. There is a considerable range of HCN levels in cassava, according to variety. When cassava completely replaces grains in a ration, there is a consequent reduction in egg weight and a change in egg yolk colour. Whether or not there are negative effects on egg fertility and hatchability is not known. Cassava meal gives good growth in meat chickens, although protein and other nutrients must be carefully balanced. Molasses or sugar may be added to sweeten the bitterness of the cyanide and thus improve palatability. Oilseeds such as full fat soybean can compensate for the high fibre and low protein content and for the dustiness. To remove the cyanide, detoxification methods include ensiling, sun-drying, air-drying, roasting, boiling and soaking. For smallholders, the most practical method is sun-drying. Palm oil can also moderate the effects of cyanide on poultry. Some "sweet" varieties of cassava (which do not contain cyanide) are used in human food preparation, and these are often fed to poultry, particularly ducks.

Sweet potato (Ipomoea batatas)

Dried sweet potato forming up to 35 percent of the ration has been fed successfully to broilers and layers. The tubers are boiled before use, which overcomes any problems with dust or fungal growth from storage.

Oilseeds

Oilseeds in full-oil or partly oil-extracted form are a source of both energy and protein for extensive and intensive poultry systems.

Cotton (Gossypium spp.)

Glanded cotton seed cake (CSC) is a high-demand supplement fed to ruminants, but if available it can be fed in amounts up to 25 percent in the diets of layers and broilers without adversely affecting egg production and growth. Poultry are tolerant of the gossypol found in CSC, but it can cause an olive discolouration of egg yolks, which consumers do not like. Addition of 0.25 percent ferrous sulphate should be added routinely to laying hen rations containing up to ten percent CSC.

Sesame (Sesamum indicum)

The feed consumption and conversion rates for birds fed various forms of raw unhulled sesame seeds were better than those for birds fed dehulled but whole sesame seeds, confirming the practice of smallholders who use whole sesame seeds as a supplement for scavenging poultry. Sesame seeds should be used in amounts between 20 and 35 percent of the ration.

Groundnuts (Arachis hypogaea)

Groundnuts may be used in the oil-extracted cake form to make up 8 to 24 percent of the ration. Mouldy groundnuts may contain toxic substances, the most dangerous of which is aflatoxin.

Coconut (Cocos nucifera)

Coconut meal can be used to form 50 percent of the ration, especially when combined with a high-energy source such as cassava meal. It is low in lysine, isoleucine, leucine and methionine.

Sunflower (Helianthus Annuus)

Sunflower seeds can be fed whole, or the decorticated meal can be used to replace groundnut cake and soybean meal and up to two-thirds of fishmeal. It has the highest sulphur amino acid content of all the major oilseeds.

Oil Palm (Elaeis guineensis)

Most oil palms are processed locally. The by-products are kernels and an aqueous solution of oil, fibre and solids. This solution can be filtered to remove the fibre (which is used as fuel). This leaves an aqueous mixture called palm oil sludge (POS), which supplies feed energy and fatty acids. Sludge processed using chemical solvents should not be used, as the chemical residue may be toxic to the birds. It can be fermented and used in smallholder poultry systems or dried to form up to 40 percent of commercial compound feeds. Palm kernels are processed locally into palm kernel oil by heat or cold-water extraction. The residue from heat extraction is similar to ash and of no use in poultry feed, but the residue from water extraction is very nutritious and palatable to birds, and can be used in the same way

as groundnut cake. The meal can provide up to 30 percent of the ration. However, the product is low in the sulphur amino acids.

Soybean - see under Legumes and legume by-products

Other oilseeds

Other oilseeds that have been fed to poultry under research conditions include rubber, amaranth, Niger seed (*Nueg*), breadfruit (*Artocarpus altilis*), locust bean (*Ceratonia siliqua*), African oil bean, melon, mango and castor oil. Okra seed (*Hibiscus esculentus*) has not yet been evaluated as a protein source for poultry, and although it is lower in protein, it compares favourably with soybean in all other nutrient components. Since okra is widely grown by smallholders and the seeds are kept for planting, it may be a potential source of protein for smallholder poultry.

Bambara groundnut (Voandzeia subterranea)

This is a good source of protein with a high lysine content. As the nut is not widely eaten, the plant is grown mainly as a mulch crop and the foliage is scavenged by poultry.

Trees, shrubs and fruits

Neem leaves

A pilot study was undertaken to test the response of three groups of layers to neem leaves. One group was fed a ration containing ten per cent fresh neem leaves, the second a ration of ten per cent dried neem leaves, and the third none. The group receiving the fresh neem leaves had increased feed intake, daily egg production and egg weight compared with the other two. There appears to be a fat component of fresh neem leaves (*Azadirachta indica*) that enhances egg production and egg weight .

Coffee pulp

This is high in fibre, but as the essential amino acid content is similar to that of soybean, it can only be used in limited amounts.

Citrus pulp

No more than two percent citrus pulp should be included in the ration to avoid reduction in growth rate and off-colour egg yolks.

Over-ripe bananas and plantains

These are of greater palatability for poultry than green bananas, which contain free or active tannins.

Derinded sugarcane pith and molasses

Sugarcane juice can make up to 25 percent of the poultry ration and molasses up to 30 percent, but it should be noted that over ten percent molasses results in watery faeces. Raw sugar however can be fed

at up to 50 percent of the ration without watery faeces. Combining one part molasses with three parts sugar gives good production without the digestive problems. Molasses is often added to rations at low levels of inclusion to make it more palatable, although there may be problems with evenly mixing the liquid, and with fungal toxins in the stored feed, encouraged by the sugar levels.

Optimum levels of inclusion in poultry rations of some ingredients

Feedstuff	Optimum level in the diet (%)
Banana meal	5-10
Citrus molasses	5-10
Citrus pulp	1-2
Cocoa bean residue	2-7
Cocoa husk	6-15
Cocoa shell	5-15
Coconut meal/cake	5-15
Coffee grounds	3-5
Coffee pulp	3-5
Kapok seed cake	5-10
Leucaena leaf meal	2-5
Oil-palm sludge, dried	10-30
Oil palm sludge, fermented	20-40
Palm kernel meal	10-40
Palm oil	2-8
Rubber seed meal	10-30
Sugar cane molasses	10-30
Raw sugar	40-50
Sugar cane juice	10-25

Table 4.1.1 Poultry rations of some ingredients

Animal protein

Blood meal

This is recognized as a high crude protein source with an imbalanced, relatively poor amino acid profile. Handling and processing of blood is difficult in low-technology situations. For processing small amounts, one method is to absorb the blood on a vegetable carrier such as citrus meal, brewers grain, palm kernel, ground maize, cob rice or wheat bran, after which the material is spread out for drying on trays heated from below or placed in the sun. At the farm level, the blood may be supplied from the slaughter of livestock. Abattoirs and slaughterhouses provide large volumes of blood for making up feeds at the commercial level.

Termites

The straw of sorghum, millet and maize are chopped, placed in clay pots or calabashes and moistened. The mouth of the container is placed over a hole in a termite colony under construction. The container is covered with a jute sack to prevent drying out and a heavy stone is placed on it to secure it in position. After three to four weeks, a new colony of termites should be established inside the container. The eggs and larvae are particularly relished by chicks, guinea keets and ducklings, while adult birds also feed on the adult insects. Cattle dung can be used in place of the cereal straw.

Maggots

Cowpea testa samples were placed in a basket near a pit latrine to attract flies to lay eggs on them. Every two days, a sample was steeped in boiling water to kill the maggots. They were then sun-dried and ground before analysis. Results showed that the Crude Protein content of the mixture doubled by the second day. The method was developed for feeding fish, but can easily be adapted for smallholder poultry. A tank with a capacity of one cubic metre is filled with water to about 15 cm from the top. Dried stalks of maize, amaranth, groundnut, soya and other legumes are soaked in the water to which some poultry droppings are added. Flies and other insects are attracted to the soaked material to lay their eggs. After five to seven days, eggs are hatched and larvae are sufficiently developed to be fed to fish. Beyond this period the maggots develop into adult flies. It was observed that up to 50 percent of the eggs laid by flies died if exposed to the sun for several hours. A cover, at least for the hottest hours of the day, is therefore necessary. Similar trials have been carried out in Burkina Faso.

Earthworms

In an area of 25 m², one kg of fresh earthworm biomass was produced daily. This is sufficient to supplement at least 50 chickens with high-quality protein. It must be noted, however, that earthworms (and snails as well) may be important vectors for tapeworms such as *Davainea* and *Raillietina* and also contain a growth inhibitor.

UNIT 4.2: Prepare Feed and water supplies for birds

Unit Objectives

- To understand the feed composition
- To understand the importance of water supply to birds

4.2.1 Prepare Feed and water supplies for birds

Poultry Nutrition in General

A. Poultry- Any of the domesticated and commercialized types of birds used for production of eggs and(or) meat for human food

e.g Chickens, turkeys, pigeons, peafowl, ducks, geese, upland game birds (quail, pheasant, partridges) and ratites (ostriches, emu)

B. Chickens, turkeys and laying hens have been commercially produced in the confinement system for more than 70 years:1)For each species, the NRC includes suggested requirements for 14 amino acids, 12 minerals, 13 vitamins, and one fatty acid.

2) Should be aware that those recommendations are based on limited and, sometimes, very old information (especially true with some vitamins & trace minerals).

3) Thus, many gaps in the information pool for optimum production exist.

2. Commercial Poultry Production/Industry

A. Has been an innovator and applicator of advancing technology and knowledge to keep meat and egg prices relatively constant for decades.

B. Feed cost is the largest single item in poultry production & accounts for 60 to 75% of the total production cost from hatching eggs to processing plant.

1) Much emphasis has been placed on least-cost feed formulation and getting the lowest feed cost per unit of salable product.

2) To do so, necessary to refine energy and nutrient requirements, disease control, genetic improvement, and housing & equipment.

3) All those efforts led to steady improvements in growth rate, feed conversion, and livability under intensive commercial conditions.

Poultry Feed Ingredients

Poultry farming business is very common and popular throughout the world. So poultry feed ingredients are also easily available.

- **Wheat:** Wheat is one of the best grains as poultry feed ingredients. For this reason, you should include a certain amount of wheat in the poultry feed ration. During the wheat harvesting season, you can feed the poultry birds as mash or as scratch feed. You can also use wheat as a poultry feed ingredient throughout the year.



Fig 4.2.1 Poultry feed

- **Barley:** Generally barley is not delicious like wheat and oats. But it contains more fiber and a great source of fat. You can feed barley to your poultry birds, when oats and wheat are not available (or in poor quality).



Fig 4.2.1 Poultry feed

- **Corn:** Corn can be a very effective grain for your poultry birds. You can feed whole, cracked or by grinding. You can feed the ripe corn to your hens. But feed the shelled corn with other grains as an scratch feed.
- **Millet:** Millet has good advantages as poultry feed. You can use millet in growing, laying and fattening ration. Millet is easily digestible and help to increase body temperature.
- **Rye:** Rye is not so palatable poultry feed elements such as wheat, oats and barley. So feed rye to your poultry birds in small amount as a scratch feed with two or more other grains. Huge amount of rye in poultry feed may cause digestive disorder in your birds.
- **Flax:** Flex is suitable for high amount of protein in poultry feed. You can use small amount of flax in the feed mixture.
- **By Products of Grain:** By products of grains have a great health value and suitable for feeding the poultry birds. Especially various types of by products of grains are available in the shop where poultry feed are prepared or sold. It's price is comparably higher than any other poultry feed ingredients.

- **Skim Milk And Butter Milk :** Skim and butter milk are very useful for all kinds of poultry birds. Especially for the growing, young chicks and laying hens. Skim and butter milk play a vital role to get high quality eggs for hatching and its also a reliable source of protein.
- **Balancers and Concentrates:** For preparing the poultry feed, concentrates and balancers are special supplement which are prepared by the commercial poultry feed companies. They are basically feed with home grown chopped grains.
- **Fish Oil :** Fish oil is a dependable source of vitamin A and D. Mainly it is used in chicken feed and laying hen's feed. fish Oil is very effective when green pasture and sunlight is not adequate.

poultry farming is a lucrative and popular business through out the world. But it can be a risky business suddenly, especially if you are not concerned about poultry feed management. Success in the poultry farming business mostly depends on feeding quality feed and feed formulation system. for proper growth, egg production and good health, poultry birds require energy. in order to obtain desired growth rate, you must have to purchase and provide highly nutritious poultry feed. Except adequate and quality feeding, you can 't run your business properly. To become a successful poultry farmer, he/she needs to produce & sell fresh and healthy birds and eggs. It impacts on the market and helps in customer retention. for producing quality eggs and meat you have to feed your birds quality feed. this will also help to get maximum returns from your poultry farming business. here we are describing more about poultry feed and different types of essential ingredients in the feed.

Essential Nutrients

For healthy life, proper growth, maximum production and suitable breeding, all types of poultry birds need some essential nutrients. Most of these essential nutrients come from the natural sources. Pasture, grains and seeds, bugs and insects, sunshine, gravel etc. meet up the demands of necessary nutrients.

Protein

The most expensive poultry feed element is protein. But it is a must to provide your poultry birds sufficient amount of protein contained feed. There are two types of protein source are available. Animal and vegetable protein. Animal protein is a great source of adding required protein in poultry feed. The animals protein means, that comes from animals sources such as meat, meat meal, milk, liver etc. This type of protein sources are very helpful for proper growth and better egg production, than vegetable protein. Although, adding excess amount of protein in poultry feed can create a negative effect on your poultry bird's health.



Fig 4.2.1 Poultry feed

Carbohydrate

Carbohydrate is essential for a starved flock. This poultry feed materials can be found in grains and grainy products. Carbohydrate provide energy to your poultry birds and keep them productive.

Fat

Proper ratio of fat in poultry feed is also very essential. Usually fat is available in almost all types of feed

elements. But an excess amount of fat that comes from fish products, fish oil or meat can cause digestive problems and lead to various poultry diseases.

Minerals

In the formulation of egg shells, Calcium carbonate (which is present in vitamin D) helps to form the egg shell. Calcium and phosphorus make the major part of a poultry bird's bone. But an excess amount of phosphorus in poultry feed leads to crooked bones and slipped tendons in chickens and poultry birds. Salt is also a reliable source of essential minerals. Green foods are a good source for highly important minerals.

Vitamin

Any vitamin deficiency in poultry feed rations can hinder the natural growth of young poultry birds. The term vitamin describes a variety of essential nutrients that differ from one another. The activities of different vitamins are different.

- **Vitamin A:** It protects birds from cold and infections. Vitamin A is available in green feed ingredients, yellow corn and fish oils.
- **Vitamin D:** Vitamin D helps to prevent leg weakness and rickets. It is found in synthetic products and is also available in sea fishes. Vitamin D is a must-added element in poultry feed.
- **Vitamin B Complex:** Vitamin B complex is available in milk, green feed, liver, synthetic riboflavin, etc. It helps to increase the growth of poultry and chickens. It also helps to prevent curled-toe paralysis in young chickens. While preparing poultry feed, you must be careful about the addition of Vit B, C in preparation of feed; it needs a lot of care and attention.

The overall goal of the layer industry is to achieve the best performance, feed utilization and health of birds. All nutrients including proteins, fats, carbohydrates, vitamins, minerals and water are essential for these dimensions. They are required in adequate levels to enable the animal to efficiently utilize all other nutrients in the feed. Therefore, optimum nutrition occurs only when the bird is offered the correct mix of macro- and those micro-nutrients in the feed and is able to efficiently utilize those nutrients for its growth, health, reproduction and survival.

Vitamins are essential for optimum health as well as normal physiological functions such as growth, development, maintenance and reproduction. As most vitamins cannot be synthesized by poultry in sufficient amounts to meet physiological demands, they must be obtained from the diet. Vitamins are present in many feedstuffs in minute amounts and can be absorbed from the diet during the digestive process. If absent from the diet or improperly absorbed or utilized, vitamins are a cause of specific deficiency diseases or syndromes.

Classically, vitamins have been divided into two groups based on their solubility in lipids or in water. The fat-soluble group includes the vitamins A, D, E and K, while vitamins of the B Complex (B1, B2, B6 & B12, niacin, Panthothenic acid, folic acid and biotin) and vitamin C are classified as water-soluble. Fat Soluble vitamins are found in feedstuffs in association with lipids.

The optimum vitamin Supplementation Levels

Vitamins (added to air-dried feed)	Replacement Pullets	Laying Hens
Vitamin A (IU/Kg)	7,000 -10,000	8000 -12000
Vitamin D3 (IU/Kg)	1500 -2500	2500 -3500
Vitamin E (mg/Kg)	20-30	15-30
Vitamin K3(mg/kg)	1-3	2-3
Vitamin B1 (mg/kg)	1.0-2.5	1.0-2.05
Vitamin B2 (mg/kg)	4-7	4-7
Vitamin B6 (mg/kg)	2.5-5.0	3.0-5.0
Vitamin B12 ((mg/kg))	0.015 -0.025	0.015 -0.025
Naiacin (mg/kg)	25-40	20-50
Panthothenic Acid(mg/kg)	9-11	8-10
Folic Acid (mg/kg)	0.8-1.2	0.5-1.0

Biotin (mg/kg)	0.10-0.15	0.10-0.15
Vitamin C (mg/kg)	100-150	100-200
Hy*D® (25OH D3) (mg/kg)	0.069 ³	0.069 ³
Choline (mg/kg)	200-400	300-500

Table 4.2.1 The optimum vitamin Supplementation Levels

- 1) Do not exceed 3000 IU D3/kg feed when using Hy*D®
- 2) Under heat stress conditions : 200mg/kg
- 3) Local legal limits of total dietary vitamin D activity need to be observed.

Production, Annual Feed Consumption and FCR of Different Poultry Species

	Animal Production		Annual Feed Consumption Kgs		FCR **
	No	Kgs	A*	B*	
Duck (Campbell)	288	21.1	49.94	63.556	2.4-30
Quail (Coturix)	306	4.0	-	10.0	2.5
Chicken (Legjorn)	240	13.62	38.59	43.13	2.8-32
Duck (Pekin)	156	14.75	65.83	79.45	4.5-54
Goose	72	11.26	59.03	83.99	5.2-75
Guinea Fowl	78	3.13	20.43	29.51	6.5-87
Chicken (Broiler)	144	8.54	56.75	59.02	6.6-69
Turkey	90	8.08	81.72	90.80	10.1-112

A* =free to forage; b=raredin totl confinement ** Kgs of feed per Kg of egg produced.

Table 4.2.1 Production, Annual Feed Consumption and FCR of Different Poultry Species

Meat Production, Age, FCR of Different Poultry Species

	Optimum age at slaughter (Wks)	Avg. live at slaughter (Kgs)	FeedConsumption (Kgs)	FCR
Chicken (Broiler)	6.7	1.5-20	3.4	02
Duck (Pekin)	07	3.18	8.63	2.7
Turkey	16.20	7.72	26.0	3.2
Goose	12.20	4.54	15.90	3.5
Quail (Coturnix)	06	0.18	0.68	3.8
Guinea Fowl	12.18	1.04	5.0	4.8
Duck (Compbel)	10.14	1.82	10.0	5.5
Chicken (Leghorn)	18.22	1.50	9.08	6.1

Table 4.2.1 Meat Production, Age, FCR of Different Poultry Species

Water

It is an universal truth that ‘animal can’t live without water but can survive longer without food’. Poultry birds are not exception. They also can’t live without water. Lack of adequate supply of pure water can causes different types of problems. It hinders the growth of young poultry birds and also causes early moulting in the laying flock, and directly minimize egg production.

Water Quality has a big impact on chicken health and production. Water can typically be categorized as “Hard” or “Soft”.

Hard water can be softened by removing the calcium (Ca) and Magnesium (Mg) ions and replacing them with Sodium (Na) ions (Salt NaCl), by using a water softener.

Soft Water has many advantages for Poultry farmers in that there will be less leaking nipples, nipple life will be longer as there will be less abrasiveness on wear and tear of the nipple itself as well as less built – up Bio film on the inside of the nipple line.

Water Quality : Maximum acceptable levels for Poultry	
Total Dissolved Solids (TDS)	300-500 ppm
PH	<6-8 ideal 6-5
Hardness	<100ppm
Calcium	75.0mg/l
Copper	0.05mg/l
Iron	1.0ml/l
Magnesium	125ppm
Manganese	30.0mg/l
Nitrate	45ppm
Phosphorous	0.1ppm
Potassium	125ppm
Sodium	50ppm
Sulphate	250ppm
Lead	250ppm
Faecal coliforms	0

Table 4.2.1 Water Quality : Maximum acceptable levels for Poultry

Chicken has got two taste sensors – salt and bitter-one needs to make sure that they are not in your water. Taste your water and also have it checked out. Water temperature is an important issue for palatability too.

As the chicken consumes some 1.7 – 2 times more water the feed, everything must be 100% if FCR and profitability are to be maximized. All the equipment needs to be operating perfectly and at maximum efficiency.

Adding some brown sugar to the drinking water for day old chicks for the first 3 days. This will give a sweet taste to the water and stimulate water intake to help the chicks get a good start. If they do not drink much, their feed intake will also be reduced and so will your chances of reaching 180+grams live weight at 7 days.

Growing Chickens Feed

A diet enriched with protein is essential for raising young chicks and it should be a balanced diet. Two pounds of chicken starter dry mash is suitable enough for one chicken that is about six weeks of age. It is necessary to give more importance on diet of growing chicks to ensure the good health and rapid growth of chickens. For better result, you can mix starter at home. Usually 200 pounds of commercial starter mash is sufficient enough for each 100 chickens. While purchasing commercial starter mash, choose popular brand in the market. Avoid out dated and less tasty ground mixtures. Store the feed in a cool and dry place, and provide fresh food daily. After hatching, start feeding the chicks when they want to eat. Provide them dry mash by using a clean cardboard. After their two or three days of age, give them dry mash with self feeders (when all the chicks can eat). You must have to ensure constant supply of adequate fresh and clean water according to their demand. Separate all the hard insoluble grit from their food by keeping the food in pans or hoppers. Add some dry cracked wheat with dry mash, when the bird reaches the age of three or four weeks. Poultry feed mixture for different aged birds are shown below.

Poultry Feed (Starter No.1)	lbs.	lbs.
Coarsely Ground Wheat	30.0	25.0
Coarsely Ground Oat Grouts	18.0	10.0
Medium Ground Barley	15.0	10.0
Finely Ground oats	10.0	10.0
Wheat Bran	5.0	5.0
Meat meal (60% protein)	5.0	10.0
Fish meal (67% protein)	5.0	10.0
Milk powder	3.0	4.0
Alfalfa Leaf Meal	5.0	7.0
Linseed Oil Cake Meal	1.5	1.5
Fine Oyster Shell or Limestone	1.5	1.5
Fine Iodized Salt	0.5	0.5
Fish Oil (200 D)	0.5	1.0
Total:–	100.0	100.0

Table 4.2.1 Poultry feed

Poultry Feed (Starter No. 2)

Suitable if chicks will have good pasture at 2 or 3 weeks of age

Coursely Ground Wheat	40 lbs.	Milk to drink
Oat Chop (sift out coarse hulls)	25 lbs.	
Barley Chop (sift out coarse hulls)	25 lbs.	Alfalfa or Clover chaff or other green feed, until chicks are on pasture
Meat Meal (60% Protein)	10 lbs.	
Fine Iodized Salt	½ lb.	Fine Gravel and Oyster Shell in separate pans or hoppers
Fish Oil (200 D)	½ lb	

Growing Rations

When chicks reach at the age of five to six weeks, Gradually cheaper mixture and coarser e.g ½ starter mashes and ½ growing mash can be given.

Growing Mash (in self-feeders)

Ground wheat	100 lbs.
Ground Barley	100lbs. (Oyster shell and gra-
Ground Oats	75 lbs. vel, or limetone grit, in
Meat Meal	25 lbs. separate pans or
Fine Salt	3lbs. feeders)

Rations for Laying Hens

If you want to make maximum profit from layer poultry farming business, then you have to feed the birds well balanced and nutritious food from their chick stage. Usually laying hens need some form of protein supplement in addition to other feed ingredients. Minerals and vitamins also play a significant role for producing desired amount of eggs. You have to be very careful in winter season. Laying hens require balance diet with additional energy during this period. Because they use a large amount of energy for keeping their body warm. And they get this extra energy from additional energy enriched foods. Wheat , grains, clover hey etc. are helpful for laying hens. And always try to provide your birds sufficient amount of clean and fresh drinking water, along with providing them nutritious food.

Providing quality poultry feed play a vital role in overall production from your poultry farming business. So always try to feed your birds quality and nutritious feed according to their demand. And always ensure availability of sufficient amount of clean and fresh water.



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5. Maintain health of birds at poultry farm

Unit 5.1 – Monitor the health and well-being of birds

Unit 5.2 – Deliver basic recommended treatment to birds



AGR/N4330

Key Learning Outcomes

- Understand the different types of vaccines and time period
- Understand the diseases and management
- Record the weight of the birds at regular interval
- Monitor the physical condition of the birds at suitable intervals, and recognize, record and report any abnormal signs
- Manage waste safely and correctly in accordance with regulatory requirements
- use and store drugs, medication and equipment in accordance with veterinary operating instructions
- Record and maintain the complete medication /treatment report

UNIT 5.1: Monitor the health and well-being of birds

Unit Objectives

- To understand the medication of birds
- To understand the disease and management

5.1.1 Monitor the health and well-being of birds

COMMON DISEASES

The common diseases and disorders of free-range poultry may be either infectious or non-infectious, and are caused by a wide range of organisms or deficiencies.

Causal Agent	Example
Infectious	
Virus	Newcastle Disease, Avian Encephalomyelitis, Fowl Pox, Marek's Disease, Infectious Bronchitis Infectious Laryngotracheitis, Gumboro Disease (Infectious Bursal Disease), Duck Virus Hepatitis
Mycoplasma	Chronic Respiratory Disease
Bacteria	Fowl Cholera, Salmonellosis, Pullorum, Fowl Typhoid, Infectious Sinusitis, Colibacillosis
Parasites	Ectoparasites: lice, mites, ticks Endoparasites: nematodes, Histomoniasis, Haemoparasites, round worms, hair worms, Avian Malaria Protozoa: Coccidiosis, Blackhead

Fungus	Aspergillosis: <i>A. flavis</i> (toxins), <i>A. fumigatus</i> (airsaculitis)
Non-Infectious	
Deficiencies	rickets, curled toe paralysis, encephalomalacia
Toxicities	salt poisoning, food poisoning (Botulism <i>Clostridium botulinum</i> and <i>C. perfringens</i>), poisonous plants

Table 5.1.1 Causes and examples of poultry diseases

INFECTIOUS DISEASES

Viral diseases

Viral diseases are some of the most important infectious diseases affecting poultry. They are characterised by not being able to be treated, but most can be prevented with vaccines. The more important viral diseases are outlined below.

Newcastle Disease (ND)

This disease (called Ranikhet Disease in Asia) spreads rapidly via airborne droplets spread by the coughing or sneezing of infected birds. The virus can be carried by wild birds, through contaminated eggs, and on clothing. As mortality is often 100 percent in young chickens, ND is probably the most important constraint to family poultry development. Birds of any age can be affected, although young ones are more susceptible. Mortality in older chickens is usually lower, but egg production is usually severely reduced.

The incubation period of three to five days is followed by dullness, coughing, sneezing and gasping. Rapid breathing is accompanied by a gurgling noise in the throat. The respiratory signs usually develop first and are sometimes followed by nervous signs, characterized by twisting of the neck, sometimes combined with dragging of wings and legs. Depending on the environment and the degree of resistance of the birds, not all symptoms may be shown, or they may be in a mild or subclinical form. Some farmers

have observed that the twisting of the neck occurs only in birds that survive. Early loss of appetite results in a greenish diarrhoea. The most obvious diagnostic sign of ND is very sudden, very high mortality, often with few symptoms having had time to develop. Diagnosis of ND can be difficult from just the symptoms, as they are so varied, and as many other diseases share the same symptoms. For a discussion on the control of ND, see the “ND Control” section below. The high incidence of ND among family free-range flocks is due to the following factors:

- the prevalence of virulent strains (velogenic, viscerotropic and pneumotropic) in tropical countries;
- continuous contact with other domestic and wild species of birds (such as ducks and pigeons), which can carry the virus without showing the disease (Majiyagbe and Nawathe, 1981); and
- uncontrolled movement of birds between villages.

There is a seasonal pattern to outbreaks of ND (Sharma *et al.*, 1986), influenced by:

- the arrival of migratory birds;
- changes in climatic conditions leading to stress, which predisposes birds to the disease;
- hot, dry and windy periods, which encourage airborne spread of the virus; and
- Overuse of water points may lead to virus contamination (during the dry season) which then become heavily contaminated with the virus.

Fowl pox

Fowl pox is still prevalent in many poultry flocks, for the following reasons:

- The fowl pox virus can remain alive in the pox scabs (which have fallen off the birds) for up to ten years, which contaminate the environment.
- Mosquitoes and other blood-sucking insects can transmit the virus.

The disease tends to be seasonal, occurring after mosquito breeding times. It is endemic in Papua New Guinea, where it is significant economically because the only NDV in the country is the non-symptomatic form (Sugrim, 1987). It is also a major disease in many other tropical countries.

Marek's Disease

Infection occurs early in life, and once a bird is infected, it can shed the virus in skin flakes throughout its life, if it survives. Clinical signs occur in young growing birds in the Acute Marek's Disease (MD) form, characterised by high mortality from visceral tumours. MD is another major mortality factor which is indicated in birds with the characters of nerve paralysis in the legs and wings of birds aged from 15 weeks to early in the laying period.

Mycoplasma diseases

Mycoplasmas are not classified as bacteria or viruses, but as Pleuro-pneumonia-cocci-like organisms (PPLO). These are primarily associated with Chronic Respiratory Disease (CRD), a complex syndrome caused by *Mycoplasma gallisepticum* in partnership with bacteria (often *E. coli*), fungi and viruses (often Infectious Bronchitis). *M. gallisepticum* can be transmitted through the egg. Multi-age flocks, nutritional deficiency and water deprivation are important factors in the epidemiology of the disease in rural poultry flocks.

Bacterial diseases

Fowl Cholera (Avian Pasteurellosis)

This is a contagious septicaemia (caused by *Pasteurella multocida*) that affects all types of fowls. It is often transmitted by wild birds or other domestic birds, and spreads by contamination of the feed or water and by oral or nasal discharges from infected birds. The incubation period is four to nine days, but acute outbreaks can occur within two days of infection. In some cases, birds die within a few hours of showing the first signs, which vary depending on the form of the disease. The respiratory form is characterized by gasping, coughing and sneezing, while in the septicaemic form there is diarrhoea with wet grey, yellow, or green droppings. In the localized form, the signs are lameness and swelling of legs or wing joints. In acute cases, the head and comb change colour to dark red or purple. If the infection is localized in the region of the ears, a twisted neck (*torticolis*) can sometimes be observed. In chronic cases, the comb is usually pale, with swellings around the eyes and a discharge from the beak or nostril. Fowl Cholera is common everywhere among free-range village flocks, because they are comprised of different species and are in continuous contact with wild birds.

Pullorum (Bacillary White Diarrhoea)

This is an egg-transmitted disease (caused by *Salmonella pullorum*) that spreads during incubation or just after hatching. White diarrhoea can be seen from three days to several weeks of age. The chicks refuse to eat, keep their heads tucked in and their wings hanging down. They huddle together and make a peeping sound. Mortality in the acute form ranges from 20 to 80 percent, and in the chronic form is around five percent. In the chronic form, the signs are a marked swelling of the hock joints, poor feather development, lack of appetite and depression.)

Fowl Typhoid

Fowl typhoid is caused by *Salmonella gallinarum*, and commonly affects adult fowls. When it occurs in young birds, the signs are similar to those of *S. pullorum*. The incubation period is four to five days, and two days later the birds become depressed and anorexic. The colour of the comb and wattles becomes dark red; the droppings become yellow and the birds close their eyes and keep their heads down. Usually the affected chickens die within three to six days. Pullorum and fowl typhoid complex are both prevalent under free-range conditions.

Avian Salmonellosis (Paratyphoid)

Salmonellosis is usually used to describe infection with any organism of the Salmonella group other than *S. pullorum* or *S. gallinarium*. In countries with intensive poultry systems, poultry meat and eggs are a major source of infection for humans. The opposite may be true of family poultry, with humans infecting poultry. Ojeniyi (1984) reported that *S. hirschfeldii* was isolated from cloacal swab samples in fowls and from an adult human male in the same village.

Parasitic diseases

External Parasites scavenge poultry and includes the following:

These are very common in scavenging poultry, and include:

- **Lice:** these live on the skin of the birds, especially around the cloacae and under the wings. The irritation they cause can lead to reduced production. Lice species commonly found on poultry are *Menacanthus stramineus*, *Lipeurus caponis*, *Monopon gallinae*, *Goniodes gigas* and *Chelopistes meleagridae*.
- **Mites:** these are troublesome ectoparasites, which hide in the cracks of housing and perches, and come out only at night. They are bloodsuckers and lower egg production. Mites such as *Dermanyssus gallinae* can also transmit the bacteria *Borrelia*, which causes fever, depression, cyanosis and anaemia (spirochaetosis).
- **Ticks:** a heavy infestation can produce severe anaemia and, in extreme cases, death due to blood loss. *Argas persicus* is particularly dangerous, being the vector of several blood parasites such as the haemoprotozoa and microfilaria. In Malaysia, it was reported (Sani *et al.*, 1987) that out of 201 blood samples taken from village birds, more than 100 contained *Leucocytozoon sabrazesi*, 30 had microfilaria, and six carried *Plasmodium gallinaceum* (Avian malaria). Avian malaria infection is much higher among exotics and cross-breeds.

Internal parasites (endoparasites)

The more important internal parasites are:

- **Helminths (worms):** these are common in scavenging poultry, especially nematodes and cestodes. Ssenyonga (1982) showed that worms were a major cause of lowered egg production of scavenging poultry in Uganda, the most commonly found being *Ascaridia galli* (Round Worm), *Heterakis gallinae* (Caecal Worm), *Syngamus trachae* (Tracheal Worm) and *Raillientina* spp. (Tape Worm).
- **Protozoa:** the most pathogenic are the coccidiosis disease species of *Eimeria tenella* and *E. necatrix*. Coccidiosis is a common parasitic infection in scavenging poultry. It affects mostly young birds, and the most important signs are emaciation, thirst, listlessness, ruffled plumage, bloodstained faeces and birds huddling together. Surveys in Southeast Asia and East Africa showed that 73 and 47 percent of birds, respectively, had positive faecal samples of *Eimeria* spp. (Eissa, 1987). The presence of the coccidia organism in faecal samples indicates an infection, but

not necessarily at clinical disease levels. Like antibody presence in blood samples, it may indicate a degree of immunity. This should not be “treated”, as doing so eliminates the immunity.

Fungal diseases

Mycotoxicosis

The fungus *Aspergillus flavus* commonly grows on stored feed ingredients where moisture content is over eleven percent, especially cereal grains (such as maize [corn]) and oilcake meal (such as groundnut [peanut] meal). The aflatoxin called mycotoxin is the specific toxin produced by *A. flavus*. The toxin itself may remain after all sign of the fungus mould is gone. Ducks are more vulnerable to the toxin (with a lethal dose in the feed of one part per million [ppm] of aflatoxin) than chicken, which can tolerate up to four ppm. In acute forms of the disease, mortality can be as high as 50 percent. Common adverse effects include immunosuppression, reduced growth in young stock and reduced egg production in hens (Smith, 1990).

Aspergillosis

This disease is also called airsacculitis. The fungus *Aspergillus fumigatus* causes the disease by growing as a fungus in the lungs and interconnected air sacs. The fungus grows on damp litter or feed, and the bird breathes in the spores, which grow into easily visible lesions as green and yellow nodules, which can completely fill the lungs.

NON-INFECTIOUS DISEASES

Deficiencies

Poultry health is also affected by nutritional and environmental factors, such as insufficient feed or feed deficiencies. A high mortality rate among chicks during the first days or weeks after hatching may be caused by insufficient feed and water. A high mortality in adult birds may be due to nutritional problems, such as salt deficiency.

Energy and protein deficiencies and imbalances can arise when the feed contains insufficient quantities of these nutrients, resulting in poor growth in young stock and a drop in egg production and egg weight in laying hens. Mineral and vitamin deficiencies may result in poor growth, low production or death. Vitamin D deficiency causes rickets (bone deformities) in young chicks and, if combined with a calcium deficiency, in chickens of all ages. A lack of manganese results in deformities of the feet of older chickens.

Toxicities

An excess of certain nutrients, especially minerals, can cause abnormalities. An excess of common salt (NaCl), for example, results in deformed eggshells as well as increased water consumption, and if drinking water is restricted (as is often the case with free-ranging birds), signs of toxicity may develop.

Free access to feed of high carbohydrate and low fat, combined with lack of exercise, high temperatures and stress, can cause Fatty Liver Syndrome, which can result in high mortality.

Ingestion of toxic plant parts (such as leaves, seeds and sap) is a common hazard for free-range birds. Some toxins are produced by micro-organisms, such as those liberated by the bacteria *Clostridium botulinum* and *C. perfringens*, both found in the soil. *C. perfringens* causes necrotic enteritis, caused when the bacteria multiplies in the favourable conditions of the digestive tract and liberates a potent toxin that results in high mortality. Occasionally affected birds show anorexia, depression and diarrhoea, but most die without showing any clinical signs. *C. botulinum* causes botulism disease, which is acute food poisoning. This is more common in ducks, which show the nervous symptoms of neck bent down and feathers falling out easily when lightly pulled. Botulism results from the bird eating rotting vegetable scraps, which contain the toxins produced by the *C. botulinum*. Household vegetable scraps which are not regularly removed are a potential hazard for botulism.

Exercise



1. Mention the common diseases in Poultry. Explain with causal agents and example.

Answer: -----

Notes



A large rectangular area enclosed by an orange border, containing 25 horizontal lines for writing notes.

UNIT 5.2: Deliver basic recommended treatment to birds

Unit Objectives

- To understand the medication process for common problems
- To understand the Vaccination requirement for the birds

5.2.1 Deliver basic recommended treatment to birds

Ethno-Poultry Practices For Common Problems

Cough and cold :

1. Crush 3-4 garlic cloves or 10 grams of ginger rhizome or 5 chilies and mix with feed daily in the morning until the symptoms disappear. All doses are for 10 birds.
2. Chop ¼ onions per bird and feed it to chicken
3. Pound 10gm of fresh ginger rhizome, squeeze out the juice and mix the juice with 250ml of water and 10gm of brown sugar. This mixture is sufficient for 10 birds and is given as drinking water.

Diarrhoea:

1. Crush 7-10 garlic cloves and a fingernail sized piece of turmeric rhizome. Mix this amount in feed everyday (Sufficient for 10 birds).
2. Boil 250gm of brown sugar with 1litre of water. Add 250gm of powdered turmeric rhizome and boil until only half of the water remains. allow to cool and store in dry bottle. Add 3tsp of this mixture in drinking water each day(Sufficient for 10 birds).
3. Give water left after cooking rice instead of drinking water, this binds the stomach.
4. Give refined wheat flour as feed as long as diarrhea lasts.

New castle (Ranikhet) Disease

1. Vaccination is a must. The disease occurs primarily with weather changes.

The following preventive measures will help keep poultry flocks away from Ranikhet disease:

- Mix 1tsp of turmeric powder in 2liters of water and feed this to the birds.
- Grind and mix 6-7garlic leaves in feed (sufficient for 10 birds).

Fowl Pox:

1. Hanging a bouquet of Tulsi (*Ocimum Sanctum*) leaves/lemon grass keeps flies and mosquitoes away. Control mosquitoes by removing stagnant water or by pouring kerosene on stagnant water.
2. Pound black pepper and apply on blisters.
3. Grind black pepper seeds and force-feed the birds twice a day for 3 days. For adult birds use 5-10 seeds and 2-3 seeds for young birds.
4. Grind a handful of leaves of Indian Liquorice (*Abrus Precatorius*) with a handful of limestone and feed this to the birds.

Wound :

1. Grind a clove of garlic and an equal quantity of turmeric rhizome together with enough coconut oil to make a paste. Apply this paste twice a day until it heals.
2. Grind fresh turmeric rhizome and apply the juice to the wound twice a day.
3. Apply vegetable oil on the wound and apply wood ash.
4. Mix 1 tsp of fish oil and 1 tsp of charcoal powder. Apply on wound 1-2 times per day.

Fly repellents and antibiotics:

1. Crush a handful of fresh Neem (*Azadirachta Indica*) leaves, make a poultice and apply on the wound.
2. Grind fresh leaves of Nirgundi/Sephali (*Vitex Negundo*), make a poultice and apply on the wound.

Wounds with Maggots:

1. Drip milky sap from the banyan tree into the wound. After a while the maggots will crawl out. Dress with any poultice. Repeat for 2-3 days.
2. Crush unripe fruit and seeds of custard apple. Apply on wound once a day for 2-3 days. Dress with any antiseptic poultice.
3. Take a handful of fresh Neem (*Azadirachta Indica*) leaves and mix with enough coconut oil to make a paste. Apply on wound once a day until it heals.

Infected wound:

1. Pound a handful of Eucalyptus globules leaves and squeeze out the juice. Pour the juice on the infected wound. Repeat twice a day until it heals.

Burns:

1. Wash the bur with cold water and apply fresh latex/pulp of Aloe vera or honey.

Parasites and Ethno-Poultry Practices:

1. Papaya sap (Carica Papaya) – Un-ripened fruit or stem is pierced with a knife to get the sap. To get a good quantity of sap this is done in the early morning hours. 5 parts of sap is mixed with 1 part of liquid (10-15 ml) and is give for 5 days. The amount is sufficient for 10 birds. The active principal is papain enzyme resembling pepsin, effective mainly on Ascarids (Intestinal parasites) (Vallachers, 1998).
2. Betel nuts (Areca catechu) are pounded in pestle and mortar ad mixed with the poultry feed. A pinch of powder is directly put in the mouth of each bird once a day for a week.
3. 250 grams of fresh turmeric (Turmeric Rhizome) are pounded and the juice is squeezed out. This is then used as drinking water. Give thus medication once every month.
4. 6 cloves of garlic are ground ad mixed into feed. This quantity is recommended for 10 chickens for 1-2days. Repeat it once in a month.
5. Pomegranate fruit is boiled in water for 15-20 minutes and strained to get a clear solution. The measure comprises one portion of pomegranate fruit to two portions if water. This juice is administered as drinking water for 2-3days.
6. Seeds of many plants like Quisqualis (Quisqualis indica), Sinduri (Bixa Orellana), Duku (Lansium domesticum) – one cup of these seeds is boiled in water for 15 minutes, and strained to collect the juice. One-tablespoon juice is given bird using a dropper.
7. Dried seeds of Kaleejeera (Veronia Anthelmintica), common plants in waste place near villages all over India – used against ascarids and Oxyuris. Important ingredients are vernonine, resin and a fixed oil.
8. Dried fruits of vidanga (Embelia ribes and embelia robusta) used as taeniicide. It contains alkaloid christembine, embellic acid, resin and tannin. It is administered as a powder or infusion on an empty stomach. A Salie purgative is required after 4 hours.

Ecto-Parasites:

Ecto Parasites, like ticks and mites, affect the birds because of its scavenging habits and poor management practices. Ticks and mites are blood-sucking parasites, nocturnal in nature. They are very difficult to eradicate, as they do not stay on birds during the daytime. Lice spend all their lives on birds skin and lay eggs on their feathers.

1. Fumigation of poultry shed-Dry leaves of Ebony (*Diospyros ebenum*) or tobacco is burn under the poultry house so that smoke goes into the house. This practice will drive away lice and ticks. Birds are kept away from the smoke.
2. Similarly, powdered bark of lime (*Citrus Acida*) is also burned to eradicate lice and ticks. Likewise dry leaves of many plants like Mogra (*Jasminum Sambaci*), fragment Premna(*Premna Odorata*), and Nirgundi/Sephali(*Vitex negundo*) are used to fumigate poultry houses.
3. Bouquet of Nirgundi/Sephali(*Vitex Negundo*), Tulsi (*Ocimum sanctum*) or lemo grass (*Cymbopogon citrates*) is hung in the poultry house: the smell of the plant drives ecto parasites away.
4. Rubbing of fresh and dry tobacco leaves on the skin of the bird is helpful in killing lice. Rubbing of following mixtures is also helpful remove lice:
 - Two parts Neem (leaves/oil) and one part salt to one part ash.
 - One part salt and two parts mustard oil.
5. The oil of Mahua (*Madhuca longifolia*)/ Tora or Karanji plant is also applied on the birds skin to eradicate lice particularly in tribal areas.
6. Dipping in Neem water – Fresh leaves of neem are boiled for 15-20 minutes, the solution is kept overnight and the leaves taken out. The solution is used for dipping the birds, the separated leaves are ground properly to make the paste, which is then applied on the affected parts of the bird.
7. Bedding in brooding pen-one handful of lemon grass(*Cymbopogon citrates*) is put in the nest before the hen starts to lay eggs; it remains in the nest throughout the brooding period.

Vaccination: The vaccination schedule is a general guide. Each farm and area will require some changes in the schedule. Following table can be used as a general guideline.

For Broiler:

Name of disease	Name of Vaccination	Days/weeks of vaccination	Route of inoculation	Remarks
Marek's disease	Herpes virus turkey vaccination	1 day old	Sub cutaneous	Life long immunity
Ranikhet disease	RD vaccine (Lasota 'F' strain)	4-7 days old	Intra-nasal, Intra - ocular	Immunity is up to 10 weeks old
Fowl pox	Chick embryo adopted fowl	6-8 weeks of age	Wing web method	If the disease is prevalent in the area. Once vaccinated gives life long immunity.

Table 5.2.1 Vaccination for broiler

For Layer:

Name of Vaccine	Route	Age of birds
La Sota or F vaccine Ranikhet	Intranasal drop	3 to 7 days
Marek's vaccine (in Hatchery)	Intramuscular	1 day
Infectious Bronchitis (1st dose)	Eye drops	2- 3 weeks
La Sota Ranikhet	Drinking water	5- 6 weeks
Fowl Pox (1st dose)	Wing Web	7- 8 weeks
R2B Ranikhet	Sub cut or Intramuscular	9- 10 weeks
Infectious Bronchitis	Eyedrop or drinking water	16 weeks
Fowl Pox (2nd dose)	Skin Scarification	18 weeks
La Sota (if necessary) Ranikhet	Drinking Water	20 weeks
La Sota (if necessary) Ranikhet	Drinking Water	40 weeks
IBD:		
Mildly invasive vaccine	Drinking Water	0-3 day
Intermediately invasive vaccine	Drinking Water	15th day
Intermediately invasive vaccine	Drinking Water	28-30th day

Table 5.2.1 Vaccination for Layer

Exercise



1. What is Ethno-Poultry Practices? Explain.

Answer:

.....

.....

2. Write a note on Vaccination for Broiler and Layer Birds.

Answer:

.....

.....

.....

.....

Notes



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6. Harvest eggs and meat from the birds

Unit 6.1 – Carry out harvesting activities



AGR/N4331

Key Learning Outcomes

- Estimate the number of eggs to be harvested from the shed
- Collection of eggs
- Handling of Eggs
- Time of harvesting
- Identify and harvest the birds for meat purpose

UNIT 6.1: Carry out harvesting activities

Unit Objectives



- To Understand the harvesting process in Poultry farm
- To understand the requirement for the harvesting of meat and eggs

6.1.1 Harvesting activities

1. Assess the poultry sheds to roughly estimate the number of eggs laid by the birds and the birds which look fit for meat harvesting



Fig 6.1.1 Pre-harvest activities- Layer farm

2. Ensure personal hygiene by usage of gloves, hairnets, masks, goggles etc



Fig 6.1.1 Personal protective equipment

3. Ensure that there is a cushioned container to collect the eggs to avoid breakage during collection

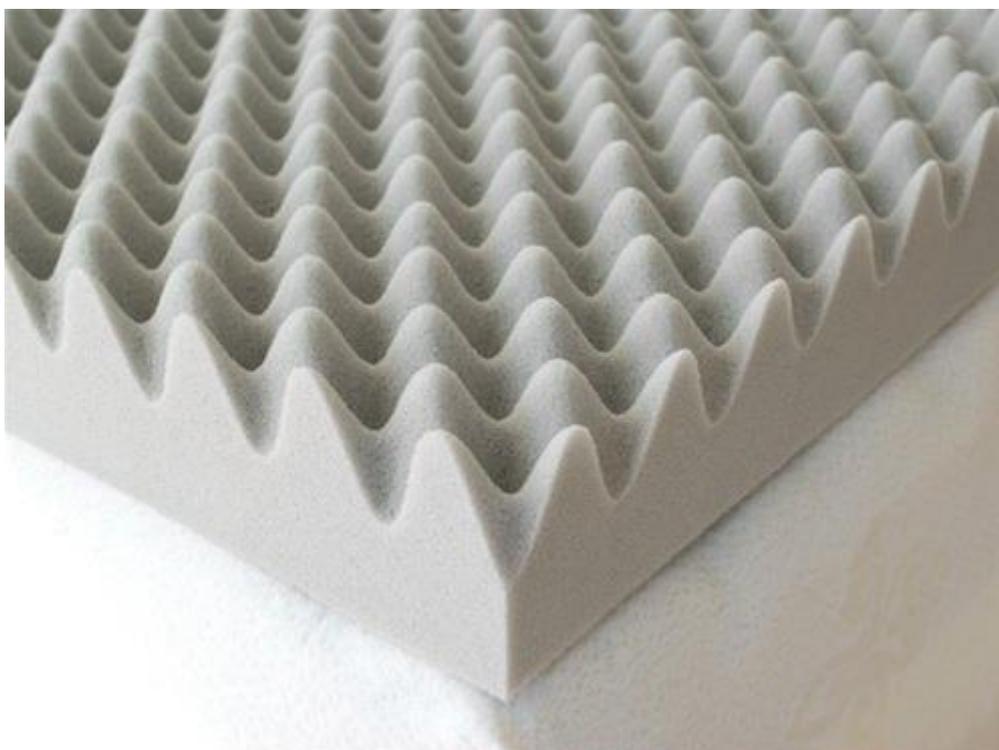


Fig 6.1.1 Egg Tray

4. Ensure that the harvesting cycle is followed, as the first harvest might occur as early as 30-35 days or as late as 55-60 days

6.2: Harvesting

Layer poultry farming means raising egg laying poultry birds for the purpose of commercial egg production. Layer chickens are such a special species of hens, which need to be raised from when they are one day old. They start laying eggs commercially from 18-19 weeks of age. They remain laying eggs continuously till their 72-78 weeks of age. They can produce about one kg of eggs by consuming about 2.25 kg of food during their egg laying period. For the purpose of producing hybrid eggs layer, consider the various characteristics of cock and hen before breeding. There are various types of highly egg productive layer breeds available throughout the world.

Layer Breeds:

According to the nature and color of egg, layer hens are of two types. Short description of these two types are listed below.

- **White Egg Laying Hens:** This type of hens are comparatively smaller in size. Relatively eat less food, and the color of egg shell is white. Isa White, Lehman White, Nikchik, Bab Cock BV-300, Havard White, Hi Sex White, Sever White, Hi line White, Bovanch White etc. are some popular white egg laying chickens.
- **Brown Egg Laying Hens:** Brown egg laying hens are relatively larger in size. They eat more foods, compared to white egg layers. Lay bigger eggs than other laying breeds. Egg shell is brown colored. There are many types of brown layer available. Among those Isa Brown, Hi Sex Brown, Sever 579, Lehman Brown, Hi Line Brown, Bab Cock BV-380, Gold Line, Bablona Tetro, Bablona Harko, Havard Brown etc. are very suitable for commercial layer poultry farming.

Egg production from a Layer Poultry Farming depends on the care and farm management. If you take good care of your birds and manage them properly, then the production and profit will be high.

- Within the first 20 weeks of age, about 5% of hens start laying eggs.
- About 10% birds start laying at their 21 weeks of age.
- When they reach 26 to 30 weeks of age, they produce highly. Although, it may be different depending on their strain.
- After laying a maximum number of eggs, they usually stop laying for a few days.
- And after this period, their egg production might reduces slowly.
- Egg laying rate and size of eggs increases gradually.
- The hens grow till their 40 weeks of age.
- Weight and size of eggs increases till their 50 weeks of age.

Mechanical collection of eggs is common in modern layer farms. It takes about 26 hours for each egg to develop and each hen lays an egg a little later each day. This is not an exact thing and most eggs are laid in the morning. Regular collection of eggs should be done. It is necessary to transfer eggs to store room/ egg room where they will be graded/ sorted based on the weight, size etc. A sample of eggs is often broken open to check internal quality. Eggs are packed into cartons for 12 eggs or trays of 30 eggs for sale. Egg prices will be fixed depending upon the egg size, so eggs need to be graded / separated/ sorted on the basis of egg weight.

Exercise



1. What are the pre-harvesting activities? Explain.

Answer: -----

2. What are the tools/ equipments required for the harvesting of eggs and meat?

Answer: -----

Notes



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7. Maintain post harvest cleanliness

Unit 7.1 – Post harvest clean out activities



Key Learning Outcomes

- Scheduling for post harvest clean out
- Follow the clean out activities
- Identify and use the tools/equipments required for the clean out process
- Use of disinfectants

UNIT 7.1: Post harvest clean out activities

Unit Objectives

Define farm decontamination - cleaning and disinfection and explain what each accomplishes

- Describe different groups of disinfectants
- Describe the safe use of disinfectants and explain the importance of PPE during cleaning and disinfection importance of PPE during cleaning and disinfection
- Review the information on a disinfectant by reading and interpretation of a products' label

7.1.1 Post harvest clean out activities

Cleaning and Disinfection = Decontamination

- Cleaning and disinfection are key components of routine biosecurity in poultry farming
- Decontamination kills any disease organisms like:
 - Virus
 - Bacteria
 - Parasite
 - Mold

that might be present on a farm at the end of a production cycle or after disease outbreak

- Decontamination allows for safe re-population of a farm

Survival of disease causing agents in the environment

Disease agent	Survival time
• Avian influenza	Days to months
• IBD (Gumboro)	Months
• Coccidiosis	Months
• Fowl Cholera	Weeks
• Coryza	Hours to days
• Marek's Disease	Months to years
• Newcastle Disease	Days to months
• Mycoplasma	Hours to days
• Salmonellosis (Pullorum)	Weeks

Cleaning and disinfection plays a vital role in the management of poultry, helping avoid various bacterial, viral, fungal and protozoal diseases.

After vacating the shed of all birds, preferably in one operation or in shortest possible time, the house should be disinfected and kept vacated thereafter for sufficient time until arrival of new flock.

Cleaning and Disinfection

- Remove all waterers, feeders, curtains and bamboo basket brooders (hovers). Clean and wash them thoroughly with water jets and then washing soda solution. Afterwards dip them in a virucidal disinfectant as per manufacturer's instructions. Then sun dry for a day or so.
- Remove all organic material e.g. manure, litter, feathers, dust, etc. preferably after spraying 5% to 10% formalin and collecting the above in closed containers e.g. gunny bags or plastic bags. All organic matter mentioned above should be disposed off, away from farm premises (in deep pits with formalin spray, caustic soda, salt, etc.).
- Measures should be taken for controlling the entry of rodents and wild birds.
- Clean all the fans, bulbs/tubes, wire nets and water tank. (For automatic drinking system, remove all water from pipeline. Fill the whole watering system with 5% to 10% solution of sodium hypochlorite; keep it overnight or at least 3-4 hours. Flush the system with plain water to remove the solution).
- Bamboo basket brooders from all IBD affected sheds should be disposed off by burning and new brooders should be used for new batch.
- **Chemical Treatment:** Floors should be soaked with strong solution of caustic soda flakes (NaOH) with pH above 12 for 12 to 24 hours. Then drain out the water completely.

Dose:

1. Caustic soda flakes (NaOH)* 11 to 12 g per liter of water. 100 liters of such solution should be used for 1000 sq.feet.
2. Washing Soda (Na₂CO₃) 4 to 5 times the above dose i.e. 50 to 60 g per litre of water or 5 to 6 kg per 1000 sq.feet.
3. Rewash the flooring by spraying any of the below mentioned disinfectants e.g.
 - Quaternary Ammonium compound or chlorine 10 to 20 ppm to be used either in the form of bleaching powder or sodium hypochlorite (containing 20% available chlorine).
 - Iodine in dilution to provide 1000 ppm.

*** Caution:** It is necessary to use hand gloves and gum-boots during use of caustic soda treatment.

- In case of ticks, mite and lice infestation the shed may be sprayed with Cythion at the rate of 80 mL to 160 mL per 10 litres of water. Here it is very important and mandatory to follow the safety precautions, as spraying of this type of insecticide is hazardous.
- Painting: White wash the shed with lime solution with 1% kerosene and 5% formalin. Click for Details. In case of previous batch history with high mortality, suitable virucidal disinfectants may be sprayed as per manufacturers' recommendation.
- Fumigation: Refix all washed and disinfected curtains and fumigate as below.

Fumigation with Formaldehyde gas is a common practice. However check with your local authorities whether it is permissible. Single strength concentration is obtained by mixing 40 mL of formalin with 20 g of potassium permanganate for volume of 100 cubic feet. Double strength is sometimes used in specialized needs. Fumigation is more effective in presence of humid atmosphere than dry. Hence, spraying the walls and floors with water before fumigation is necessary. All the cracks, crevices and windows should be sealed till the fumigation is in process (normally 40 hours). Formalin is poured over the potassium permanganate, over the pots beginning from the farthest end of the shed.

Caution: Fumigation should be done under supervision of competent person.

For effective fumigation it is desirable to have wetness (humidity) inside the shed and temperature above 24°C.

Note: In case the distance between sheds is short or the birds are present in the neighboring sheds, then fumigation may be undesirable and hence be avoided. Wherever fumigation is not possible it is suggested to wet the flooring and walls up to 3 feet height with formalin solution (5%) for a period of at least 6 hours.

- At the end, use spray of virucidal disinfectants commercially available in the market. Consult local technical expert or veterinary expert for choosing the disinfectants and follow manufacturer's instructions for the usage.
- After cleaning and disinfection keep the house vacant for a period of 15 days.
- It is advisable to undertake spraying of virucidal disinfectant 48 to 72 hours before actual arrival of chicks.

Note: (a) The litter material such as rice-husk, saw-dust, etc. that is to be used in deep litter shed need to be fumigated before use. (b) Laboratory monitoring for ensuring proper disinfection and to diagnose the disease status of farm.

Whitewash

Given below is the formula, which gives proportion of different ingredients to be included in lime

Notes



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8. Build entrepreneurship and marketing skills

Unit 8.1 – Poultry farming economics and finances

Unit 8.2 – Marketing



AGR/N4333

Key Learning Outcomes

- Understand the Poultry farming economics and finances
- Market the harvested products (Meat and eggs)

UNIT 8.1: Poultry farming economics and finances

Unit Objectives

- To understand the Poultry farming economics and finances

8.1.1 Poultry farming economics and finances

Economics of Poultry Broiler Farming

A model economics for broiler farming with a unit size of 10000 birds is given below. This is indicative and the applicable input and output costs and the parameters observed at the field level may be incorporated.

A. Project Cost

Capital Cost	
Construction of shed (10000 SQ.FT @ Rs.150/sft) including electrification	1575000
Feed room - 1000 sft @ Rs.200/sft	200000
Cost of equipment	262500
Total	2037500
Recurring Expenditure	
Cost of day old chicks	231000
Cost of feed	673200
Medicines, labour, miscellaneous charges	102000
Insurance of birds	31500
Insurance of sheds and equipment	20375
Total	1058075
Grand Total (A+B)	3095575
Say	3177000
Margin (25%)	476550
Bank Loan	2700450

Table 8.1.1 Project Cost

B. Techno Economic Parameters

Number of birds	10000
Batch strength	10000
Birds purchased per batch	10500
Birds considered for recurring expenditure	10200
Birds considered for selling	10000
Floor space per bird (s.ft)	1
Cost of construction of shed (Rs. per sft)	150
Cost of equipment (Rs. per bird)	25
Cost of day old chick (Rs. per bird)	22
Feed requirement per bird (Kg)	3.3
Cost of feed (average price Rs. per kg)	20
Medicines, vaccines, labour and misc. charges	10
Insurance per bird (Rs. per bird)	0.5
Insurance of sheds and equipment (Rs. per Rs.1,000/-)	10
Live weight of bird (Kg per bird)	1.7
Sale price (Rs. per kg)	70
Value of manure per bird sold (Rs. per bird)	0.5
Sale price of gunny bags (Rs. per bag)	10
Margin (%)	15
Interest on bank loan (% p.a)	12.50%
Rearing period	6 weeks
Cleaning period of shed	2 weeks

Table 8.1.1 Techno Economic Parameters

C. Flock Chart

Years	1	2 to 8
No. of batches	7	7
Rearing weeks	40	42

Batches sold	6	7
--------------	---	---

Table 8.1.1 Flock Chart

D. Income and Expenditure Statement

Years	1	2 to 8	8
Income			
Sale of birds	7140000	8330000	8330000
Sale of manure	30000	35000	35000
Sale of gunny bags	2992	3142	3142
Total	7172992	8368142	8368142
Expenditure			
Cost of chicks	1617000	1617000	1617000
Cost of feed	4488000	4712400	4712400
Cost of medicines & misc. charges	612000	714000	714000
Insurance of birds	31500	36750	36750
Insurance of sheds and equipment	20375	20375	20375
Total	6768875	7100525	7100525
Surplus	1462192	1267617	1267617

* The recurring expenses for one cycle capitalised in the project cost and the same has not been netted out while arriving at the total expenditure for the first year. Hence, the same is included in the surplus for the first year.

Table 8.1.1 Income and Expenditure Statement

E. Calculation of NPV, BCR & IRR

Years	1	2 to 7	8
Capital Cost	3177000		
Recurring Cost	5710800	7100525	7100525
Total Costs	8887800	7100525	7100525

Income	7172992	8368142	8368142
Residual value of shed			764079
Total Benefit	7172992	8368142	9132221
Net Benefit	-1714808	1267617	2031696
Disc cost at 15% DF	17766249		
Disc benefit at 15% DF	18569485		
NPW at 15% DF	803236		
BC Ratio	1.05		
IRR	51.91%		

Table 8.1.1 Calculation of NPV, BCR & IRR

E. Repayment Schedule

Year	Loan	Gross surplus	Interest	Principal	Total repayment	Surplus	Balance outstanding at the end of the year
1	2700450	1462192	337556	337556	675113	787080	2362894
2	2362894	1267617	19869	337556	357425	910191	2025338
3	2025338	1267617	17499	337556	355055	912561	1687781
4	1687781	1267617	14844	337556	352400	915216	1350225
5	1350225	1267617	11871	337556	349427	918189	1012669
6	1012669	1267617	8541	337556	346097	921519	675113
7	675113	1267617	4811	337556	342367	925249	337556
8	337556	1267617	4812	337556	342368	925248	0

Table 8.1.1 Repayment Schedule

Layer Farming:

A model project with 20000 layers (1:2 cage system) is given below. This is indicative and the applicable input and output costs as also the parameters observed at the field level may be incorporated.

A. Project Cost

I. Capital Cost	Amount Rs.
Construction of brooder cum grower house	2000000
Construction of layer house	3400000
Purchase of brooder cum grower equipment	204000
Purchase of layer equipment	1000000
Total (I)	6604000
II. Recurring Expenditure	
Cost of day old chicks	525000
Cost of feed upto 10% of feed requirement during laying	3588892
Cost of medicines & miscellaneous expenses upto laying	244800
Insurance of sheds and equipment	33350

Insurance of birds	94500
Total (II)	4486543
Grand Total (I+II)	11090543
Margin (25%)	2772636
Bank Loan	8317907

Table 8.1.1 Project Cost

**It is assumed that the farmer is having his own necessary arrangements for storage of feed.*

B. Techno economic parameters

Number of birds	20000
Number of batches	2
Batch strength	10000
Birds purchased per batch	10500
Birds considered for brooding cum growing	10200
Birds considered for laying	10000

Birds considered for culling	9000
Floor space per bird in brooder cum grower house (deep litter system) - sft per bird	1
Floor space per bird in layer shed (cage system) - sft per Bird	0.85
Cost of construction of shed (Rs. per sft)	200
Cost of brooder cum grower equipment (Rs. per bird)	20
Cost of cages for layers (Rs. per bird)	50
Cost of day old chick (Rs. per bird)	25
Feed requirement upto laying, i.e. 20 weeks (kg per bird)	8.5
Feed requirement during laying (kg per bird) - 52 weeks Laying	40
Cost of chick and grower mash (average price Rs. per kg)	18
Cost of layer mash (Rs.)	16
Medicines, vaccines, labour and misc. charges (upto laying) - 20 weeks (Rs.)	12

Medicines, vaccines, labour and misc. charges (laying) - 52 weeks (Rs.)	20
Insurance per bird (Rs. per bird)	4.5
Insurance of sheds and equipment(Rs. per thousand)	5.05
Egg production per bird (No.)	310
Sale price per egg (Rs.)	3.15
Sale price of culled bird (Rs.)	60
Manure production (chicks) - kg per bird per week	0.2
Manure production (layers) - kg per bird per week	0.5
Sale price of manure (Rs. per ton)	300
Sale price of gunny bags (Rs. per bag)	10
Margin (%)	25
Interest on bank loan (% per annum)	12.50%

** Feed quantity capitalized for first two batches- 8.5 kg up to laying and 10% of the feed requirement during the laying period*

Table 8.1.1 Techno economic parameters

C. Flock chart

Years	1	2	3	4	5	6	7	8	9
No. of batches purchased	2	2	2	2	2	1	2	2	2
No. of brooder cum grower weeks	40	40	34	34	34	38	36	34	34
No. of layer weeks	38	92	98	92	92	92	96	94	92
No. of batches culled	0	2	2	1	2	2	2	1	2

Table 8.1.1 Flock Chart

D. Economics

Item / Year	1	2	3	4	5	6	7	8	9
Income									
Sale of eggs	71359 62	172765 38	184032 69	172765 38	172765 38	172765 38	180276 92	176521 15	172765 38
Sale of culls	0	108000 0	108000 0	540000	108000 0	108000 0	108000 0	540000	108000 0

Sale of gunny bags	62094	117479	120165	114011	114011	116323	119270	116062	114011
Sale of manure	81480	162480	167808	158808	158808	161256	166032	161808	158808
Total	72795	186364	197712	180893	186293	186341	193929	184699	186293
	36	97	42	57	57	17	94	86	57
Expenditure									
Cost of day old chicks	525000	525000	525000	525000	525000	262500	525000	525000	525000
Feed consumption upto laying (kg)	173400	173400	147390	147390	147390	164730	156060	147390	147390
Cost of feed upto laying	3121200	3121200	2653020	2653020	2653020	2965140	2809080	2653020	2653020
Feed consumption during laying (kg)	292308	707692	753846	707692	707692	707692	738462	723077	707692
Cost of feed during laying	4676923	11323077	12061538	11323077	11323077	11323077	11815385	11569231	11323077

Cost of medicines , labour & misc. expenses upto laying	244800	244800	208080	208080	208080	232560	220320	208080	208080
Cost of medicines , labour & misc. expenses during laying	146154	353846	376923	353846	353846	353846	369231	361538	353846
Insurance of sheds & equipment	33350	33350	33350	33350	33350	33350	33350	33350	33350
Insurance of birds	94500	94500	94500	94500	94500	47250	94500	94500	94500
Total	8841927	15695773	15952412	15190873	15190873	15217723	15866866	15444719	15190873
Gross Surplus*	2924151	2940724	3818830	2898484	3438484	3416394	3526128	3025266	3438484

**A part of recurring expenses for the first year (as detailed at A ii) has been capitalized in the project cost and the same has not been netted out from the expenditure shown during the first year at "C" above. Hence while arriving at the surplus, the recurring expenditure has been included / added*

Table 8.1.1 Economics

E. Calculation of NPV, BCR & IRR

Years	1	2	3	4	5	6	7	8	9
Capital Cost	660400								
Recurring Expenses	8841927	1569573	15952412	15190873	15190873	15217723	15866866	15444719	15190873
Total Costs	15445927	1569573	15952412	15190873	15190873	15217723	15866866	15444719	15190873
Income	7279536	18636497	19771242	18089357	18629357	18634117	19392994	18469986	18629357
Residual value									2558525
Total Benefit	7279536	18636497	19771242	18089357	18629357	18634117	19392994	18469986	21187882
Net Benefit	-8166391	2940724	3818830	2898484	3438484	3416394	3526128	3025266	5997009
Disc cost @ 15%	73937535								
Disc benefit @ 15%	80433923								

NPV	649638								
	8								
BCR	1.09								
IRR	37.93%								

Table 8.1.1 Calculation of NPV, BCR & IRR

F. Repayment Schedule

Year	Loan	Gross surplus	Interest	Principal	Total repayment	Net surplus
1	8317907	2924151	1039738	0	1039738	1884413
2	8317907	2940724	1039738	800000	1839738	1100986
3	7517907	3818830	939738	1600000	2539738	1279092
4	5917907	2898484	739738	900000	1639738	1258746
5	5017907	3438484	627238	1500000	2127238	1311246
6	3517907	3416394	439738	1500000	1939738	1476656
7	2017907	3526128	252238	1700000	1952238	1573890
8	317907	3025266	39738	1675641	1715379	1309887

Table 8.1.1 Repayment Schedule

UNIT 8.2: Marketing

Unit Objectives

- To understand the supply chain mechanism
- To market the eggs and meat

8.2.1 Marketing

As a country develops, more of its consuming population lose touch with the village and food producers. Thus more specialised marketing services are needed. Farm produce must be collected, packed and transported in good condition to the cities and distributed to retailers near consumers' homes. This also calls for grading and storage of the product. The more developed the country becomes; the greater is the variety of products that can be economically produced. All this must be provided at a cost that consumers can afford.

SUPPLY MECHANISMS FOR POULTRY MEAT AND EGGS

Depending on the location of the farm dwelling, birds and eggs are sold from the household to traders (dealers or middlemen), direct to consumers, or carried by the farmer to the local market. The role of traders in the marketing of poultry products is an important one. Traders from urban areas buy eggs in villages to sell in cities. Where transport is an important consideration (as in many parts of Africa), guinea fowl eggs, with their stronger shells, are preferred to chicken eggs. Prices of eggs are related to supply and demand, to the higher risk of spoilage and lower use for hatching in hot and humid seasons, and to the availability of alternative protein foods such as fish. There is a tendency to hatch less in the hot season, due to low hatchability and diseases of young chickens, and there is also less hatching in the cold season, due to the risk of chilling stress to the young chicks.

Birds are either brought to the local market once or twice a week for sale to local consumers, to other local markets, or to local traders. Chickens are transported to the market in open-weave (well ventilated) baskets or wooden crates. They need not be fed on the day of sale, but should receive drinking water. If the trip to the market takes eight hours or more, stops should be made to supply water to the birds. In hot seasons, it is better to transport birds at night or in the cooler early morning. While the price of live birds depends on their size, the price of eggs depends more on number.

It is often assumed that for poultry and eggs, producers get 60 to 65 percent of the market price but this has been found to be false in Bangladesh, where they receive less than this. The role of traders or hawkers is very important, as it makes selling from the house possible, but these traders take up to 35 percent of the market value, with a consequent lower profit for the farmers who are responsible for production. This loss of income has stimulated farmers in many places to organize sales through their own marketing groups or formal cooperatives.

Broiler Marketing:

The Broiler production is marketed mostly by big farmers, integrators, private wholesalers and retailers. In the interior pockets, the producers themselves are marketing in small retail outlets and catering to the local requirements. While most of the broiler birds are consumed within the state, surplus broilers at times are sent to other states from AP depending upon the supply and demand position.

Egg Marketing:

Eggs are stored in a cool room at about 13°C and transported in an insulated truck. Unfortunately, many shops selling eggs do not store them under ideal conditions. In the home and shop situation it is best to store them at normal refrigerator temperature (4-6°C). Marketing involves a range of prices, depending on the different sizes of egg, different brands, or other differences which attract particular buyers. Free-range and fat modified eggs are among the varieties available.

Opportunities:

- Rural market:

Because of the location of farms in semi urban and urban centers and poultry traditionally developed in concentrated pockets in AP, TN, Punjab & Haryana and Maharashtra, the availability of eggs is high in few states in Urban and semi urban centers, but in rural centers and rest of the country, the availability is low. There is a vast scope to tap the rural markets and NE states where consumption is low because of poor availability. Sufficient number of sales outlets for eggs in interior villages will ensure in improving the per capita consumption of eggs. To tap the egg market potential in villages, more number of outlets by farmers need to be opened in villages.

- There is a demand for shell eggs free of antibiotics and pesticide residues in Japan, East and Europe (they are currently sourcing at a high price from USA, Europe and other countries). Exporting opportunity is there it can be tapped with the proper sources and production.
- India is exporting egg powders meeting strict quality norms of EU. While Egg powder from India is well accepted in EU, Japan and Far-East, the big layer farmers in India need to promote and tap the potential for shell eggs from India allaying the fears of pesticide and antibiotic residues.
- Eggs in Mid-day meal scheme:

Egg is a balanced food item that can not be adulterated. The infertile egg produced in the modern farms is accepted as a part of vegetarian diet by a majority of population. The Supreme Court has advised all States to implement the mid day meals scheme. Mid day meal scheme is implemented in certain states like Andhra Pradesh, Tamilnadu, Maharashtra etc. In AP, there are about 75 lakhs school children who are covered under mid-day meal scheme. Even if one egg per child per week is served, the egg consumption will increase by 33 crores per annum in AP alone. Similarly, if eggs are served in all the states, the egg consumption could spurt by more than 500 crores per annum. Egg need to be made compulsory under the mid-day scheme once a week to school children in all states which would improve the health status of the under privileged children, and improve the attendance in schools and academic standards, besides help in increasing the per capita egg consumption and maintaining remunerative price for eggs.

Notes



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9. Complete documentation and record keeping related poultry farming



Unit 9.1 – Documentation and record keeping



Key Learning Outcomes

- Document and maintain records of layers and broilers (related to small poultry farm)
- Document and maintain records related to poultry production (related to small poultry farm)
- Document and maintain financial records (related to small poultry farm)

UNIT 9.1: Documentation and record keeping

Unit Objectives

- Understand the importance of record keeping in poultry production.
- Identify record keeping systems used in poultry production.
- Complete different record keeping forms used in poultry production.

9.1.1 Documentation and record keeping

- I. Record keeping is extremely important to successful poultry production.
 - A. Financial decisions-before creating a budget or making important and costly financial decisions, records need to be analyzed.
 - B. Feeding decisions-records are useful in deciding what types of feed rations, the quantity of feed rations, and the effectiveness of a specific feed ration.
 - C. Breeding decisions-when deciding which birds to mate, past breeding records can be put to use.
 - D. Productivity of birds-records should be kept on the productivity of birds (eggs, reproduction, pounds of meat, etc.) to be used when the flock must be culled.
- II. There are several different types of records to keep in poultry production.
 - A. These systems vary by many factors.
 1. Species raised - The records kept for different species of poultry are going to differ because of the different uses. For example chicken records are going to be different from turkey records.
 2. Breeding stock - These are parent stock which we can use for repopulation of flock by producing birds.
 3. In record keeping system, type of bird raised needs to be considered and recorded. Some chickens are raised for egg production (for consumption), egg production (for repopulating), meat production, etc.
 - B. There are different records to keep for chickens.
 1. **Chicks** – chicks are young birds before the growth process has started. The records for chicks may include date hatched, date moved to pullet/broiler house, feed consumption, and water consumption.
 2. **Pullets** – pullets are birds growing to become layers. Certain records to be kept for these birds include feed consumption, water consumption, and light-dark hours.

3. **Layers** – layers are female birds that are in the stage of laying eggs. Records needed include feed consumption, water consumption, and egg production.
 4. **Broilers** – broilers are raised to be harvested for chicken meat to consume. Specific records may include feed consumption, water consumption, weight, average daily gain, days on feed, and processing date.
 5. **Breeding stock** – breeding stock are used to produce birds to repopulate the flock. Breeding date, birds mated, and hatching date are examples of important records.
- C. Turkeys require specific records.
1. **Poults** – poults are young birds that will be raised to be harvested for consumption. Specific records may include feed consumption, water consumption, weight, average daily gain, days on feed, and processing date.
 2. **Breeding Stock** – breeding stock are used to produce birds to repopulate the flock. Breeding date, birds mated, and hatching date are examples of important records to keep.
- III. Whenever you begin a record keeping system, you must learn about the information requested on each form.
- A. **Mortality** (death) of birds – every day a record should be taken of any birds that did not survive.
 - B. Feed used – daily records need to be taken on the quantity of feed fed to birds.
 - C. Cost – Financial records must be kept of any items bought or sold, e.g. feed, veterinary costs, equipment, supplies, birds, etc.
 - D. Vaccinations – Specific vaccinations may be needed, depending on the bird and location of production facility. An accurate record must be kept to insure sufficient withdrawal times.
 - E. Hens removed – Periodically hens must be removed from the flock when their productivity is too low. Be sure to keep record of which bird, when she was removed, and the reason for removal.
 - F. Eggs produced – Eggs must be collected and recorded daily. Be sure to include any inconsistency noticed.

IMPORTANCE OF RECORDS

- Financial decisions
- Feeding decisions
- Breeding decisions
- Productivity of birds

RECORD KEEPING SYSTEMS

Vary Depending Upon:

- Species
- Breed
- Type of bird

Chickens

- Chicks
- Pullets
- Layers
- Broilers
- Breeding stock

Turkeys

- Poults
- Breeding stock

INFORMATION ON FORMS Mortality, Feed used

- Cost
- Vaccinations
- Hens removed
- Eggs produced

BROODING RECORD

Date chicks started: _____ No. chicks started: _____ Breed or cross: _____

Mortality (number of chicks that died)

Week	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
1 st								
2 nd								
3 rd								
4 th								
5 th								
6 th								
7 th								
8 th								
9 th								
10 th								

Total: _____

Feed Used

Chick starter _____ kg	Cost _____ AFN	Cost of fuel _____ AFN
Grower _____ kg	Cost _____ AFN	Cost of chicks _____ AFN
Broiler Feed _____ kg	Cost _____ AFN	Cost of feed _____ AFN
Other _____ kg	Cost _____ AFN	Other _____ AFN
TOTAL _____ kg	Cost _____ AFN	Total _____ AFN

Chicks dead to end of brooding period _____

Weight of feed used per chick started _____

Weight of feed used per chick raised _____

Income (birds sold or used as broilers) _____

Expenses _____

Net profit or loss _____

PULLET GROWING RECORD(Starts at 10th week and ends at the completion of week first eggs were laid)

Number of birds at 10 weeks _____

Mortality (number of pullets that died)10th week _____ 16th week _____ 22nd week _____11th week _____ 17th week _____ 23rd week _____12th week _____ 18th week _____ 24th week _____13th week _____ 19th week _____ 25th week _____14th week _____ 20th week _____15th week _____ 21st week _____ TOTAL _____**Vaccination Record**

Date	Fowl Pox	Bronchitis	Newcastle	Cost

Total Cost of Vaccination _____

Weight Feed Used

	Grower	Other	Cost
10 th week			
11 th week			
12 th week			
13 th week			
14 th week			
15 th week			
16 th week			
17 th week			
18 th week			
19 th week			
20 th week			
21 st week			
22 nd week			
23 rd week			
24 th week			
25 th week			

Total Feed Costs _____

Number of birds that died during growing period _____

Pounds weight per pullet for the growing period _____

Brooding costs _____ AFN

Pullet growing costs _____ AFN

Total cost to date _____ AFN

MONTHLY LAYING FLOCK RECORD

Date hens started to lay _____ Number hens at start of laying _____

Number hens that died or were removed from the flock

1st month _____ 7th month _____
 2nd month _____ 8th month _____
 3rd month _____ 9th month _____
 4th month _____ 10th month _____
 5th month _____ 11th month _____
 6th month _____ 12th month _____

Eggs Produced

	Monthly Totals	Egg Sales
1 st month		
2 nd month		
3 rd month		
4 th month		
5 th month		
6 th month		
7 th month		
8 th month		
9 th month		
10 th month		

11 th month		
12 th month		

Feed Used Cost

Layer _____ kg _____ AFN

Oyster shell _____ kg _____ AFN

Other _____ kg _____ AFN

Total _____ kg _____ AFN

Feed per hen for period _____

Average number eggs per hen

Notes



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10. Safety, hygiene and sanitation of poultry farm



Unit 10.1 – Ensure a safe and clean place at poultry farm



Key Learning Outcomes

- Perform General safety Rules
- Gain Knowledge of various health hazards relevant to workplace and basic first aid training.
- Understand and handle the emergency situation in workplace and during any farm operation

UNIT 10.1: Ensure a safe and clean place at poultry farm

Unit Objectives

- Ensure a safe and clean place for birds and poultry workers

10.1.1 Ensure a safe and clean place at poultry farm

Guidelines for integrated biosecurity in poultry production

A set of recommended biosecurity practices to be adopted by the poultry farmers for minimising the disease

occurrence is given here under in brief.

1. Locational biosecurity :

- * Farm should be located
 - At an elevated and well ventilated site
 - Away from any existing farms or complexes
 - Away from water ways/water pools/lakes/tanks
 - Away from any nearby village poultry
- * Broiler and layer units should not be established in close vicinity
- * Farms having more than 50000 (Layers) should have preferably separate facilities for brooding/growing.
- * The new poultry farms may be one kilometer away from the existing farms or complexes.

2. Structural biosecurity:

- Separate sheds are required for brooding/growing/ laying operations with East – West Orientation
- A minimum distance of 150 ft. between brooding/growing sector and layer sector should be maintained. The distance between the sheds within the sector should be at least 50 ft.

- In case of farms wherein brooding/growing operations are carried out along with layer operations 1:3 system of rearing may be adopted, while in case of units where brooding/growing operations are carried out at separate places, 1:1:4 or 1:1:5 system of rearing may be adopted.
- Multi-storeyed poultry sheds are not desirable.
- Individual farms should be provided fencing with wheel dip at main gate. Provide foot dips at every doorstep.
- The maximum width of the sheds in case of deep litter system should not exceed 30 feet and the shed should be 2 feet above ground level with pucca floor.
- A minimum over hang of 3 feet must be provided.
- The maximum width of the sheds should be 33.5 feet in case of layer houses under cage system.
- In case of cage system rows as well as tiers should not be more than three.
- The height of the platform from the ground should not be less than 6 feet in case of cage system.
- For ideal farming 3 birds per cage with adequate water and feeding facilities should be ensured
- Provide closed disposal pit or incinerator at least 500 feet away from the active operational area.
- A store house for proper storage of litter material should be provided to avoid contamination.
- Provide proper area for used litter disposal away from the active operational area.
- Feed store/mill should be 150 feet away from the sheds and preferably near the gate.
- Make sure that egg store room and office will be kept away from active operational area.
Rat proof is required for all sheds and structures.
- All the sheds and other structures should have rat proof arrangements.

3. Operational biosecurity :

- Procure the day old chicks, which are free from diseases from reputed hatcheries
- It is advisable to have cage system of rearing in place of deep litter system of rearing.
- As far as possible automated equipment should be considered to minimize the manual handling of feeds and water.
- Testing feed ingredients/feeds must be arranged to ensure that they are free from

microbial agents or toxins at periodic intervals.

- Storage facilities for feed ingredients/feeds must be managed in an hygienic manner.
- Ensure the feed manufacturing area free from dust, cobwebs and should be equipped with appropriate screens to protect from fly problem.
- It is advisable to feed the birds with pellets for improved biosecurity.
- Feed can be delivered at the end of the day to the sheds having infected flocks.
- Always ensure the supply of clean and potable water. If necessary use appropriate sanitizers.
- Periodic inspection of wells, piping and tanks to ensure that water supplied is clean.
- An area specific vaccination schedule as recommended by hatchery doctor must be practiced with utmost care.
- Rodent control programme, where ever necessary, must be adopted by employing mechanical (traps) or chemical techniques along with strict sanitation measures.
- After selling of each crop from the sheds, thorough cleaning of sheds by removing all fixtures, equipment, litter dust, debris followed by brooming and burning. The rat holder cracks, worn out area should be packed with cement.
- Cleaning of the vegetation thoroughly six feet around the sheds and spraying of bleaching powder (1 parts) with lime (3 parts) around the sheds a minimum of 3 feet.
- Avoid use of litter as manure around the farms.
- Well cleaning of sheds and equipment with water and appropriate detergent.
- A thorough disinfection of sheds, equipments as well as farm surroundings by formalin spray at recommended concentration.
- Foot baths should be always filled with disinfectant.
- Vehicles visiting the farms should be thoroughly disinfected by appropriate disinfectant spray.
- Personnel working in laying sectors should not be allowed into brooding/growing sector or feed manufacturing facilities. All visitors must be ensured to walk through foot baths.
- Disposal of dead birds in hygienic manner either by using incinerator or by pit method is very essential.

Exercise



1. Write a note on importance of Safety and hygiene at Poultry farm.

Answer: -----

A series of horizontal dashed lines provided for writing the answer to the exercise question.

Notes



A large rectangular area enclosed by an orange border, containing 25 horizontal lines for writing notes.

11. Employability & Entrepreneurship Skills



Unit 11.1 – Personal Strengths & Value Systems

Unit 11.2 – Digital Literacy: A Recap

Unit 11.3 – Money Matters

Unit 11.4 – Preparing for Employment & Self Employment

Unit 11.5 – Understanding Entrepreneurship

Unit 11.6 – Preparing to be an Entrepreneur



Key Learning Outcomes



At the end of this unit, you will be able to:

1. Explain the meaning of health
2. List common health issues
3. Discuss tips to prevent common health issues
4. Explain the meaning of hygiene
5. Understand the purpose of Swacch Bharat Abhiyan
6. Explain the meaning of habit
7. Discuss ways to set up a safe work environment
8. Discuss critical safety habits to be followed by employees
9. Explain the importance of self-analysis
10. Understand motivation with the help of Maslow's Hierarchy of Needs
11. Discuss the meaning of achievement motivation
12. List the characteristics of entrepreneurs with achievement motivation
13. List the different factors that motivate you
14. Discuss how to maintain a positive attitude
15. Discuss the role of attitude in self-analysis
16. List your strengths and weaknesses
17. Discuss the qualities of honest people
18. Describe the importance of honesty in entrepreneurs
19. Discuss the elements of a strong work ethic
20. Discuss how to foster a good work ethic
21. List the characteristics of highly creative people
22. List the characteristics of highly innovative people
23. Discuss the benefits of time management
24. List the traits of effective time managers
25. Describe effective time management technique
26. Discuss the importance of anger management
27. Describe anger management strategies
28. Discuss tips for anger management
29. Discuss the causes of stress
30. Discuss the symptoms of stress
31. Discuss tips for stress management
32. Identify the basic parts of a computer
33. Identify the basic parts of a keyboard
34. Recall basic computer terminology
35. Recall basic computer terminology

36. Recall the functions of basic computer keys
37. Discuss the main applications of MS Office
38. Discuss the benefits of Microsoft Outlook
39. Discuss the different types of e-commerce
40. List the benefits of e-commerce for retailers and customers
41. Discuss how the Digital India campaign will help boost e-commerce in India
42. Explain how you will sell a product or service on an e-commerce platform
43. Discuss the importance of saving money
44. Discuss the benefits of saving money
45. Discuss the main types of bank accounts
46. Describe the process of opening a bank account
47. Differentiate between fixed and variable costs
48. Describe the main types of investment options
49. Describe the different types of insurance products
50. Describe the different types of taxes
51. Discuss the uses of online banking
52. Discuss the main types of electronic funds transfers
53. Discuss the steps to prepare for an interview
54. Discuss the steps to create an effective Resume
55. Discuss the most frequently asked interview questions
56. Discuss how to answer the most frequently asked interview questions
57. Discuss basic workplace terminology
58. Discuss the concept of entrepreneurship
59. Discuss the importance of entrepreneurship
60. Describe the characteristics of an entrepreneur
61. Describe the different types of enterprises
62. List the qualities of an effective leader
63. Discuss the benefits of effective leadership
64. List the traits of an effective team
65. Discuss the importance of listening effectively
66. Discuss how to listen effectively
67. Discuss the importance of speaking effectively
68. Discuss how to speak effectively
69. Discuss how to solve problems
70. List important problem solving traits

71. Discuss ways to assess problem solving skills
72. Discuss the importance of negotiation
73. Discuss how to negotiate
74. Discuss how to identify new business opportunities
75. Discuss how to identify business opportunities within your business
76. Understand the meaning of entrepreneur
77. Describe the different types of entrepreneurs
78. List the characteristics of entrepreneurs
79. Recall entrepreneur success stories
80. Discuss the entrepreneurial process
81. Describe the entrepreneurship ecosystem
82. Discuss the government's role in the entrepreneurship ecosystem
83. Discuss the current entrepreneurship ecosystem in India
84. Understand the purpose of the Make in India campaign
85. Discuss the relationship between entrepreneurship and risk appetite
86. Discuss the relationship between entrepreneurship and resilience
87. Describe the characteristics of a resilient entrepreneur
88. Discuss how to deal with failure
89. Discuss how market research is carried out
90. Describe the 4 Ps of marketing
91. Discuss the importance of idea generation
92. Recall basic business terminology
93. Discuss the need for CRM
94. Discuss the benefits of CRM
95. Discuss the need for networking
96. Discuss the benefits of networking
97. Understand the importance of setting goals
98. Differentiate between short-term, medium-term and long-term goals
99. Discuss how to write a business plan
100. Explain the financial planning process
101. Discuss ways to manage your risk
102. Describe the procedure and formalities for applying for bank finance
103. Discuss how to manage your own enterprise
104. List important questions that every entrepreneur should ask before starting an enterprise

UNIT 11.1: Personal Strengths & Value Systems

Unit Objectives



At the end of this unit, you will be able to:

1. Explain the meaning of health
2. List common health issues
3. Discuss tips to prevent common health issues
4. Explain the meaning of hygiene
5. Understand the purpose of Swacch Bharat Abhiyan
6. Explain the meaning of habit
7. Discuss ways to set up a safe work environment
8. Discuss critical safety habits to be followed by employees
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10. Understand motivation with the help of Maslow's Hierarchy of Needs
11. Discuss the meaning of achievement motivation
12. List the characteristics of entrepreneurs with achievement motivation
13. List the different factors that motivate you
14. Discuss how to maintain a positive attitude
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25. Describe effective time management technique
26. Discuss the importance of anger management
27. Describe anger management strategies
28. Discuss tips for anger management
29. Discuss the causes of stress
30. Discuss the symptoms of stress
31. Discuss tips for stress management

11.1.1 Health, Habits, Hygiene: What is Health

As per the World Health Organization (WHO), health is a “State of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity.” This means being healthy does not simply mean not being unhealthy – it also means you need to be at peace emotionally, and feel fit physically. For example, you cannot say you are healthy simply because you do not have any physical ailments like a cold or cough. You also need to think about whether you are feeling calm, relaxed and happy.

Common Health Issues

Some common health issues are:

- Allergies
- Asthma
- Skin Disorders
- Depression and Anxiety
- Diabetes
- Cough, Cold, Sore Throat
- Difficulty Sleeping
- Obesity

Tips to Prevent Health Issues

Taking measures to prevent ill health is always better than curing a disease or sickness. You can stay healthy by:

- Eating healthy foods like fruits, vegetables and nuts
- Cutting back on unhealthy and sugary foods
- Drinking enough water everyday
- Not smoking or drinking alcohol
- Exercising for at least 30 minutes a day, 4-5 times a week
- Taking vaccinations when required
- Practicing yoga exercises and meditation

How many of these health standards do you follow? Tick the ones that apply to you.

1. Get minimum 7-8 hours of sleep every night.
2. Avoid checking email first thing in the morning and right before you go to bed at night.
3. Don't skip meals – eat regular meals at correct meal times.
4. Read a little bit every single day.
5. Eat more home cooked food than junk food.

6. Stand more than you sit.
7. Drink a glass of water first thing in the morning and have at least 8 glasses of water through the day.
8. Go to the doctor and dentist for regular checkups.
9. Exercise for 30 minutes at least 5 days a week.
10. Avoid consuming lots of aerated beverages.

What is Hygiene?

As per the World Health Organization (WHO), “Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases.” In other words, hygiene means ensuring that you do whatever is required to keep your surroundings clean, so that you reduce the chances of spreading germs and diseases.

For instance, think about the kitchen in your home. Good hygiene means ensuring that the kitchen is always spick and span, the food is put away, dishes are washed and dustbins are not overflowing with garbage. Doing all this will reduce the chances of attracting pests like rats or cockroaches, and prevent the growth of fungus and other bacteria, which could spread disease.

How many of these health standards do you follow? Tick the ones that apply to you.

1. Have a bath or shower every day with soap – and wash your hair with shampoo 2-3 times a week.
2. Wear a fresh pair of clean undergarments every day.
3. Brush your teeth in the morning and before going to bed.
4. Cut your fingernails and toenails regularly.
5. Wash your hands with soap after going to the toilet.
6. Use an anti-perspirant deodorant on your underarms if you sweat a lot.
7. Wash your hands with soap before cooking or eating.
8. Stay home when you are sick, so other people don't catch what you have.
9. Wash dirty clothes with laundry soap before wearing them again.
10. Cover your nose with a tissue/your hand when coughing or sneezing.

See how healthy and hygienic you are, by giving yourself 1 point for every ticked statement!

Then take a look at what your score means.

Your Score

0-7/20: You need to work a lot harder to stay fit and fine! Make it a point to practice good habits daily and see how much better you feel!

7-14/20: Not bad, but there is scope for improvement! Try and add a few more good habits to your daily routine.

14-20/20: Great job! Keep up the good work! Your body and mind thank you!

Swachh Bharat Abhiyan

We have already discussed the importance of following good hygiene and health practices for ourselves. But, it is not enough for us to be healthy and hygienic. We must also extend this standard to our homes, our immediate surroundings and to our country as a whole.

The 'Swachh Bharat Abhiyan' (Clean India Mission) launched by Prime Minister Shri Narendra Modi on 2nd October 2014, believes in doing exactly this. The aim of this mission is to clean the streets and roads of India and raise the overall level of cleanliness. Currently this mission covers 4,041 cities and towns across the country. Millions of our people have taken the pledge for a clean India. You should take the pledge too, and do everything possible to keep our country clean!

What are Habits?

A habit is a behaviour that is repeated frequently. All of us have good habits and bad habits. Keep in mind the phrase by John Dryden: "We first make our habits, and then our habits make us." This is why it is so important that you make good habits a way of life, and consciously avoid practicing bad habits.

Some good habits that you should make part of your daily routine are:

- Always having a positive attitude
- Making exercise a part of your daily routine
- Reading motivational and inspirational stories
- Smiling! Make it a habit to smile as often as possible
- Making time for family and friends
- Going to bed early and waking up early

Some bad habits that you should quit immediately are:

- Skipping breakfast
- Snacking frequently even when you are not hungry
- Eating too much fattening and sugary food
- Smoking, drinking alcohol and doing drugs
- Spending more money than you can afford
- Worrying about unimportant issues
- Staying up late and waking up late

Tips



- Following healthy and hygienic practices every day will make you feel good mentally and physically.
- Hygiene is two-thirds of health – so good hygiene will help you stay strong and healthy!

Swachh Bharat Abhiyan

We have already discussed the importance of following good hygiene and health practices for ourselves. But, it is not enough for us to be healthy and hygienic. We must also extend this standard to our homes, our immediate surroundings and to our country as a whole.

The 'Swachh Bharat Abhiyan' (Clean India Mission) launched by Prime Minister Shri Narendra Modi on 2nd October 2014, believes in doing exactly this. The aim of this mission is to clean the streets and roads of India and raise the overall level of cleanliness. Currently this mission covers 4,041 cities and towns across the country. Millions of our people have taken the pledge for a clean India. You should take the pledge too, and do everything possible to keep our country clean!

What are Habits?

A habit is a behaviour that is repeated frequently. All of us have good habits and bad habits. Keep in mind the phrase by John Dryden: "We first make our habits, and then our habits make us." This is why it is so important that you make good habits a way of life, and consciously avoid practicing bad habits.

Some good habits that you should make part of your daily routine are:

- Always having a positive attitude
- Making exercise a part of your daily routine
- Reading motivational and inspirational stories
- Smiling! Make it a habit to smile as often as possible
- Making time for family and friends
- Going to bed early and waking up early

Some bad habits that you should quit immediately are:

- Skipping breakfast
- Snacking frequently even when you are not hungry
- Eating too much fattening and sugary food
- Smoking, drinking alcohol and doing drugs
- Spending more money than you can afford
- Worrying about unimportant issues
- Staying up late and waking up late

Tips



- Following healthy and hygienic practices every day will make you feel good mentally and physically.
- Hygiene is two-thirds of health – so good hygiene will help you stay strong and healthy!

11.1.2: Safety: Tips to Design a Safe Workplace

Every employer is obligated to ensure that his workplace follows the highest possible safety protocol. When setting up a business, owners must make it a point to:

- Use ergonomically designed furniture and equipment to avoid stooping and twisting
- Provide mechanical aids to avoid lifting or carrying heavy objects
- Have protective equipment on hand for hazardous jobs
- Designate emergency exits and ensure they are easily accessible
- Set down health codes and ensure they are implemented
- Follow the practice of regular safety inspections in and around the workplace
- Ensure regular building inspections are conducted
- Get expert advice on workplace safety and follow it

Non-Negotiable Employee Safety Habits

Every employer is obligated to ensure that his workplace follows the highest possible safety protocol. When setting up a business, owners must make it a point to:

- Immediately report unsafe conditions to a supervisor
- Recognize and report safety hazards that could lead to slips, trips and falls
- Report all injuries and accidents to a supervisor
- Wear the correct protective equipment when required
- Learn how to correctly use equipment provided for safety purposes
- Be aware of and avoid actions that could endanger other people
- Take rest breaks during the day and some time off from work during the week

Tips

- Be aware of what emergency number to call at the time of a workplace emergency
- Practice evacuation drills regularly to avoid chaotic evacuations

11.1.3 Self Analysis – Attitude, Achievement Motivation: What is Self-Analysis

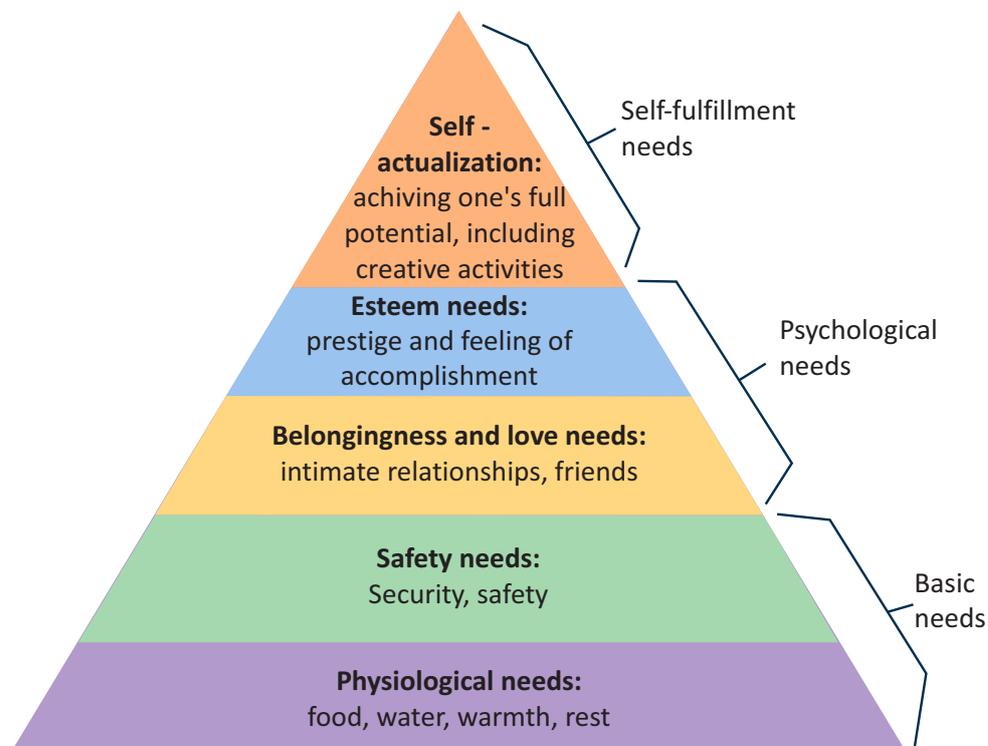
To truly achieve your full potential, you need to take a deep look inside yourself and find out what kind of person you really are. This attempt to understand your personality is known as self-analysis. Assessing yourself in this manner will help you grow, and will also help you to identify areas within yourself that need to be further developed, changed or eliminated. You can better understand yourself by taking a deep look at what motivates you, what your attitude is like, and what your strengths and weaknesses are.

What is Motivation?

Very simply put, motivation is your reason for acting or behaving in a certain manner. It is important to understand that not everyone is motivated by the same desires – people are motivated by many, many different things. We can understand this better by looking at Maslow's Hierarchy of Needs.

Maslow's Hierarchy of Needs

Famous American psychologist Abraham Maslow wanted to understand what motivates people. He believed that people have five types of needs, ranging from very basic needs (called physiological needs) to more important needs that are required for self-growth (called self-actualization needs). Between the physiological and self-actualization needs are three other needs – safety needs, belongingness and love needs, and esteem needs. These needs are usually shown as a pyramid with five levels and are known as Maslow's Hierarchy of Needs.



Characteristics of Entrepreneurs with Achievement Motivation

Entrepreneurs with achievement motivation can be described as follows:

- Unafraid to take risks for personal accomplishment
- Love being challenged
- Future-oriented
- Flexible and adaptive
- Value negative feedback more than positive feedback
- Very persistent when it comes to achieving goals
- Extremely courageous
- Highly creative and innovative
- Restless - constantly looking to achieve more
- Feel personally responsible for solving problems

Think about it:

- How many of these traits do you have?
- Can you think of entrepreneurs who display these traits?

How to Cultivate a Positive Attitude

The good news is attitude is a choice. So it is possible to improve, control and change our attitude, if we decide we want to! The following tips help foster a positive mindset:

- Remember that you control your attitude, not the other way around
- Devote at least 15 minutes a day towards reading, watching or listening to something positive
- Avoid negative people who only complain and stop complaining yourself
- Expand your vocabulary with positive words and delete negative phrases from your mind
- Be appreciative and focus on what's good in yourself, in your life, and in others
- Stop thinking of yourself as a victim and start being proactive
- Imagine yourself succeeding and achieving your goals

What is Attitude?

Now that we understand why motivation is so important for self-analysis, let's look at the role our attitude plays in better understanding ourselves. Attitude can be described as your tendency (positive or negative), to think and feel about someone or something. Attitude is the foundation for success in every aspect of life. Our attitude can be our best friend or our worst enemy. In other words:

“The only disability in life is a bad attitude.”

When you start a business, you are sure to encounter a wide variety of emotions, from difficult times and failures to good times and successes. Your attitude is what will see you through the tough times and guide you towards success. Attitude is also infectious. It affects everyone around you, from your customers to your employees to your investors. A positive attitude helps build confidence in the workplace while a negative attitude is likely to result in the demotivation of your people.

What Are Your Strengths and Weaknesses?

Another way to analyze yourself is by honestly identifying your strengths and weaknesses. This will help you use your strengths to your best advantage and reduce your weaknesses.

Note down all your strengths and weaknesses in the two columns below. Remember to be honest with yourself!

Strengths	Weaknesses

Tips



- Achievement motivation can be learned.
- Don't be afraid to make mistakes.
- Train yourself to finish what you start.
- Dream big.

11.1.4 Honesty & Work Ethics: What is Honesty?

Honesty is the quality of being fair and truthful. It means speaking and acting in a manner that inspires trust. A person who is described as honest is seen as truthful and sincere, and as someone who isn't deceitful or devious and doesn't steal or cheat. There are two dimensions of honesty – one is honesty in communication and the other is honesty in conduct.

Honesty is an extremely important trait because it results in peace of mind and builds relationships that are based on trust. Being dishonest, on the other hand, results in anxiety and leads to relationships full of distrust and conflict.

Qualities of Honest People

Honest individuals have certain distinct characteristics. Some common qualities among honest people are:

1. They don't worry about what others think of them. They believe in being themselves – they don't bother about whether they are liked or disliked for their personalities.
2. They stand up for their beliefs. They won't think twice about giving their honest opinion, even if they are aware that their point of view lies with the minority.
3. They are thick-skinned. This means they are not affected by others judging them harshly for their honest opinions.
4. They forge trusting, meaningful and healthy friendships. Honest people usually surround themselves with honest friends. They have faith that their friends will be truthful and upfront with them at all times.

They are trusted by their peers. They are seen as people who can be counted on for truthful and objective feedback and advice.

- **Honesty and employees:** When entrepreneurs build honest relationships with their employees, it leads to more transparency in the workplace, which results in higher work performance and better results.
- **Honesty and investors:** For entrepreneurs, being honest with investors means not only sharing strengths but also candidly disclosing current and potential weaknesses, problem areas and solution strategies. Keep in mind that investors have a lot of experience with startups and are aware that all new companies have problems. Claiming that everything is perfectly fine and running smoothly is a red flag for most investors.
- **Honesty with oneself:** The consequences of being dishonest with oneself can lead to dire results, especially in the case of entrepreneurs. For entrepreneurs to succeed, it is critical that they remain realistic about their situation at all times, and accurately judge every aspect of their enterprise for what it truly is.

Importance of Honesty in Entrepreneurs

One of the most important characteristics of entrepreneurs is honesty. When entrepreneurs are honest with their customers, employees and investors, it shows that they respect those that they work with. It is also important that entrepreneurs remain honest with themselves. Let's look at how being honest would lead to great benefits for entrepreneurs.

- **Honesty and customers:** When entrepreneurs are honest with their customers it leads to stronger relationships, which in turn results in business growth and a stronger customer network.

What are Work Ethics?

Being ethical in the workplace means displaying values like honesty, integrity and respect in all your decisions and communications. It means not displaying negative qualities like lying, cheating and stealing.

Workplace ethics play a big role in the profitability of a company. It is as crucial to an enterprise as high morale and teamwork. This is why most companies lay down specific workplace ethic guidelines that must compulsorily be followed by their employees. These guidelines are typically outlined in a company's employee handbook.

Elements of a Strong Work Ethic

An entrepreneur must display strong work ethics, as well as hire only those individuals who believe in and display the same level of ethical behavior in the workplace. Some elements of a strong work ethic are:

- **Professionalism:** This involves everything from how you present yourself in a corporate setting to the manner in which you treat others in the workplace.
- **Respectfulness:** This means remaining poised and diplomatic regardless of how stressful or volatile a situation is.
- **Dependability:** This means always keeping your word, whether it's arriving on time for a meeting or delivering work on time.
- **Dedication:** This means refusing to quit until the designated work is done, and completing the work at the highest possible level of excellence.
- **Determination:** This means embracing obstacles as challenges rather than letting them stop you, and pushing ahead with purpose and resilience to get the desired results.
- **Accountability:** This means taking responsibility for your actions and the consequences of your actions, and not making excuses for your mistakes.
- **Humility:** This means acknowledging everyone's efforts and hard work, and sharing the credit for accomplishments.

How to Foster a Good Work Ethic

As an entrepreneur, it is important that you clearly define the kind of behaviour that you expect from each and every team member in the workplace. You should make it clear that you expect employees to display positive work ethics like:

- **Honesty:** All work assigned to a person should be done with complete honesty, without any deceit or lies.
- **Good attitude:** All team members should be optimistic, energetic, and positive.
- **Reliability:** Employees should show up where they are supposed to be, when they are supposed to be there.
- **Good work habits:** Employees should always be well groomed, never use inappropriate language, conduct themselves professionally at all times, etc.
- **Initiative:** Doing the bare minimum is not enough. Every team member needs to be proactive and show initiative.
- **Trustworthiness:** Trust is non-negotiable. If an employee cannot be trusted, it's time to let that employee go.

- **Respect:** Employees need to respect the company, the law, their work, their colleagues and themselves.
- **Integrity:** Each and every team member should be completely ethical and must display above board behaviour at all times.
- **Efficiency:** Efficient employees help a company grow while inefficient employees result in a waste of time and resources.

Tips



- Don't get angry when someone tells you the truth and you don't like what you hear.
- Always be willing to accept responsibility for your mistakes.

11.1.5 Creativity & Innovation : What is Creativity

Creativity means thinking outside the box. It means viewing things in new ways or from different perspectives, and then converting these ideas into reality. Creativity involves two parts: thinking and producing. Simply having an idea makes you imaginative, not creative. However, having an idea and acting on it makes you creative.

Characteristics of Highly Creative People

Some characteristics of creative people are:

- They are imaginative and playful
- They see issues from different angles
- They notice small details
- They have very little tolerance for boredom
- They detest rules and routine
- They love to daydream
- They are very curious

What is Innovation?

There are many different definitions of innovation. In simple terms, innovation means turning an idea into a solution that adds value. It can also mean adding value by implementing a new product, service or process, or significantly improving on an existing product, service or process.

Characteristics of Highly Innovative People

Some characteristics of highly innovative people are:

- They embrace doing things differently
- They don't believe in taking shortcuts
- They are not afraid to be unconventional
- They are highly proactive and persistent
- They are organized, cautious and risk-averse

Tips



- Take regular breaks from your creative work to recharge yourself and gain fresh perspective.
- Build prototypes frequently, test them out, get feedback, and make the required changes.

11.1.6 Time Management: What is Time Management?

Time management is the process organizing your time, and deciding how to allocate your time between different activities. Good time management is the difference between working smart (getting more done in less time) and working hard (working for more time to get more done). Effective time management leads to an efficient work output, even when you are faced with tight deadlines and high pressure situations. On the other hand, not managing your time effectively results in inefficient output and increases stress and anxiety.

Benefits of Time Management

Time management can lead to huge benefits like:

- Greater productivity
- Better professional reputation
- Higher chances for career advancement
- Higher efficiency
- Reduced stress
- Greater opportunities to achieve goals

Not managing time effectively can result in undesirable consequences like:

- Missing deadlines
- Substandard work quality
- Stalled career
- Inefficient work output
- Poor professional reputation
- Increase in stress and anxiety

Traits of Effective Time Managers

Some traits of effective time managers are:

- They begin projects early
- They set daily objectives
- They modify plans if required, to achieve better results
- They are flexible and open-minded
- They inform people in advance if their help will be required
- They know how to say no
- They break tasks into steps with specific deadlines
- They continually review long term goals
- They think of alternate solutions if and when required
- They ask for help when required
- They create backup plans

Effective Time Management Techniques

You can manage your time better by putting into practice certain time management techniques. Some helpful tips are:

- Plan out your day as well as plan for interruptions. Give yourself at least 30 minutes to figure out your time plan. In your plan, schedule some time for interruptions.
- Put up a “Do Not Disturb” sign when you absolutely have to complete a certain amount of work.
- Close your mind to all distractions. Train yourself to ignore ringing phones, don’t reply to chat messages and disconnect from social media sites.

- Delegate your work. This will not only help your work get done faster, but will also show you the unique skills and abilities of those around you.
- Stop procrastinating. Remind yourself that procrastination typically arises due to the fear of failure or the belief that you cannot do things as perfectly as you wish to do them.
- Prioritize. List each task to be completed in order of its urgency or importance level. Then focus on completing each task, one by one.
- Maintain a log of your work activities. Analyze the log to help you understand how efficient you are, and how much time is wasted every day. Create time management goals to reduce time wastage.

Tips



- Always complete the most important tasks first.
- Get at least 7 – 8 hours of sleep every day.
- Start your day early.
- Don't waste too much time on small, unimportant details.
- Set a time limit for every task that you will undertake.
- Give yourself some time to unwind between tasks.

11.1.7 Anger Management: What is Anger Management

Anger management is the process of:

1. Learning to recognize the signs that you, or someone else, is becoming angry
2. Taking the best course of action to calm down the situation in a positive way

Anger management does not mean suppressing anger.

Importance of Anger Management

Anger is a perfectly normal human emotion. In fact, when managed the right way, anger can be considered a healthy emotion. However, if it is not kept in check, anger can make us act inappropriately and can lead to us saying or doing things that we will likely later regret.

Extreme anger can:

- **Hurt you physically:** It leads to heart disease, diabetes, a weakened immune system, insomnia, and high blood pressure.
- **Hurt you mentally:** It can cloud your thinking and lead to stress, depression and mental health issues.
- **Hurt your career:** It can result in alienating your colleagues, bosses, clients and lead to the loss of respect.
- **Hurt your relationships:** It makes it hard for your family and friends to trust you, be honest with you and feel comfortable around you.

This is why anger management, or managing anger appropriately, is so important.

Anger Management Strategies

Here are some strategies that can help you control your anger:

Strategy 1: Relaxation

Something as simple as breathing deeply and looking at relaxing images works wonders in calming down angry feelings. Try this simple breathing exercise:

1. Take a deep breath from your diaphragm (don't breathe from your chest)
2. Visualize your breath coming up from your stomach
3. Keep repeating a calming word like 'relax' or 'take it easy' (remember to keep breathing deeply while repeating the word)
4. Picture a relaxing moment (this can be from your memory or your imagination)

Follow this relaxation technique daily, especially when you realize that you're starting to feel angry.

Strategy 2: Cognitive Restructuring

Cognitive restructuring means changing the manner in which you think. Anger can make you curse, swear, exaggerate and act very dramatically. When this happens, force yourself to replace your angry thoughts with more logical ones. For instance, instead of thinking 'Everything is ruined' change your mindset and tell yourself 'It's not the end of the world and getting angry won't solve this'.

Strategy 3: Problem Solving

Getting angry about a problem that you cannot control is a perfectly natural response. Sometimes, try as you may, there may not be a solution to the difficulty you are faced with. In such cases, stop focusing on solving the problem, and instead focus on handling and facing the problem. Remind yourself that you will do your best to deal with the situation, but that you will not blame yourself if you don't get the solution you desire.

Strategy 4: Better Communication

When you're angry, it is very easy to jump to inaccurate conclusions. In this case, you need to force yourself to stop reacting, and think carefully about what you want to say, before saying it. Avoid saying the first thing that enters your head. Force yourself to listen carefully to what the other person is saying. Then think about the conversation before responding.

Strategy 5: Changing Your Environment

If you find that your environment is the cause of your anger, try and give yourself a break from your surroundings. Make an active decision to schedule some personal time for yourself, especially on days that are very hectic and stressful. Having even a brief amount of quiet or alone time is sure to help calm you down.

Tips for Anger Management

- The following tips will help you keep your anger in check:
- Take some time to collect your thoughts before you speak out in anger.
- Express the reason for your anger in an assertive, but non-confrontational manner once you have calmed down.
- Do some form of physical exercise like running or walking briskly when you feel yourself getting angry.
- Make short breaks part of your daily routine, especially during days that are stressful. Focus on how to solve a problem that's making you angry, rather than focusing on the fact that the problem is making you angry.

Tips

- Try to forgive those who anger you, rather than hold a grudge against them.
- Avoid using sarcasm and hurling insults. Instead, try and explain the reason for your frustration in a polite and mature manner.

11.1.8 Stress Management: What is Stress

We say we are 'stressed' when we feel overloaded and unsure of our ability to deal with the pressures placed on us. Anything that challenges or threatens our well-being can be defined as a stress. It is important to note that stress can be good and bad. While good stress keeps us going, negative stress undermines our mental and physical health. This is why it is so important to manage negative stress effectively.

Causes of Stress

Stress can be caused by internal and external factors.

Internal causes of stress

- Constant worry
- Rigid thinking
- Unrealistic expectations
- Pessimism
- Negative self-talk
- All in or all out attitude

External causes of stress

- Major life changes
- Difficulties with relationships
- Having too much to do
- Difficulties at work or in school
- Financial difficulties
- Worrying about one's children and/or family

Symptoms of Stress

Stress can manifest itself in numerous ways. Take a look at the cognitive, emotional, physical and behavioral symptoms of stress.

Cognitive Symptoms	Emotional Symptoms
<ul style="list-style-type: none"> • Memory problems • Concentration issues • Lack of judgement • Pessimism • Anxiety • Constant worrying 	<ul style="list-style-type: none"> • Depression • Agitation • Irritability • Loneliness • Anxiety • Anger

Physical Symptoms	Behavioral Symptoms
<ul style="list-style-type: none"> • Aches and pain • Diarrhea or constipation • Nausea • Dizziness • Chest pain and/or rapid heartbeat • Frequent cold or flu like feelings 	<ul style="list-style-type: none"> • Increase or decrease in appetite • Over sleeping or not sleeping enough • Withdrawing socially • Ignoring responsibilities • Consumption of alcohol or cigarettes • Nervous habits like nail biting, pacing etc.

Tips to Manage Stress

The following tips can help you manage your stress better:

- Note down the different ways in which you can handle the various sources of your stress.
- Remember that you cannot control everything, but you can control how you respond.
- Discuss your feelings, opinions and beliefs rather than reacting angrily, defensively or passively.
- Practice relaxation techniques like meditation, yoga or tai chi when you start feeling stressed.
- Devote a part of your day towards exercise.
- Eat healthy foods like fruits and vegetables. Avoid unhealthy foods especially those containing large amounts of sugar.
- Plan your day so that you can manage your time better, with less stress.
- Say no to people and things when required.
- Schedule time to pursue your hobbies and interests.
- Ensure you get at least 7-8 hours of sleep.
- Reduce your caffeine intake.
- Increase the time spent with family and friends.

Tips



- Force yourself to smile even if you feel stressed. Smiling makes us feel relaxed and happy.
- Stop yourself from feeling and thinking like a victim. Change your attitude and focus on being proactive.

UNIT 11.2. Digital Literacy: A Recap

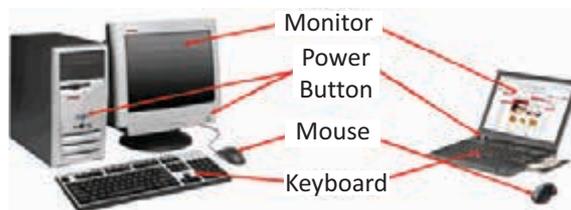
Unit Objectives



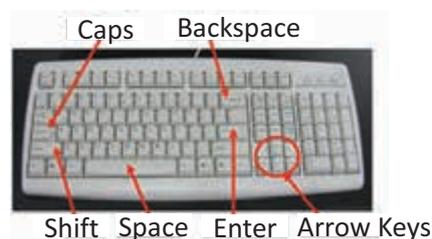
At the end of this unit, you will be able to:

1. Identify the basic parts of a computer
2. Identify the basic parts of a keyboard
3. Recall basic computer terminology
4. Recall basic computer terminology
5. Recall the functions of basic computer keys
6. Discuss the main applications of MS Office
7. Discuss the benefits of Microsoft Outlook
8. Discuss the different types of e-commerce
9. List the benefits of e-commerce for retailers and customers
10. Discuss how the Digital India campaign will help boost e-commerce in India
11. Describe how you will sell a product or service on an e-commerce platform

11.2.1 Computer and Internet basics: Basic Parts of a Computer



Basic Parts of a Keyboard



Basic Parts of a Computer

- **Central Processing Unit (CPU):** The brain of the computer. It interprets and carries out program instructions.
- **Hard Drive:** A device that stores large amounts of data.
- **Monitor:** The device that contains the computer screen where the information is visually displayed.
- **Desktop:** The first screen displayed after the operating system loads.
- **Background:** The image that fills the background of the desktop.

Basic Parts of a Computer

- **Mouse:** A hand-held device used to point to items on the monitor.
- **Speakers:** Devices that enable you to hear sound from the computer.
- **Printer:** A device that converts output from a computer into printed paper documents.
- **Icon:** A small picture or image that visually represents something on your computer.
- **Cursor:** An arrow which indicates where you are positioned on the screen.
- **Program Menu:** A list of programs on your computer that can be accessed from the Start menu.
- **Taskbar:** The horizontal bar at the bottom of the computer screen that lists applications that are currently in use.
- **Recycle Bin:** A temporary storage for deleted files.

Basic Internet Terms

- **The Internet:** A vast, international collection of computer networks that transfers information.
- **The World Wide Web:** A system that lets you access information on the Internet.
- **Website:** A location on the World Wide Web (and Internet) that contains information about a specific topic.
- **Homepage:** Provides information about a website and directs you to other pages on that website.
- **Link/Hyperlink:** A highlighted or underlined icon, graphic, or text that takes you to another file or object.
- **Web Address/URL:** The address for a website.
- **Address Box:** A box in the browser window where you can type in a web address.

Basic Computer Keys

- **Arrow Keys:** Press these keys to move your cursor.
- **Space bar:** Adds a space.
- **Enter/Return:** Moves your cursor to a new line.
- **Shift:** Press this key if you want to type a capital letter or the upper symbol of a key.
- **Caps Lock:** Press this key if you want all the letters you type to be capital letters. Press it again to revert back to typing lowercase letters.
- **Backspace:** Deletes everything to the left of your cursor.

Tips



- When visiting a .com address, there no need to type http:// or even www. Just type the name of the website and then press Ctrl + Enter. (Example: Type 'apple' and press Ctrl + Enter to go to www.apple.com)
- Press the Ctrl key and press the + or - to increase and decrease the size of text.
- Press F5 or Ctrl + R to refresh or reload a web page.

11.2.2 MS Office and Email: About MS Office

MS Office or Microsoft Office is a suite of computer programs developed by Microsoft. Although meant for all users, it offers different versions that cater specifically to students, home users and business users. All the programs are compatible with both, Windows and Macintosh.

Most Popular Office Products

Some of the most popular and universally used MS Office applications are:

- **Microsoft Word:** Allows users to type text and add images to a document.
- **Microsoft Excel:** Allows users to enter data into a spreadsheet and create calculations and graphs.
- **Microsoft PowerPoint:** Allows users to add text, pictures and media and create slideshows and presentations.
- **Microsoft Outlook:** Allows users to send and receive email.
- **Microsoft OneNote:** Allows users to make drawings and notes with the feel of a pen on paper.
- **Microsoft Access:** Allows users to store data over many tables.

Why Choose Microsoft Outlook

A popular email management choice especially in the workplace, Microsoft Outlook also includes an address book, notebook, web browser and calendar. Some major benefits of this program are:

- **Integrated search function:** You can use keywords to search for data across all Outlook programs.
- **Enhanced security:** Your email is safe from hackers, junk mail and phishing website email.
- **Email syncing:** Sync your mail with your calendar, contact list, notes in One Note and...your phone!
- **Offline access to email:** No Internet? No problem! Write emails offline and send them when you're connected again.

Tips



- Press Ctrl+R as a shortcut method to reply to email.
- Set your desktop notifications only for very important emails.
- Flag messages quickly by selecting messages and hitting the Insert key.
- Save frequently sent emails as a template to reuse again and again.
- Conveniently save important emails as files.

11.2.3 E-Commerce: What is E-Commerce

E-commerce is the buying or selling of goods and services, or the transmitting of money or data, electronically on the internet. E-Commerce is the short form for “electronic commerce.”

Examples of E-Commerce

Some examples of e-commerce are:

- Online shopping
- Online auctions
- Online ticketing
- Electronic payments
- Internet banking

Types of E-Commerce

E-commerce can be classified based on the types of participants in the transaction. The main types of e-commerce are:

- **Business to Business (B2B):** Both the transacting parties are businesses.
- **Business to Consumer (B2C):** Businesses sell electronically to end-consumers.
- **Consumer to Consumer (C2C):** Consumers come together to buy, sell or trade items to other consumers.
- **Consumer-to-Business (C2B):** Consumers make products or services available for purchase to companies looking for exactly those services or products.
- **Business-to-Administration (B2A):** Online transactions conducted between companies and public administration.
- **Consumer-to-Administration (C2A):** Online transactions conducted between individuals and public administration.

Benefits of E-Commerce

The e-commerce business provides some benefits for retailers and customers.

Benefits for retailers:

- Establishes an online presence
- Reduces operational costs by removing overhead costs
- Increases brand awareness through the use of good keywords
- Increases sales by removing geographical and time constraints

Benefits for customers:

- Offers a wider range of choice than any physical store
- Enables goods and services to be purchased from remote locations
- Enables consumers to perform price comparisons

Digital India Campaign

Prime Minister Narendra Modi launched the Digital India campaign in 2015, with the objective of offering every citizen of India access to digital services, knowledge and information. The campaign aims to improve the country's online infrastructure and increase internet connectivity, thus boosting the e-commerce industry.

Currently, the majority of online transactions come from tier 2 and tier 3 cities. Once the Digital India campaign is in place, the government will deliver services through mobile connectivity, which will help deliver internet to remote corners of the country. This will help the e-commerce market to enter India's tier 4 towns and rural areas.

E-Commerce Activity

Choose a product or service that you want to sell online. Write a brief note explaining how you will use existing e-commerce platforms, or create a new e-commerce platform, to sell your product or service.

Tips



- Before launching your e-commerce platform, test everything.
- Pay close and personal attention to your social media.

UNIT 11.3: Money Matters

Unit Objectives



At the end of this unit, you will be able to:

1. Discuss the importance of saving money
2. Discuss the benefits of saving money
3. Discuss the main types of bank accounts
4. Describe the process of opening a bank account
5. Differentiate between fixed and variable costs
6. Describe the main types of investment options
7. Describe the different types of insurance products
8. Describe the different types of taxes
9. Discuss the uses of online banking
10. Discuss the main types of electronic funds transfers

11.3.1 Personal Finance – Why to Save: Importance of Saving

We all know that the future is unpredictable. You never know what will happen tomorrow, next week or next year. That's why saving money steadily through the years is so important. Saving money will help improve your financial situation over time. But more importantly, knowing that you have money stashed away for an emergency will give you peace of mind. Saving money also opens the door to many more options and possibilities.

Benefits of Saving

Inculcating the habit of saving leads to a vast number of benefits. Saving helps you:

- **Become financially independent:** When you have enough money saved up to feel secure you can start making your choices, from taking a vacation whenever you want, to switching careers or starting your own business.
- **Invest in yourself through education:** Through saving, you can earn enough to pay up for courses that will add to your professional experience and ultimately result in higher paying jobs.
- **Get out of debt:** Once you have saved enough as a reserve fund, you can use your savings to pay off debts like loans or bills that have accumulated over time.
- **Be prepared for surprise expenses :** Having money saved enables you to pay for unforeseen expenses like sudden car or house repairs, without feeling financially stressed.
- **Pay for emergencies:** Saving helps you deal with emergencies like sudden health issues or emergency trips without feeling financially burdened.

- **Afford large purchases and achieve major goals:** Saving diligently makes it possible to place down payments towards major purchases and goals, like buying a home or a car.
- **Retire:** The money you have saved over the years will keep you comfortable when you no longer have the income you would get from your job.

Tips



- Break your spending habit. Try not spending on one expensive item per week, and put the money that you would have spent into your savings.
- Decide that you will not buy anything on certain days or weeks and stick to your word.

11.3.2 Types of Bank Accounts, Opening a Bank Account: Types of Bank Accounts

In India, banks offer four main types of bank accounts. These are:

- Current Accounts
- Savings Accounts
- Recurring Deposit Accounts
- Fixed Deposit Accounts

Current Accounts

Current accounts offer the most liquid deposits and thus, are best suited for businessmen and companies. As these accounts are not meant for investments and savings, there is no imposed limit on the number or amount of transactions that can be made on any given day. Current account holders are not paid any interest on the amounts held in their accounts. They are charged for certain services offered on such accounts.

Savings Accounts

Savings accounts are meant to promote savings, and are therefore the number one choice for salaried individuals, pensioners and students. While there is no restriction on the number and amount of deposits made, there are usually restrictions on the number and amount of withdrawals. Savings account holders are paid interest on their savings.

Recurring Deposit Accounts

Recurring Deposit accounts, also called RD accounts, are the accounts of choice for those who want to save an amount every month, but are unable to invest a large sum at one time. Such account holders deposit a small, fixed amount every month for a pre-determined period (minimum 6 months). Defaulting on a monthly payment results in the account holder being charged a penalty amount. The total amount is repaid with interest at the end of the specified period.

Fixed Deposit Accounts

Fixed Deposit accounts, also called FD accounts, are ideal for those who wish to deposit their savings for a long term in return for a high rate of interest. The rate of interest offered depends on the amount deposited and the time period, and also differs from bank to bank. In the case of an FD, a certain amount of money is deposited by the account holder for a fixed period of time. The money can be withdrawn when the period expires. If necessary, the depositor can break the fixed deposit prematurely. However, this usually attracts a penalty amount which also differs from bank to bank.

Opening a Bank Account

Opening a bank account is quite a simple process. Take a look at the steps to open an account of your own:

Step 1: Fill in the Account Opening Form

This form requires you to provide the following information:

- Personal details (name, address, phone number, date of birth, gender, occupation, address)
- Method of receiving your account statement (hard copy/email)
- Details of your initial deposit (cash/cheque)
- Manner of operating your account (online/mobile banking/traditional via cheque, slip books)

Ensure that you sign wherever required on the form.

Step 2: Affix your Photograph

Stick a recent photograph of yourself in the allotted space on the form.

Step 3: Provide your Know Your Customer (KYC) Details

KYC is a process that helps banks verify the identity and address of their customers. To open an account, every individual needs to submit certain approved documents with respect to photo identity (ID) and address proof. Some Officially Valid Documents (OVDs) are:

- Passport
- Driving License
- Voters' Identity Card
- PAN Card
- UIDAI (Aadhaar) Card

Step 4: Submit All your Documents

Submit the completed Account Opening Form and KYC documents. Then wait until the forms are processed and your account has been opened!

Tips

- Select the right type of account.
- Fill in complete nomination details.
- Ask about fees.
- Understand the rules.
- Check for online banking – it's convenient!
- Keep an eye on your bank balance.

11.3.3 Costs: Fixed vs Variable: What are Fixed and Variable Costs

Fixed costs and variable costs together make up a company's total cost. These are the two types of costs that companies have to bear when producing goods and services.

A fixed cost does not change with the volume of goods or services a company produces. It always remains the same.

A variable cost, on the other hand, increases and decreases depending on the volume of goods and services produced. In other words, it varies with the amount produced.

Differences Between Fixed and Variable Costs

Let's take a look at some of the main differences between fixed and variable costs:

Criteria	Fixed Costs	Variable Costs
Meaning	A cost that stays the same, regardless of the output produced.	A cost that changes when the
Nature	Time related.	Volume related.
Incurred	Incurred irrespective of units being produced.	Incurred only when units are produced.
Unit cost	Inversely proportional to the number of units produced.	Remains the same, per unit.
Examples	Depreciation, rent, salary, insurance, tax etc.	Material consumed, wages, commission on sales, packing expenses, etc.

Tips



- When trying to determine whether a cost is fixed or variable, simply ask the following question: Will the particular cost change if the company stopped its production activities? If the answer is no, then it is a fixed cost. If the answer is yes, then it is probably a variable cost.

11.3.4 Investment, Insurance and Taxes:

Investment

Investment means that money is spent today with the aim of reaping financial gains at a future time. The main types of investment options are as follows:

- **Bonds:** Bonds are instruments used by public and private companies to raise large sums of money – too large to be borrowed from a bank. These bonds are then issued in the public market and are bought by lenders.
- **Stocks:** Stocks or equity are shares that are issued by companies and are bought by the general public.
- **Small Savings Schemes:** Small Savings Schemes are tools meant to save money in small amounts. Some popular schemes are the Employees Provident Fund, Sukanya Samridhi Scheme and National Pension Scheme.
- **Mutual Funds:** Mutual Funds are professionally managed financial instruments that invest money in different securities on behalf of investors.
- **Fixed Deposits:** A fixed amount of money is kept aside with a financial institution for a fixed amount of time in return for interest on the money.
- **Real Estate:** Loans are taken from banks to purchase real estate, which is then leased or sold with the aim of making a profit on the appreciated property price.
- **Hedge Funds:** Hedge funds invest in both financial derivatives and/or publicly traded securities.
- **Private Equity:** Private Equity is trading in the shares of an operating company that is not publicly listed and whose shares are not available on the stock market.
- **Venture Capital:** Venture Capital involves investing substantial capital in a budding company in return for stocks in that company.

Insurance

There are two types of insurance – Life Insurance and Non-Life or General Insurance.

Life Insurance

Life Insurance deals with all insurance covering human life.

Life Insurance Products

The main life insurance products are:

- **Term Insurance:** This is the simplest and cheapest form of insurance. It offers financial protection for a specified tenure, say 15 to 20 years. In the case of your death, your family is paid the sum assured. In the case of your surviving the term, the insurer pays nothing.
- **Endowment Policy:** This offers the dual benefit of insurance and investment. Part of the premium is allocated towards the sum assured, while the remaining premium gets invested in equity and debt. It pays a lump sum amount after the specified duration or on the death of the policyholder, whichever is earlier.
- **Unit-Linked Insurance Plan (ULIP):** Here part of the premium is spent on the life cover, while the remaining amount is invested in equity and debt. It helps develop a regular saving habit.

- **Money Back Life Insurance:** While the policyholder is alive, periodic payments of the partial survival benefits are made during the policy tenure. On the death of the insured, the insurance company pays the full sum assured along with survival benefits.
- **Whole Life Insurance:** It offers the dual benefit of insurance and investment. It offers insurance cover for the whole life of the person or up to 100 years whichever is earlier.

General Insurance

General Insurance deals with all insurance covering assets like animals, agricultural crops, goods, factories, cars and so on.

General Insurance Products

The main general insurance products are:

- **Motor Insurance:** This can be divided into Four Wheeler Insurance and Two Wheeler Insurance.
- **Health Insurance:** The main types of health insurance are individual health insurance, family floater health insurance, comprehensive health insurance and critical illness insurance.
- **Travel Insurance:** This can be categorised into Individual Travel Policy, Family Travel Policy, Student Travel Insurance and Senior Citizen Health Insurance.
- **Home Insurance:** This protects the house and its contents from risk.
- **Marine Insurance:** This insurance covers goods, freight, cargo etc. against loss or damage during transit by rail, road, sea and/or air.

Taxes

There are two types of taxes – Direct Taxes and Indirect Taxes.

Direct Tax

Direct taxes are levied directly on an entity or a person and are non-transferrable.

Some examples of Direct Taxes are:

- **Income Tax:** This tax is levied on your earning in a financial year. It is applicable to both, individuals and companies.
- **Capital Gains Tax:** This tax is payable whenever you receive a sizable amount of money. It is usually of two types – short term capital gains from investments held for less than 36 months and long term capital gains from investments held for longer than 36 months.
- **Securities Transaction Tax:** This tax is added to the price of a share. It is levied every time you buy or sell shares.
- **Perquisite Tax:** This tax is levied on perks that have been acquired by a company or used by an employee.
- **Corporate Tax:** Corporate tax is paid by companies from the revenue they earn.

Indirect Tax

Indirect taxes are levied on goods or services.

Some examples of Indirect Taxes are:

- **Sales Tax:** Sales Tax is levied on the sale of a product.

- **Service Tax:** Service Tax is added to services provided in India.
- **Value Added Tax:** Value Added Tax is levied at the discretion of the state government. The tax is levied on goods sold in the state. The tax amount is decided by the state.
- **Customs Duty & Octroi:** Customs Duty is a charge that is applied on purchases that are imported from another country. Octroi is levied on goods that cross state borders within India.
- **Excise Duty:** Excise Duty is levied on all goods manufactured or produced in India.

Tips



- Think about how quickly you need your money back and pick an investment option accordingly.
- Ensure that you are buying the right type of insurance policy for yourself.
- Remember, not paying taxes can result in penalties ranging from fines to imprisonment.

11.3.5 Online Banking, NEFT, RTGS etc.: What is Online Banking

Internet or online banking allows account holders to access their account from a laptop at any location. In this way, instructions can be issued. To access an account, account holders simply need to use their unique customer ID number and password.

Internet banking can be used to:

- Find out an account balance
- Transfer amounts from one account to another
- Arrange for the issuance of cheques
- Instruct payments to be made
- Request for a cheque book
- Request for a statement of accounts
- Make a fixed deposit

Electronic Funds Transfers

Electronic funds transfer is a convenient way of transferring money from the comfort of one's own home, using integrated banking tools like internet and mobile banking.

Transferring funds via an electronic gateway is extremely convenient. With the help of online banking, you can choose to:

- Transfer funds into your own accounts of the same bank.
- Transfer funds into different accounts of the same bank.
- Transfer funds into accounts in different banks, using NEFT.
- Transfer funds into other bank accounts using RTGS.
- Transfer funds into various accounts using IMPS.

NEFT

NEFT stands for National Electronic Funds Transfer. This money transfer system allows you to electronically transfer funds from your respective bank accounts to any other account, either in the same bank or belonging to any other bank. NEFT can be used by individuals, firms and corporate organizations to transfer funds between accounts.

In order to transfer funds via NEFT, two things are required:

- A transferring bank
- A destination bank

Before you can transfer funds through NEFT, you will need to register the beneficiary who will be receiving the funds. In order to complete this registration, you will require the following

- | | |
|------------------------------|--------------------------------|
| • Recipient's name | • Recipient's bank's name |
| • Recipient's account number | • Recipient's bank's IFSC code |

RTGS

RTGS stands for Real Time Gross Settlement. This is a real time funds transfer system which enables you to transfer funds from one bank to another, in real time or on a gross basis. The transferred amount is immediately deducted from the account of one bank, and instantly credited to the other bank's account. The RTGS payment gateway is maintained by the Reserve Bank of India. The transactions between banks are made electronically.

RTGS can be used by individuals, companies and firms to transfer large sums of money. Before remitting funds through RTGS, you will need to add the beneficiary and his bank account details via your online banking account. In order to complete this registration, you will require the following information:

- Name of the beneficiary
- Beneficiary's account number
- Beneficiary's bank address
- Beneficiary's bank's IFSC code

IMPS

IMPS stands for Immediate Payment Service. This is a real-time, inter-bank, electronic funds transfer system used to transfer money instantly within banks across India. IMPS enables users to make instant electronic transfer payments using mobile phones through both, Mobile Banking and SMS. It can also be used through ATMs and online banking. IMPS is available 24 hours a day and 7 days a week. The system features a secure transfer gateway and immediately confirms orders that have been fulfilled.

To transfer money through IMPS, the you need to:

- Register for IMPS with your bank
- Receive a Mobile Money Identifier (MMID) from the bank
- Receive a MPIN from the bank

Once you have both these, you can login or make a request through SMS to transfer a particular amount to a beneficiary.

For the beneficiary to receive the transferred money, he must:

1. Link his mobile number with his respective account
2. Receive the MMID from the bank

In order to initiate a money transfer through IMPS, you will need to enter the following information:

1. The beneficiary's mobile number
2. The beneficiary's MMID
3. The transfer amount
4. Your MPIN

As soon as money has been deducted from your account and credited into the beneficiary's account, you will be sent a confirmation SMS with a transaction reference number, for future reference.

Differences Between NEFT, RTGS & IMPS

Criteria	NEFT	RTGS	IMPS
Settlement	Done in batches	Real-time	Real-time
Full form	National Electronic Fund Transfer	Real Time Gross Settlement	Immediate Payment Service
Timings on Monday – Friday	8:00 am – 6:30 pm	9:00 am – 4:30 pm	24x7
Timings on Saturday	8:00 am – 1:00 pm	9:00 am – 1:30 pm	24x7
Minimum amount of money transfer limit	₹ 1	₹ 2 lacs	₹ 1
Maximum amount of money transfer limit	₹ 10 lacs	₹ 10 lacs per day	₹ 2 lacs
Maximum charges as per RBI	Upto 10,000 – ₹ 2.5 above 10,000 – 1 lac – ₹ 5 above 1 – 2 lacs – ₹ 15 above 2 – 5 lacs – ₹ 25 above 5 – 10 lacs – ₹ 25	above 2 – 5 lacs – ₹ 25 above 5 – 10 lacs – ₹ 50	Upto 10,000 – ₹ 5 above 10,000 – 1 lac – ₹ 5 above 1 – 2 lacs – ₹ 15

Tips



- Never click on any links in any e-mail message to access your online banking website.
- You will never be asked for your credit or debit card details while using online banking.
- Change your online banking password regularly.

UNIT 11.4. Preparing for Employment & Self Employment

Unit Objectives



At the end of this unit, you will be able to:

1. Discuss the steps to prepare for an interview
2. Discuss the steps to create an effective Resume
3. Discuss the most frequently asked interview questions
4. Discuss how to answer the most frequently asked interview questions
5. Discuss basic workplace terminology

11.4.1 Interview Preparation: How to Prepare for an Interview

The success of your getting the job that you want depends largely on how well your interview for that job goes. Therefore, before you go in for your interview, it is important that you prepare for it with a fair amount of research and planning. Take a look at the steps to follow in order to be well prepared for an interview:

1. **Research the organization that you are having the interview with.**
 - Studying the company beforehand will help you be more prepared at the time of the interview. Your knowledge of the organization will help you answer questions at the time of the interview, and will leave you looking and feeling more confident. This is sure to make you stand out from other, not as well informed, candidates.
 - Look for background information on the company. Try and find an overview of the company and its industry profile.
 - Visit the company website to get a good idea of what the company does. A company website offers a wealth of important information. Read and understand the company's mission statement. Pay attention to the company's products/services and client list. Read through any press releases to get an idea of the company's projected growth and stability.
 - Note down any questions that you have after your research has been completed.
2. **Think about whether your skills and qualifications match the job requirements.**
 - Carefully read through and analyze the job description.
 - Make a note of the knowledge, skills and abilities required to fulfill the job requirements.
 - Take a look at the organization hierarchy. Figure out where the position you are applying for fits into this hierarchy.
3. **Go through the most typical interview questions asked, and prepare your responses.**
 - Remember, in most interviews a mix of resume-based, behavioral and case study questions are asked.
 - Think about the kind of answers you would like to provide to typical questions asked in these three areas.
 - Practice these answers until you can express them confidently and clearly.

4. **Plan your attire for the interview.**

- It is always safest to opt for formal business attire, unless expressly informed to dress in business casual (in which case you should use your best judgement).
- Ensure that your clothes are clean and well-ironed. Pick neutral colours – nothing too bright or flashy.
- The shoes you wear should match your clothes, and should be clean and suitable for an interview.
- Remember, your aim is to leave everyone you meet with the impression that you are a professional and highly efficient person.

5. **Ensure that you have packed everything that you may require during the interview.**

- Carry a few copies of your resume. Use a good quality paper for your resume print outs.
- Always take along a notepad and a pen.
- Take along any information you may need to refer to, in order to fill out an application form.
- Carry a few samples of your work, if relevant.

6. **Remember the importance of non-verbal communication.**

- Practice projecting confidence. Remind yourself to smile and make eye contact. Practice giving a firm handshake.
- Keep in mind the importance of posture. Practice sitting up straight. Train yourself to stop nervous gestures like fidgeting and foot-tapping.
- Practice keeping your reactions in check. Remember, your facial expressions provide a good insight into your true feelings. Practice projecting a positive image.

7. **Make a list of questions to end the interview with.**

- Most interviews will end with the interviewer(s) asking if you have any questions. This is your chance to show that you have done your research and are interested in learning more about the company.
- If the interviewer does not ask you this question, you can inform him/her that you have some queries that you would like to discuss. This is the time for you to refer to the notes you made while studying the company.
- Some good questions to ask at this point are:
 - What do you consider the most important criteria for success in this job?
 - How will my performance be evaluated?
 - What are the opportunities for advancement?
 - What are the next steps in the hiring process?
- Remember, never ask for information that is easily available on the company website.

Tips



- Ask insightful and probing questions.
- When communicating, use effective forms of body language like smiling, making eye contact, and actively listening and nodding. Don't slouch, play with nearby items, fidget, chew gum, or mumble.

11.4.2 Preparing an Effective Resume: How to Create an Effective Resume

A resume is a formal document that lists a candidate's work experience, education and skills. A good resume gives a potential employer enough information to believe the applicant is worth interviewing. That's why it is so important to create a résumé that is effective. Take a look at the steps to create an effective resume:

Step 1: Write the Address Section

The Address section occupies the top of your resume. It includes information like your name, address, phone number and e-mail address. Insert a bold line under the section to separate it from rest of your resume.

Example:

Jasmine Watts
Breach Candy, Mumbai – India
Contact No: +91 2223678270
Email: jasmine.watts@gmail.com

Step 2: Add the Profile Summary Section

This part of your resume should list your overall experiences, achievements, awards, certifications and strengths. You can make your summary as short as 2-3 bullet points or as long as 8-10 bullet points.

Example:

Profile Summary

- A Content Writer graduated from University of Strathclyde having 6 years of experience in writing website copy.
- Core expertise lies in content creation for e-learning courses, specifically for the K-12 segment.

Step 3: Include Your Educational Qualifications

When listing your academic records, first list your highest degree. Then add the second highest qualification under the highest one and so on. To provide a clear and accurate picture of your educational background, it is critical that include information on your position, rank, percentage or CPI for every degree or certification that you have listed.

If you have done any certifications and trainings, you can add a Trainings & Certifications section under your Educational Qualifications section.

Example:

Educational Qualifications

- Masters in International Management (2007) from Columbia University with 8.8 CPI.
- Bachelor of Management Studies (2004) from Mumbai University with 87% marks.
- 10+2 with Math, Stats (2001) from Maharashtra Board with 91% marks.
- High School (1999) from Maharashtra Board with 93% marks.

Step 4: List Your Technical Skills

When listing your technical skills, start with the skills that you are most confident about. Then add the skills that you do not have as good a command over. It is perfectly acceptable to include just one skill, if you feel that particular skill adds tremendous value to your résumé. If you do not have any technical skills, you can omit this step.

Example:**Technical Skills**

- Flash
- Photoshop

Step 5: Insert Your Academic Project Experience

List down all the important projects that you have worked on. Include the following information in this section:

- | | | |
|-----------------|----------------|-----------------|
| • Project title | • Organization | • Platform used |
| • Contribution | • Description | |

Example:**Academic Projects**

Project Title: Different Communication Skills

Organization: True Blue Solutions

Platform used: Articulate

Contribution: Content writing and graphic visualization

Description: Development of storyboards for corporate induction & training programs

Step 6: List Your Strengths

This is where you list all your major strengths. This section should be in the form of a bulleted list.

Example:**Strengths**

- Excellent oral, written and presentation skills
- Action-oriented and result-focused
- Great time management skills

Step 7: List Your Extracurricular Activities

It is very important to show that you have diverse interests and that your life consists of more than academics. Including your extracurricular activities can give you an added edge over other candidates who have similar academic scores and project experiences. This section should be in the form of a bulleted list.

Example:**Extracurricular Activities**

- Member of the Debate Club
- Played tennis at a national level
- Won first prize in the All India Camel Contest, 2010

Step 8: Write Your Personal Details

The last section of your résumé must include the following personal information:

- Date of birth
- Gender & marital status
- Nationality
- Languages known

Example:**Personal Details**

- Date of birth: 25th May, 1981
- Gender & marital status: Female, Single
- Nationality: Indian
- Languages known: English, Hindi, Tamil, French

Tips

- Keep your resume file name short, simple and informational.
- Make sure the resume is neat and free from typing errors.
- Always create your resume on plain white paper.

11.4.3 Interview FAQs

Take a look at some of the most frequently asked interview questions, and some helpful tips on how to answer them.

Q1. Can you tell me a little about yourself?

Tips to answer:

- Don't provide your full employment or personal history.
- Offer 2-3 specific experiences that you feel are most valuable and relevant.
- Conclude with how those experiences have made you perfect for this specific role.

Q2. How did you hear about the position?

Tips to answer:

- Tell the interviewer how you heard about the job – whether it was through a friend (name the friend), event or article (name them) or a job portal (say which one).
- Explain what excites you about the position and what in particular caught your eye about this role.

Q3. What do you know about the company?

Tips to answer:

- Don't recite the company's About Us page.
- Show that you understand and care about the company's goals.
- Explain why you believe in the company's mission and values.

Q4. Why do you want this job?

Tips to answer:

- Show that you are passionate about the job.
- Identify why the role is a great fit for you.
- Explain why you love the company.

Q5. Why should we hire you?

Tips to answer:

- Prove through your words that you can not only do the work, but can definitely deliver excellent results.
- Explain why you would be a great fit with the team and work culture.
- Explain why you should be chosen over any other candidate.

Q6. What are your greatest professional strengths?

Tips to answer:

- Be honest – share some of your real strengths, rather than give answers that you think sound good.
- Offer examples of specific strengths that are relevant to the position you are applying for.
- Provide examples of how you've demonstrated these strengths.

Q7. What do you consider to be your weaknesses?

Tips to answer:

- The purpose of this question is to gauge your self-awareness and honesty.
- Give an example of a trait that you struggle with, but that you're working on to improve.

Q8. What are your salary requirements?**Tips to answer:**

- Do your research beforehand and find out the typical salary range for the job you are applying for.
- Figure out where you lie on the pay scale based on your experience, education, and skills.
- Be flexible. Tell the interviewer that you know your skills are valuable, but that you want the job and are willing to negotiate.

Q9. What do you like to do outside of work?**Tips to answer:**

- The purpose of this question is to see if you will fit in with the company culture.
- Be honest – open up and share activities and hobbies that interest and excite you.

Q10. If you were an animal, which one would you want to be?**Tips to answer:**

- The purpose of this question is to see if you are able to think on your feet.
- There's no wrong answer – but to make a great impression try to bring out your strengths or personality traits through your answer.

Q11: What do you think we could do better or differently?**Tips to answer:**

- The purpose of this question is to see if you have done your research on the company, and to test whether you can think critically and come up with new ideas.
- Suggest new ideas. Show how your interests and expertise would help you execute these ideas.

Q12: Do you have any questions for us?**Tips to answer:**

- Do not ask questions to which the answers can be easily found on the company website or through a quick online search.
- Ask intelligent questions that show your ability to think critically.

Tips

- Be honest and confident while answering.
- Use examples of your past experiences wherever possible to make your answers more impactful.

11.4.4 Work Readiness – Terms & Terminologies:

Basic Workplace Terminology

Every employee should be well versed in the following terms:

- **Annual leave:** Paid vacation leave given by employers to employees.
- **Background Check:** A method used by employers to verify the accuracy of the information provided by potential candidates.
- **Benefits:** A part of an employee's compensation package.
- **Breaks:** Short periods of rest taken by employees during working hours.
- **Compensation Package:** The combination of salary and benefits that an employer provides to his/her employees.
- **Compensatory Time (Comp Time):** Time off in lieu of pay.
- **Contract Employee:** An employee who works for one organization that sells said employee's services to another company, either on a project or time basis.
- **Contract of Employment:** When an employee is offered work in exchange for wages or salary, and accepts the offer made by the employer, a contract of employment exists.
- **Corporate Culture:** The beliefs and values shared by all the members of a company, and imparted from one generation of employees to another.
- **Counter Offer/Counter Proposal:** A negotiation technique used by potential candidates to increase the amount of salary offered by a company.
- **Cover Letter:** A letter that accompanies a candidate's resume. It emphasizes the important points in the candidate's resume and provides real examples that prove the candidate's ability to perform the expected job role.
- **Curriculum Vitae (CV)/Resume:** A summary of a candidate's achievements, educational background, work experience, skills and strengths.
- **Declining Letter:** A letter sent by an employee to an employer, turning down the job offer made by the employer to the employee.
- **Deductions:** Amounts subtracted from an employee's pay and listed on the employee's pay slip.
- **Discrimination:** The act of treating one person not as favourably as another person.
- **Employee:** A person who works for another person in exchange for payment.
- **Employee Training:** A workshop or in-house training that an employee is asked to attend by his or her superior, for the benefit of the employer.
- **Employment Gaps:** Periods of unemployed time between jobs.
- **Fixed-Term Contract:** A contract of employment which gets terminated on an agreed-upon date.
- **Follow-Up:** The act of contacting a potential employer after a candidate has submitted his or her resume.
- **Freelancer/Consultant/Independent Contractor:** A person who works for him or herself and pitches for temporary jobs and projects with different employers.
- **Holiday:** Paid time-off from work.
- **Hourly Rate:** The amount of salary or wages paid for 60 minutes of work.

- **Internship:** A job opportunity offered by an employer to a potential employee, called an intern, to work at the employer's company for a fixed, limited time period.
- **Interview:** A conversation between a potential employee and a representative of an employer, in order to determine if the potential employee should be hired.
- **Job Application:** A form which asks for a candidate's information like the candidate's name, address, contact details and work experience. The purpose of a candidate submitting a job application, is to show that candidate's interest in working for a particular company.
- **Job Offer:** An offer of employment made by an employer to a potential employee.
- **Job Search Agent:** A program that enables candidates to search for employment opportunities by selecting criteria listed in the program, for job vacancies.
- **Lay Off:** A lay off occurs when an employee is temporarily let go from his or her job, due to the employer not having any work for that employee.
- **Leave:** Formal permission given to an employee, by his or her employer, to take a leave of absence from work.
- **Letter of Acceptance:** A letter given by an employer to an employee, confirming the offer of employment made by the employer, as well as the conditions of the offer.
- **Letter of Agreement:** A letter that outlines the terms of employment.
- **Letter of Recommendation:** A letter written for the purpose of validating the work skills of a person.
- **Maternity Leave:** Leave taken from work by women who are pregnant, or who have just given birth.
- **Mentor:** A person who is employed at a higher level than you, who offers you advice and guides you in your career.
- **Minimum wage:** The minimum wage amount paid on an hourly basis.
- **Notice:** An announcement made by an employee or an employer, stating that the employment contract will end on a particular date.
- **Offer of Employment:** An offer made by an employer to a prospective employee that contains important information pertaining to the job being offered, like the starting date, salary, working conditions etc.
- **Open-Ended Contract:** A contract of employment that continues till the employer or employee terminates it.
- **Overqualified:** A person who is not suited for a particular job because he or she has too many years of work experience, or a level of education that is much higher than required for the job, or is currently or was previously too highly paid.
- **Part-Time Worker:** An employee who works for fewer hours than the standard number of hours normally worked.
- **Paternity Leave:** Leave granted to a man who has recently become a father.
- **Recruiters/Headhunters/Executive Search Firms:** Professionals who are paid by employers to search for people to fill particular positions.
- **Resigning/Resignations:** When an employee formally informs his or her employer that he or she is quitting his or her job.
- **Self-Employed:** A person who has his or her own business and does not work in the capacity of an employee.
- **Time Sheet:** A form that is submitted to an employer, by an employee, that contains the number of hours worked every day by the employee.

UNIT 11.5. Understanding Entrepreneurship

Unit Objectives



1. At the end of this unit, you will be able to:
2. Discuss the concept of entrepreneurship
3. Discuss the importance of entrepreneurship
4. Describe the characteristics of an entrepreneur
5. Describe the different types of enterprises
6. List the qualities of an effective leader
7. Discuss the benefits of effective leadership
8. List the traits of an effective team
9. Discuss the importance of listening effectively
10. Discuss how to listen effectively
11. Discuss the importance of speaking effectively
12. Discuss how to speak effectively
13. Discuss how to solve problems
14. List important problem solving traits
15. Discuss ways to assess problem solving skills
16. Discuss the importance of negotiation
17. Discuss how to negotiate
18. Discuss how to identify new business opportunities
19. Discuss how to identify business opportunities within your business
20. Understand the meaning of entrepreneur
21. Describe the different types of entrepreneurs
22. List the characteristics of entrepreneurs
23. Recall entrepreneur success stories
24. Discuss the entrepreneurial process
25. Describe the entrepreneurship ecosystem
26. Discuss the government's role in the entrepreneurship ecosystem
27. Discuss the current entrepreneurship ecosystem in India
28. Understand the purpose of the Make in India campaign
29. Discuss the relationship between entrepreneurship and risk appetite
30. Discuss the relationship between entrepreneurship and resilience
31. Describe the characteristics of a resilient entrepreneur
32. Discuss how to deal with failure

11.5.1 Concept Introduction, (Characteristic of an Entrepreneur, types of firms / types of enterprises): Entrepreneurs and Entrepreneurship

Anyone who is determined to start a business, no matter what the risk, is an entrepreneur. Entrepreneurs run their own start-up, take responsibility for the financial risks and use creativity, innovation and vast reserves of self-motivation to achieve success. They dream big and are determined to do whatever it takes to turn their idea into a viable offering. The aim of an entrepreneur is to create an enterprise. The process of creating this enterprise is known as entrepreneurship.

Importance of Entrepreneurship

Entrepreneurship is very important for the following reasons:

1. It results in the creation of new organizations
2. It brings creativity into the marketplace
3. It leads to improved standards of living
4. It helps develop the economy of a country

Characteristics of Entrepreneurs

All successful entrepreneurs have certain characteristics in common.

They are all:

- Extremely passionate about their work
- Confident in themselves
- Disciplined and dedicated
- Motivated and driven
- Highly creative
- Visionaries
- Open-minded
- Decisive

Entrepreneurs also have a tendency to:

- Have a high risk tolerance
- Thoroughly plan everything
- Manage their money wisely
- Make their customers their priority
- Understand their offering and their market in detail
- Ask for advice from experts when required
- Know when to cut their losses

Examples of Famous Entrepreneurs

Some famous entrepreneurs are:

- Bill Gates (Founder of Microsoft)
- Steve Jobs (Co-founder of Apple)
- Mark Zuckerberg (Founder of Facebook)
- Pierre Omidyar (Founder of eBay)

Types of Enterprises

As an entrepreneur in India, you can own and run any of the following types of enterprises:

Sole Proprietorship

In a sole proprietorship, a single individual owns, manages and controls the enterprise. This type of business is the easiest to form with respect to legal formalities. The business and the owner have no separate legal existence. All profit belongs to the proprietor, as do all the losses - the liability of the entrepreneur is unlimited.

Partnership

A partnership firm is formed by two or more people. The owners of the enterprise are called partners. A partnership deed must be signed by all the partners. The firm and its partners have no separate legal existence. The profits are shared by the partners. With respect to losses, the liability of the partners is unlimited. A firm has a limited life span and must be dissolved when any one of the partners dies, retires, claims bankruptcy or goes insane.

Limited Liability Partnership (LLP)

In a Limited Liability Partnership or LLP, the partners of the firm enjoy perpetual existence as well as the advantage of limited liability. Each partner's liability is limited to their agreed contribution to the LLP. The partnership and its partners have a separate legal existence.

Tips



- Learn from others' failures.
- Be certain that this is what you want.
- Search for a problem to solve, rather than look for a problem to attach to your idea.

11.5.2 Leadership & Teamwork:

Leadership and Leaders

Leadership means setting an example for others to follow. Setting a good example means not asking someone to do something that you wouldn't willingly want to do yourself. Leadership is about figuring out what to do in order to win as a team, and as a company.

Leaders believe in doing the right things. They also believe in helping others to do the right things. An effective leader is someone who:

- Creates an inspiring vision of the future.
- Motivates and inspires his team to pursue that vision.

Leadership Qualities That All Entrepreneurs Need

Building a successful enterprise is only possible if the entrepreneur in charge possesses excellent leadership qualities. Some critical leadership skills that every entrepreneur must have are:

1. **Pragmatism:** This means having the ability to highlight all obstacles and challenges, in order to resolve issues and reduce risks.
2. **Humility:** This means admitting to mistakes often and early, and being quick to take responsibility for your actions. Mistakes should be viewed as challenges to overcome, not opportunities to point blame.
3. **Flexibility:** It is critical for a good leader to be very flexible and quickly adapt to change. It is equally critical to know when to adapt and when not to.
4. **Authenticity:** This means showing both, your strengths and your weaknesses. It means being human and showing others that you are human.
5. **Reinvention:** This means refreshing or changing your leadership style when necessary. To do this, it's important to learn where your leadership gaps lie and find out what resources are required to close them.
6. **Awareness:** This means taking the time to recognize how others view you. It means understanding how your presence affects those around you.

Benefits of Effective Leadership

Effective leadership results in numerous benefits. Great leadership leads to the leader successfully:

- Gaining the loyalty and commitment of the team members
- Motivating the team to work towards achieving the company's goals and objectives
- Building morale and instilling confidence in the team members
- Fostering mutual understanding and team-spirit among team members
- Convincing team members about the need to change when a situation requires adaptability

Teamwork and Teams

Teamwork occurs when the people in a workplace combine their individual skills to pursue a common goal. Effective teams are made up of individuals who work together to achieve this common goal. A great team is one who holds themselves accountable for the end result.

Importance of Teamwork in Entrepreneurial Success

For an entrepreneurial leader, building an effective team is critical to the success of a venture. An entrepreneur must ensure that the team he builds possesses certain crucial qualities, traits and characteristics. An effective team is one which has:

1. **Unity of purpose:** All the team members should clearly understand and be equally committed to the purpose, vision and goals of the team.
2. **Great communication skills:** Team members should have the ability to express their concerns, ask questions and use diagrams, and charts to convey complex information.
3. **The ability to collaborate:** Every member should feel entitled to provide regular feedback on new ideas.
4. **Initiative:** The team should consist of proactive individuals. The members should have the enthusiasm to come up with new ideas, improve existing ideas, and conduct their own research.
5. **Visionary members:** The team should have the ability to anticipate problems and act on these potential problem before they turn into real problems.
6. **Great adaptability skills:** The team must believe that change is a positive force. Change should be seen as the chance to improve and try new things.
7. **Excellent organizational skills:** The team should have the ability to develop standard work processes, balance responsibilities, properly plan projects, and set in place methods to measure progress and ROI.

Tips



- Don't get too attached to your original idea. Allow it to evolve and change.
- Be aware of your weaknesses and build a team that will complement your shortfalls.
- Hiring the right people is not enough. You need to promote or incentivize your most talented people to keep them motivated.
- Earn your team's respect.

11.5.3 Communication Skills: Listening & Speaking: The Importance of Listening Effectively

Listening is the ability to correctly receive and understand messages during the process of communication. Listening is critical for effective communication. Without effective listening skills, messages can easily be misunderstood. This results in a communication breakdown and can lead to the sender and the receiver of the message becoming frustrated or irritated.

It's very important to note that listening is not the same as hearing. Hearing just refers to sounds that you hear. Listening is a whole lot more than that. To listen, one requires focus. It means not only paying attention to the story, but also focusing on how the story is relayed, the way language and voice is used, and even how the speaker uses their body language. The ability to listen depends on how effectively one can perceive and understand both, verbal and non-verbal cues.

How to Listen Effectively

To listen effectively you should:

- Stop talking
- Stop interrupting
- Focus completely on what is being said
- Nod and use encouraging words and gestures
- Be open-minded
- Think about the speaker's perspective
- Be very, very patient
- Pay attention to the tone that is being used
- Pay attention to the speaker's gestures, facial expressions and eye movements
- Not try and rush the person
- Not let the speaker's mannerisms or habits irritate or distract you

How to Listen Effectively

How successfully a message gets conveyed depends entirely on how effectively you are able to get it through. An effective speaker is one who enunciates properly, pronounces words correctly, chooses the right words and speaks at a pace that is easily understandable. Besides this, the words spoken out loud need to match the gestures, tone and body language used.

What you say, and the tone in which you say it, results in numerous perceptions being formed. A person who speaks hesitantly may be perceived as having low self-esteem or lacking in knowledge of the discussed topic. Those with a quiet voice may very well be labelled as shy. And those who speak in commanding tones with high levels of clarity, are usually considered to be extremely confident. This makes speaking a very critical communication skill.

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How to Speak Effectively

To speak effectively you should:

- Incorporate body language in your speech like eye contact, smiling, nodding, gesturing etc.
- Build a draft of your speech before actually making your speech.
- Ensure that all your emotions and feelings are under control.
- Pronounce your words distinctly with the correct pitch and intensity. Your speech should be crystal clear at all times.
- Use a pleasant and natural tone when speaking. Your audience should not feel like you are putting on an accent or being unnatural in any way.
- Use precise and specific words to drive your message home. Ambiguity should be avoided at all costs.
- Ensure that your speech has a logical flow.
- Be brief. Don't add any unnecessary information.
- Make a conscious effort to avoid irritating mannerisms like fidgeting, twitching etc.
- Choose your words carefully and use simple words that the majority of the audience will have no difficulty understanding.
- Use visual aids like slides or a whiteboard.
- Speak slowly so that your audience can easily understand what you're saying. However, be careful not to speak too slowly because this can come across as stiff, unprepared or even condescending.
- Remember to pause at the right moments.

Tips



- If you're finding it difficult to focus on what someone is saying, try repeating their words in your head.
- Always maintain eye contact with the person that you are communicating with, when speaking as well as listening. This conveys and also encourages interest in the conversation.

11.5.4 Problem Solving & Negotiation skills:

What is a Problem?

As per The Concise Oxford Dictionary (1995), a problem is, “A doubtful or difficult matter requiring a solution”

All problems contain two elements:

1. Goals
2. Obstacles

The aim of problem solving is to recognize the obstacles and remove them in order to achieve the goals.

How to Solve Problems

Solving a problem requires a level of rational thinking. Here are some logical steps to follow when faced with an issue:

- | | |
|--|--|
| Step 1: Identify the problem | Step 2: Study the problem in detail |
| Step 3: List all possible solutions | Step 4: Select the best solution |
| Step 5: Implement the chosen solution | Step 6: Check that the problem has really been solved |

Important Traits for Problem Solving

Highly developed problem solving skills are critical for both, business owners and their employees. The following personality traits play a big role in how effectively problems are solved:

- Being open minded
- Being proactive
- Having a positive attitude
- Asking the right questions
- Not panicking
- Focusing on the right problem

How to Assess for Problem Solving Skills

As an entrepreneur, it would be a good idea to assess the level of problem solving skills of potential candidates before hiring them. Some ways to assess this skill are through:

1. **Application forms:** Ask for proof of the candidate’s problem solving skills in the application form.
2. **Psychometric tests:** Give potential candidates logical reasoning and critical thinking tests and see how they fare.
3. **Interviews:** Create hypothetical problematic situations or raise ethical questions and see how the candidates respond.
4. **Technical questions:** Give candidates examples of real life problems and evaluate their thought process.

What is Negotiation?

Negotiation is a method used to settle differences. The aim of negotiation is to resolve differences through a compromise or agreement while avoiding disputes. Without negotiation, conflicts are likely to lead to resentment between people. Good negotiation skills help satisfy both parties and go a long way towards developing strong relationships.

Why Negotiate

Starting a business requires many, many negotiations. Some negotiations are small while others are critical enough to make or break a startup. Negotiation also plays a big role inside the workplace. As an entrepreneur, you need to not only know how to negotiate yourself, but also how to train employees in the art of negotiation.

How to Negotiate

Take a look at some steps to help you negotiate:

Step 1: Pre-Negotiation Preparation	Agree on where to meet to discuss the problem, decide who all will be present and set a time limit for the discussion.
Step 2: Discuss the Problem	This involves asking questions, listening to the other side, putting your views forward and clarifying doubts.
Step 3: Clarify the Objective	Ensure that both parties want to solve the same problem and reach the same goal.
Step 4: Aim for a Win-Win Outcome	Try your best to be open minded when negotiating. Compromise and offer alternate solutions to reach an outcome where both parties win.
Step 5: Clearly Define the Agreement	When an agreement has been reached, the details of the agreement should be crystal clear to both sides, with no scope for misunderstandings.
Step 6: Implement the Agreed Upon Solution	Agree on a course of action to set the solution in motion

Tips



- Know exactly what you want before you work towards getting it
- Give more importance to listening and thinking, than speaking
- Focus on building a relationship rather than winning
- Remember that your people skills will affect the outcome
- Know when to walk away – sometimes reaching an agreement may not be possible

11.5.5 Business Opportunities Identification: Entrepreneurs and Opportunities

“The entrepreneur always searches for change, responds to it and exploits it as an opportunity.”

Peter Drucker

The ability to identify business opportunities is an essential characteristic of an entrepreneur.

What is an Opportunity?

The word opportunity suggests a good chance or a favourable situation to do something offered by circumstances.

A business opportunity means a good or favourable change available to run a specific business in a given environment, at a given point of time.

Common Questions Faced by Entrepreneurs

A critical question that all entrepreneurs face is how to go about finding the business opportunity that is right for them.

Some common questions that entrepreneurs constantly think about are:

- Should the new enterprise introduce a new product or service based on an unmet need?
- Should the new enterprise select an existing product or service from one market and offer it in another where it may not be available?
- Should the enterprise be based on a tried and tested formula that has worked elsewhere?

It is therefore extremely important that entrepreneurs must learn how to identify new and existing business opportunities and evaluate their chances of success.

When is an Idea an Opportunity?

An idea is an opportunity when:

- It creates or adds value to a customer
- It solves a significant problem, removes a pain point or meets a demand
- Has a robust market and profit margin
- Is a good fit with the founder and management team at the right time and place

Factors to Consider When Looking for Opportunities

Consider the following when looking for business opportunities:

- | | |
|--|--------------------------------|
| • Economic trends | • Market trends |
| • Changes in funding | • Changes in political support |
| • Changing relationships between vendors, partners and suppliers | • Shift in target audience |

Ways to Identify New Business Opportunities

1. Identify Market Inefficiencies

When looking at a market, consider what inefficiencies are present in the market. Think about ways to correct these inefficiencies.

2. Remove Key Hassles

Rather than create a new product or service, you can innovatively improve a product, service or process.

3. Create Something New

Think about how you can create a new experience for customers, based on existing business models.

4. Pick a Growing Sector/Industry

Research and find out which sectors or industries are growing and think about what opportunities you can tap in the same.

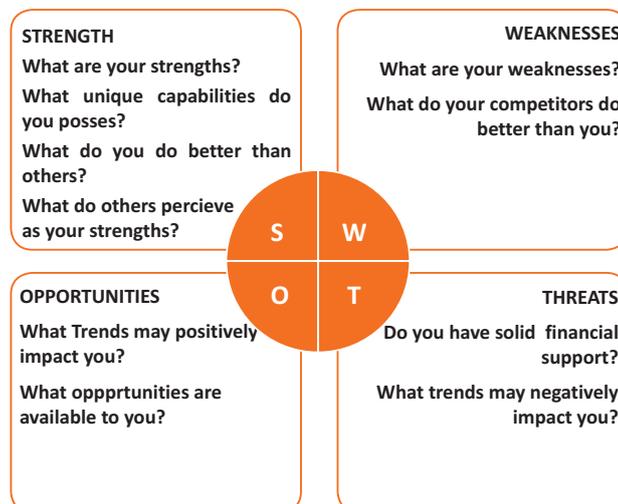
5. Think About Product Differentiation

If you already have a product in mind, think about ways to set it apart from the existing ones.

Ways to Identify Business Opportunities Within Your Business

1. SWOT Analysis

An excellent way to identify opportunities inside your business is by creating a SWOT analysis. The acronym SWOT stands for strengths, weaknesses, opportunities, and threats. SWOT analysis framework:



Consider the following when looking for business opportunities:

By looking at yourself and your competitors using the SWOT framework, you can uncover opportunities that you can exploit, as well as manage and eliminate threats that could derail your success.

2. Establishing Your USP

Establish your USP and position yourself as different from your competitors. Identify why customers should buy from you and promote that reason.

Opportunity Analysis

Once you have identified an opportunity, you need to analyze it.

To analyze an opportunity, you must:

- Focus on the idea
- Focus on the market of the idea
- Talk to industry leaders in the same space as the idea
- Talk to players in the same space as the idea

Tips



- Remember, opportunities are situational.
- Look for a proven track record.
- Avoid the latest craze.
- Love your idea.

11.5.6 Entrepreneurship Support Eco - System: What is an Entrepreneur?

An entrepreneur is a person who:

- Does not work for an employee
- Runs a small enterprise
- Assumes all the risks and rewards of the enterprise, idea, good or service

Types of Entrepreneurs

There are four main types of entrepreneurs:

1. **The Traditional Entrepreneur:** This type of entrepreneur usually has some kind of skill – they can be a carpenter, mechanic, cook etc. They have businesses that have been around for numerous years like restaurants, shops and carpenters. Typically, they gain plenty of experience in a particular industry before they begin their own business in a similar field.
2. **The Growth Potential Entrepreneur:** The desire of this type of entrepreneur is to start an enterprise that will grow, win many customers and make lots of money. Their ultimate aim is to eventually sell their enterprise for a nice profit. Such entrepreneurs usually have a science or technical background.
3. **The Project-Oriented Entrepreneur:** This type of entrepreneur generally has a background in the Arts or psychology. Their enterprises tend to be focus on something that they are very passionate about.
4. **The Lifestyle Entrepreneur:** This type of entrepreneur has usually worked as a teacher or a secretary. They are more interested in selling something that people will enjoy, rather than making lots of money.

Characteristics of an Entrepreneur

Successful entrepreneurs have the following characteristics:

- They are highly motivated
- They are creative and persuasive
- They are mentally prepared to handle each and every task
- They have excellent business skills – they know how to evaluate their cash flow, sales and revenue
- They are willing to take great risks
- They are very proactive – this means they are willing to do the work themselves, rather than wait for someone else to do it
- They have a vision – they are able to see the big picture
- They are flexible and open-minded
- They are good at making decisions

Entrepreneur Success Stories

Dhiru Bhai Ambani

Dhirubhai Ambani began his entrepreneurial career by selling “bhajias” to pilgrims in Mount Girnar on weekends. At 16, he moved to Yemen where he worked as a gas-station attendant, and as a clerk in an oil company. He returned to India with Rs. 50,000 and started a textile trading company. Reliance went on to become the first Indian company to raise money in global markets and the first Indian company to feature in Forbes 500 list.

Dr. Karsanbhai Patel

Karsanbhai Patel made detergent powder in the backyard of his house. He sold his product door-to-door and offered a money back guarantee with every pack that was sold. He charged Rs. 3 per kg when the cheapest detergent at that time was Rs.13 per kg. Dr. Patel eventually started Nirma which became a whole new segment in the Indian domestic detergent market.

The Entrepreneurial Process

Let’s take a look at the stages of the entrepreneurial process.

Stage 1: Idea Generation. The entrepreneurial process begins with an idea that has been thought of by the entrepreneur. The idea is a problem that has the potential to be solved.

Stage 2: Germination or Recognition. In this stage a possible solution to the identified problem is thought of.

Stage 3: Preparation or Rationalization. The problem is studied further and research is done to find out how others have tried to solve the same problem.

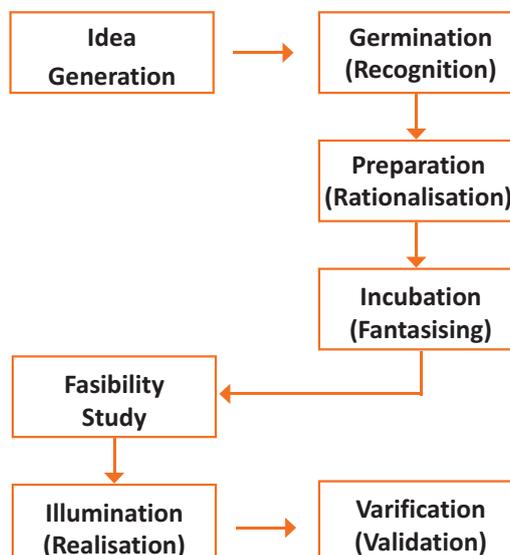
Stage 4: Incubation or Fantasizing. This stage involves creative thinking for the purpose of coming up with more ideas. Less thought is given to the problem areas.

Stage 5: Feasibility Study: The next step is the creation of a feasibility study to determine if the idea will make a profit and if it should be seen through.

Stage 6: Illumination or Realization. This is when all uncertain areas suddenly become clear. The entrepreneur feels confident that his idea has merit.

Stage 7: Verification or Validation. In this final stage, the idea is verified to see if it works and if it is useful.

Take a look at the diagram below to get a better idea of this process.



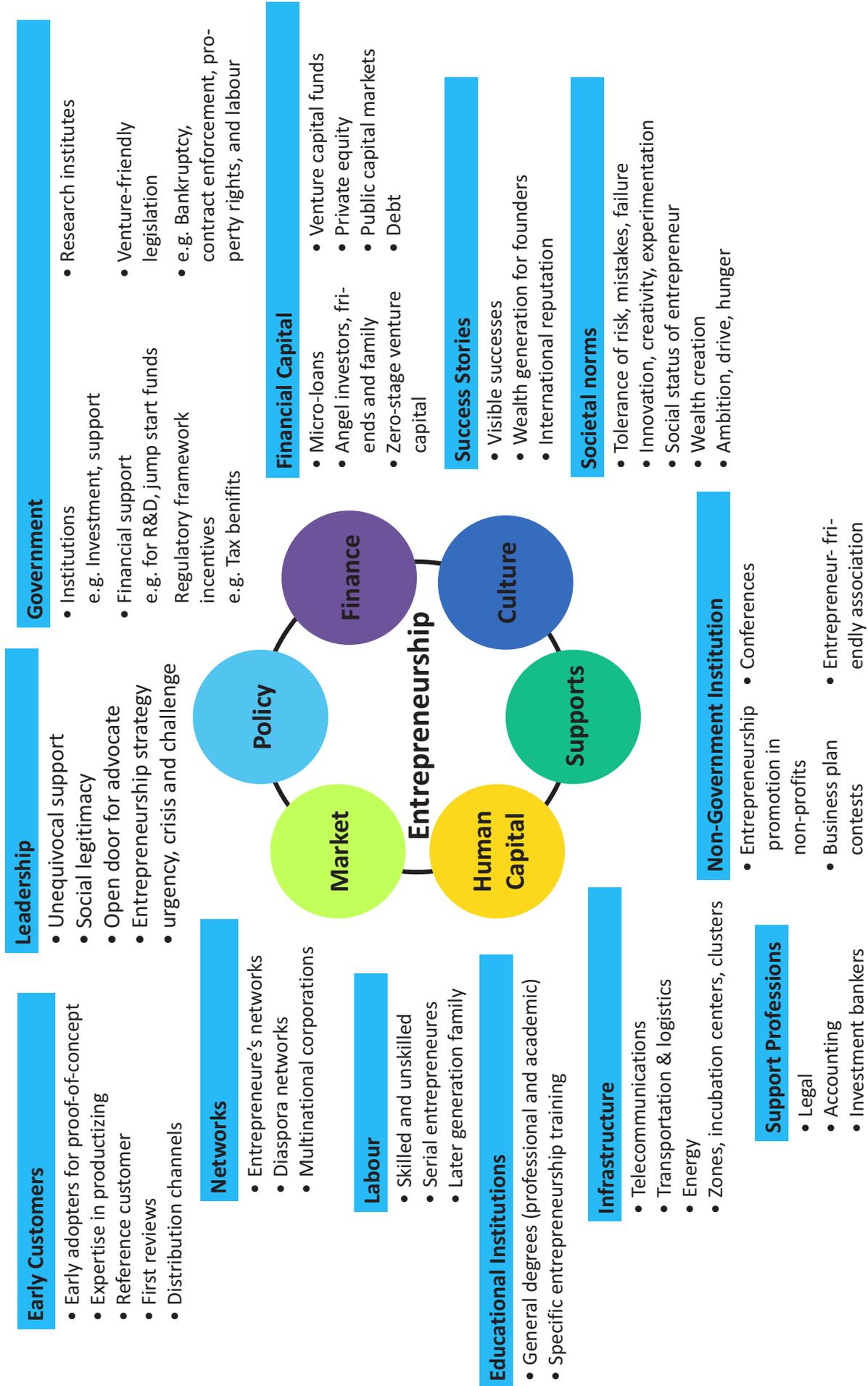
What is an Entrepreneur?

The entrepreneurship support ecosystem signifies the collective and complete nature of entrepreneurship. New companies emerge and flourish not only because of the courageous, visionary entrepreneurs who launch them, but they thrive as they are set in an environment or 'ecosystem' made of private and public participants. These players nurture and sustain the new ventures, facilitating the entrepreneurs' efforts.

An entrepreneurship ecosystem comprises of the following six domains:

1. **Favourable Culture:** This includes elements such as tolerance of risk and errors, valuable networking and positive social standing of the entrepreneur.
2. **Facilitating Policies & Leadership:** This includes regulatory framework incentives and existence of public research institutes.
3. **Financing Options:** Angel financing, venture capitalists and micro loans would be good examples of this.
4. **Human Capital:** This refers to trained and untrained labour, entrepreneurs and entrepreneurship training programmes, etc.
5. **Conducive Markets for Products & Services:** This refers to an existence or scope of existence of a market for the product/service.
6. **Institutional & Infrastructural Support:** This includes legal and financing advisers, telecommunications, digital and transportation infrastructure, and entrepreneurship networking programmes.

These domains indicate whether there is a strong entrepreneurship support ecosystem and what actions should the government put in place to further encourage this ecosystem. The six domains and their various elements have been graphically depicted.



Every entrepreneurship support ecosystem is unique and all the elements of the ecosystem are interdependent. Although every region's entrepreneurship ecosystem can be broadly described by the above features, each ecosystem is the result of the hundred elements interacting in highly complex and particular ways.

Entrepreneurship ecosystems eventually become (largely) self-sustaining. When the six domains are resilient enough, they are mutually beneficial. At this point, government involvement can and should be significantly minimized. Public leaders do not need to invest a lot to sustain the ecosystem. It is imperative that the entrepreneurship ecosystem incentives are formulated to be self-liquidating, hence focusing on sustainability of the environment.

Government's Role in the Entrepreneurship Ecosystem

Encouraging new ventures is a major focus for policymakers. Governments across the world are recognizing that new businesses flourish in distinctive types of supportive environments. Policymakers should study the scenario and take into account the following points whilst they formulate policies and regulations that enable successful entrepreneurship support ecosystems.

1. Policymakers should avoid regulations that discourage new entrants and work towards building efficient methods for business startups. Policies and regulations that favour existing, dominant firms over entrepreneurial ventures, restrict competition and obstruct entry for new companies.
2. Instead of developing policies conceptually intended to correct market failures, policymakers should interact with entrepreneurs and understand the challenges faced by them. The feedback should be used to develop policies that incite idea exploration, product development and increased rates of deal flow.
3. Entrepreneurial supporters should create a database that enables identifying who the participants in the ecosystem are and how they are connected. These ecosystem maps are useful tools in developing engagement strategies.
4. Disruptions are unavoidable in economic and social life. However, it's important to note that economic disruption gives rise to entrepreneurial opportunities. Architects of the entrepreneurship ecosystems (entrepreneurs, mentors, policymakers and consumers,) should anticipate these dips, thus capitalizing on the opportunities they create.

The need for effective strategies to enable local entrepreneurship support ecosystems is a practical one. Better understanding of the actual ecosystems provides a framework within which policy makers can ask relevant questions, envisage more efficient approaches, and assess ensuing outcomes.

Snapshot of the Entrepreneurship Ecosystem in India

Entrepreneurship has earned a newfound respect in India. Many Indians, with exposure to the world of business, who traditionally would have opted for a job, are setting up their own ventures. Many elements of the entrepreneurship ecosystem are beginning to come together. For example, increase in venture capitalists, government schemes and incubators, academia industry linkages, and emerging clusters and support to rural economy. All these initiatives are effective but there is a need to scale up and enrich the ecosystem further in the following ways:

1. We need to review our attitude towards failures and accept them as learning experiences.
2. We must encourage the educated to become entrepreneurs and provide students in schools and colleges with entrepreneurship skills.

3. Universities, research labs and the government need to play the role of enablers in the entrepreneurship support ecosystem.
4. Policymakers need to focus on reducing the obstacles such as corruption, red tape and bureaucracy.
5. We need to improve our legal systems and court international venture capital firms and bring them to India.
6. We must devise policies and methods to reach the secondary and tertiary towns in India, where people do not have access to the same resources available in the cities.

Today, there is a huge opportunity in this country to introduce innovative solutions that are capable of scaling up, and collaborating within the ecosystem as well as enriching it.

Make in India Campaign

Every entrepreneur has certain needs. Some of their important needs are:

- To easily get loans
- To easily find investors
- To get tax exemptions
- To easily access resources and good infrastructure
- To enjoy a procedure that is free of hassles and is quick
- To be able to easily partner with other firms

The Make in India campaign, launched by Prime Minister Modi aims to satisfy all these needs of young, aspiring entrepreneurs. Its objective is to:

- Make investment easy
- Support new ideas
- Enhance skill development
- Safeguard the ideas of entrepreneurs
- Create state-of-the-art facilities for manufacturing goods

Tips



- Research the existing market, network with other entrepreneurs, venture capitalists, angel investors, and thoroughly review the policies in place to enable your entrepreneurship.
- Failure is a stepping stone and not the end of the road. Review yours and your peers' errors and correct them in your future venture.
- Be proactive in your ecosystem. Identify the key features of your ecosystem and enrich them to ensure self-sustainability of your entrepreneurship support ecosystem.

11.5.7 Risk Appetite & Resilience: Entrepreneurship and Risk

Entrepreneurs are inherently risk takers. They are path-makers not path-takers. Unlike a normal, cautious person, an entrepreneur would not think twice about quitting his job (his sole income) and taking a risk on himself and his idea.

An entrepreneur is aware that while pursuing his dreams, assumptions can be proven wrong and unforeseen events may arise. He knows that after dealing with numerous problems, success is still not guaranteed. Entrepreneurship is synonymous with the ability to take risks. This ability, called risk-appetite, is an entrepreneurial trait that is partly genetic and partly acquired.

What is Risk Appetite?

Risk appetite is defined as the extent to which a company is equipped to take risk, in order to achieve its objectives. Essentially, it refers to the balance, struck by the company, between possible profits and the hazards caused by changes in the environment (economic ecosystem, policies, etc.). Taking on more risk may lead to higher rewards but have a high probability of losses as well. However, being too conservative may go against the company as it can miss out on good opportunities to grow and reach their objectives.

The levels of risk appetite can be broadly categorized as “low”, “medium” and “high.” The company’s entrepreneur(s) have to evaluate all potential alternatives and select the option most likely to succeed. Companies have varying levels of risk appetites for different objectives. The levels depend on:

- The type of industry
- Market pressures
- Company objectives

For example, a startup with a revolutionary concept will have a very high risk appetite. The startup can afford short term failures before it achieves longer term success. This type of appetite will not remain constant and will be adjusted to account for the present circumstances of the company.

Risk Appetite Statement

Companies have to define and articulate their risk appetite in sync with decisions made about their objectives and opportunities. The point of having a risk appetite statement is to have a framework that clearly states the acceptance and management of risk in business. It sets risk taking limits within the company. The risk appetite statement should convey the following:

- The nature of risks the business faces.
- Which risks the company is comfortable taking on and which risks are unacceptable.
- How much risk to accept in all the risk categories.
- The desired tradeoff between risk and reward.
- Measures of risk and methods of examining and regulating risk exposures.

Entrepreneurship and Resilience

Entrepreneurs are characterized by a set of qualities known as resilience. These qualities play an especially large role in the early stages of developing an enterprise. Risk resilience is an extremely valuable characteristic as it is believed to protect entrepreneurs against the threat of challenges and changes in the business environment.

What is Entrepreneurial Resilience?

Resilience is used to describe individuals who have the ability to overcome setbacks related to their life and career aspirations. A resilient person is someone who is capable of easily and quickly recovering from setbacks. For the entrepreneur, resilience is a critical trait. Entrepreneurial resilience can be enhanced in the following ways:

- By developing a professional network of coaches and mentors
- By accepting that change is a part of life
- By viewing obstacles as something that can be overcome

Characteristics of a Resilient Entrepreneur

The characteristics required to make an entrepreneur resilient enough to go the whole way in their business enterprise are:

- A strong internal sense of control
- Strong social connections
- Skill to learn from setbacks
- Ability to look at the bigger picture
- Ability to diversify and expand
- Survivor attitude
- Cash-flow conscious habits
- Attention to detail

Tips



- Cultivate a great network of clients, suppliers, peers, friends and family. This will not only help you promote your business, but will also help you learn, identify new opportunities and stay tuned to changes in the market.
- Don't dwell on setbacks. Focus on what you need to do next to get moving again.
- While you should try and curtail expenses, ensure that it is not at the cost of your growth.

11.5.8 Success & Failures: Understanding Successes and Failures in Entrepreneurship

Shyam is a famous entrepreneur, known for his success story. But what most people don't know, is that Shyam failed numerous times before his enterprise became a success. Read his interview to get an idea of what entrepreneurship is really about, straight from an entrepreneur who has both, failed and succeeded.

Interviewer: Shyam, I have heard that entrepreneurs are great risk-takers who are never afraid of failing. Is this true?

Shyam: Ha ha, no of course it's not true! Most people believe that entrepreneurs need to be fearlessly enthusiastic. But the truth is, fear is a very normal and valid human reaction, especially when you are planning to start your own business! In fact, my biggest fear was the fear of failing. The reality is, entrepreneurs fail as much as they succeed. The trick is to not allow the fear of failing to stop you from going ahead with your plans. Remember, failures are lessons for future success!

Interviewer: What, according to you, is the reason that entrepreneurs fail?

Shyam: Well, there is no one single reason why entrepreneurs fail. An entrepreneur can fail due to numerous reasons. You could fail because you have allowed your fear of failure to defeat you. You could fail because you are unwilling to delegate (distribute) work. As the saying goes, "You can do anything, but not everything!" You could fail because you gave up too easily – maybe you were not persistent enough. You could fail because you were focusing your energy on small, insignificant tasks and ignoring the tasks that were most important. Other reasons for failing are partnering with the wrong people, not being able to sell your product to the right customers at the right time at the right price... and many more reasons!

Interviewer: As an entrepreneur, how do you feel failure should be looked at?

Shyam: I believe we should all look at failure as an asset, rather than as something negative. The way I see it, if you have an idea, you should try to make it work, even if there is a chance that you will fail. That's because not trying is failure right there, anyway! And failure is not the worst thing that can happen. I think having regrets because of not trying, and wondering 'what if' is far worse than trying and actually failing.

Interviewer: How did you feel when you failed for the first time?

Shyam: I was completely heartbroken! It was a very painful experience. But the good news is, you do recover from the failure. And with every subsequent failure, the recovery process gets a lot easier. That's because you start to see each failure more as a lesson that will eventually help you succeed, rather than as an obstacle that you cannot overcome. You will start to realize that failure has many benefits.

Interviewer: Can you tell us about some of the benefits of failing?

Shyam: One of the benefits that I have experienced personally from failing is that the failure made me see things in a new light. It gave me answers that I didn't have before. Failure can make you a lot stronger. It also helps keep your ego in control.

Interviewer: What advice would you give entrepreneurs who are about to start their own enterprises?

Shyam: I would tell them to do their research and ensure that their product is something that is actually wanted by customers. I'd tell them to pick their partners and employees very wisely and cautiously. I'd tell them that it's very important to be aggressive – push and market your product as aggressively as possible. I would warn them that starting an enterprise is very expensive and that they should be prepared for a situation where they run out of money.

I would tell them to create long term goals and put a plan in action to achieve that goal. I would tell them to build a product that is truly unique. Be very careful and ensure that you are not copying another startup. Lastly, I'd tell them that it's very important that they find the right investors.

Interviewer: That's some really helpful advice, Shyam! I'm sure this will help all entrepreneurs to be more prepared before they begin their journey! Thank you for all your insight!

Tips



- Remember that nothing is impossible.
- Identify your mission and your purpose before you start.
- Plan your next steps – don't make decisions hastily.

UNIT 11.6: Preparing to be an Entrepreneur

Unit Objectives



At the end of this unit, you will be able to:

1. Discuss how market research is carried out
2. Describe the 4 Ps of marketing
3. Discuss the importance of idea generation
4. Recall basic business terminology
5. Discuss the need for CRM
6. Discuss the benefits of CRM
7. Discuss the need for networking
8. Discuss the benefits of networking
9. Understand the importance of setting goals
10. Differentiate between short-term, medium-term and long-term goals
11. Discuss how to write a business plan
12. Explain the financial planning process
13. Discuss ways to manage your risk
14. Describe the procedure and formalities for applying for bank finance
15. Discuss how to manage your own enterprise
16. List important questions that every entrepreneur should ask before starting an enterprise

11.6.1 Market Study / The 4 Ps of Marketing / Importance of an IDEA: Understanding Market Research

Market research is the process of gathering, analyzing and interpreting market information on a product or service that is being sold in that market. It also includes information on:

- Past, present and prospective customers
- Customer characteristics and spending habits
- The location and needs of the target market
- The overall industry
- Relevant competitors

Market research involves two types of data:

- Primary information. This is research collected by yourself or by someone hired by you.
- Secondary information. This is research that already exists and is out there for you to find and use.

Primary research

Primary research can be of two types:

- Exploratory: This is open-ended and usually involves detailed, unstructured interviews.
- Specific: This is precise and involves structured, formal interviews. Conducting specific research is the more expensive than conducting exploratory research.

Secondary research

Secondary research uses outside information. Some common secondary sources are:

- Public sources: These are usually free and have a lot of good information. Examples are government departments, business departments of public libraries etc.
- Commercial sources: These offer valuable information but usually require a fee to be paid. Examples are research and trade associations, banks and other financial institutions etc.
- Educational institutions: These offer a wealth of information. Examples are colleges, universities, technical institutes etc.

The 4 Ps of Marketing

The 4 Ps of marketing are Product, Price, Promotion and Place. Let's look at each of these 4 Ps in detail.

Product

A product can be:

- A tangible good
- An intangible service

Whatever your product is, it is critical that you have a clear understanding of what you are offering, and what its unique characteristics are, before you begin with the marketing process.

Some questions to ask yourself are:

- What does the customer want from the product/service?
- What needs does it satisfy?
- Are there any more features that can be added?
- Does it have any expensive and unnecessary features?
- How will customers use it?
- What should it be called?
- How is it different from similar products?
- How much will it cost to produce?
- Can it be sold at a profit?

Price

Once all the elements of Product have been established, the Price factor needs to be considered. The Price of a Product will depend on several factors such as profit margins, supply, demand and the marketing strategy.

Some questions to ask yourself are:

- What is the value of the product/service to customers?
- Do local products/services have established price points?
- Is the customer price sensitive?
- Should discounts be offered?
- How is your price compared to that of your competitors?

Promotion

Once you are certain about your Product and your Price, the next step is to look at ways to promote it. Some key elements of promotion are advertising, public relations, social media marketing, email marketing, search engine marketing, video marketing and more.

Some questions to ask yourself are:

- Where should you promote your product or service?
- What is the best medium to use to reach your target audience?
- When would be the best time to promote your product?
- How are your competitors promoting their products?

Place

According to most marketers, the basis of marketing is about offering the right product, at the right price, at the right place, at the right time. For this reason, selecting the best possible location is critical for converting prospective clients into actual clients.

Some questions to ask yourself are:

- Will your product or service be looked for in a physical store, online or both?
- What should you do to access the most appropriate distribution channels?
- Will you require a sales force?
- Where are your competitors offering their products or services?
- Should you follow in your competitors' footsteps?
- Should you do something different from your competitors?

Importance of an IDEA

Ideas are the foundation of progress. An idea can be small or ground-breaking, easy to accomplish or extremely complicated to implement. Whatever the case, the fact that it is an idea gives it merit. Without ideas, nothing is possible. Most people are afraid to speak out their ideas, out for fear of being ridiculed. However, if are an entrepreneur and want to remain competitive and innovative, you need to bring your ideas out into the light.

Some ways to do this are by:

- Establishing a culture of brainstorming where you invite all interested parties to contribute
- Discussing ideas out loud so that people can add their ideas, views, opinions to them
- Being open minded and not limiting your ideas, even if the idea who have seems ridiculous
- Not discarding ideas that you don't work on immediately, but instead making a note of them and shelving them so they can be revisited at a later date

Tips



- Keep in mind that good ideas do not always have to be unique.
- Remember that timing plays a huge role in determining the success of your idea.
- Situations and circumstances will always change, so be flexible and adapt your idea accordingly.

11.6.2 Business Entity Concepts:

Basic Business Terminology

If your aim is to start and run a business, it is crucial that you have a good understanding of basic business terms. Every entrepreneur should be well versed in the following terms:

- **Accounting:** A systematic method of recording and reporting financial transactions.
- **Accounts payable:** Money owed by a company to its creditors.
- **Accounts Receivable:** The amount a company is owed by its clients.
- **Assets:** The value of everything a company owns and uses to conduct its business.
- **Balance Sheet:** A snapshot of a company's assets, liabilities and owner's equity at a given moment.
- **Bottom Line:** The total amount a business has earned or lost at the end of a month.
- **Business:** An organization that operates with the aim of making a profit.
- **Business to Business (B2B):** A business that sells goods or services to another business.
- **Business to Consumer (B2C):** A business that sells goods or services directly to the end user.
- **Capital:** The money a business has in its accounts, assets and investments. The two main types of capital are debt and equity.
- **Cash Flow:** The overall movement of funds through a business each month, including income and expenses.
- **Cash Flow Statement:** A statement showing the money that entered and exited a business during a specific period of time.
- **Contract:** A formal agreement to do work for pay.
- **Depreciation:** The degrading value of an asset over time.
- **Expense:** The costs that a business incurs through its operations.
- **Finance:** The management and allocation of money and other assets.
- **Financial Report:** A comprehensive account of a business' transactions and expenses.
- **Fixed Cost:** A one-time expense.
- **Income Statement (Profit and Loss Statement):** Shows the profitability of a business during a period of time.
- **Liabilities:** The value of what a business owes to someone else.
- **Marketing:** The process of promoting, selling and distributing a product or service.
- **Net Income/Profit:** Revenues minus expenses.
- **Net Worth:** The total value of a business.
- **Payback Period:** The amount of time it takes to recover the initial investment of a business.
- **Profit Margin:** The ratio of profit, divided by revenue, displayed as a percentage.
- **Return on Investment (ROI):** The amount of money a business gets as return from an investment.

- Revenue: The total amount of income before expenses are subtracted.
- Sales Prospect: A potential customer.
- Supplier: A provider of supplies to a business.
- Target Market: A specific group of customers at which a company's products and services are aimed.
- Valuation: An estimate of the overall worth of the business.
- Variable Cost: Expenses that change in proportion to the activity of a business.
- Working Capital: Calculated as current assets minus current liabilities.

11.6.3 CRM & Networking: What is CRM?

CRM stands for Customer Relationship Management. Originally the expression Customer Relationship Management meant managing one's relationship with customers. However, today it refers to IT systems and software designed to help companies manage their relationships.

The Need for CRM

The better a company can manage its relationships with its customers, the higher the chances of the company's success. For any entrepreneur, the ability to successfully retain existing customers and expand the enterprise is paramount. This is why IT systems that focus on addressing the problems of dealing with customers on a daily basis are becoming more and more in demand.

Customer needs change over time, and technology can make it easier to understand what customers really want. This insight helps companies to be more responsive to the needs of their customers. It enables them to modify their business operations when required, so that their customers are always served in the best manner possible. Simply put, CRM helps companies recognize the value of their clients and enables them to capitalize on improved customer relations.

Benefits of CRM

CRM has a number of important benefits:

- It helps improve relations with existing customers which can lead to:
 - Increased sales
 - Identification of customer needs
 - Cross-selling of products
- It results in better marketing of one's products or services
- It enhances customer satisfaction and retention
- It improves profitability by identifying and focusing on the most profitable customers

11.3.4 What is Networking?

In business, networking means leveraging your business and personal connections in order to bring in a regular supply of new business. This marketing method is effective as well as low cost. It is a great way to develop sales opportunities and contacts. Networking can be based on referrals and introductions, or can take place via phone, email, and social and business networking websites.

11.3.5 The Need for Networking

Networking is an essential personal skill for business people, but it is even more important for entrepreneurs. The process of networking has its roots in relationship building. Networking results in greater communication and a stronger presence in the entrepreneurial ecosystem. This helps build strong relationships with other entrepreneurs.

Business networking events held across the globe play a huge role in connecting like-minded entrepreneurs who share the same fundamental beliefs in communication, exchanging ideas and converting ideas into realities. Such networking events also play a crucial role in connecting entrepreneurs with potential investors. Entrepreneurs may have vastly different experiences and backgrounds but they all have a common goal in mind – they all seek connection, inspiration, advice, opportunities and mentors. Networking offers them a platform to do just that.

Benefits of Networking

Networking offers numerous benefits for entrepreneurs. Some of the major benefits are:

- Getting high quality leads
- Increased business opportunities
- Good source of relevant connections
- Advice from like-minded entrepreneurs
- Gaining visibility and raising your profile
- Meeting positive and enthusiastic people
- Increased self-confidence
- Satisfaction from helping others
- Building strong and lasting friendships

Tips



- Use social media interactions to identify needs and gather feedback.
- When networking, ask open-ended questions rather than yes/no type questions.

11.6.4 Business Plan: Why Set Goals

Setting goals is important because it gives you long-term vision and short-term motivation. Goals can be short term, medium term and long term.

Short-Term Goals

- These are specific goals for the immediate future.

Example: Repairing a machine that has failed.

Medium-Term Goals

- These goals are built on your short term goals.
- They do not need to be as specific as your short term goals.

Example: Arranging for a service contract to ensure that your machines don't fail again.

Long-Term Goals

These goals require time and planning.

They usually take a year or more to achieve.

Example: Planning your expenses so you can buy new machinery

Why Create a Business Plan

A business plan is a tool for understanding how your business is put together. It can be used to monitor progress, foster accountable and control the fate of the business. It usually offers a 3-5 year projection and outlines the plan that the company intends to follow to grow its revenues. A business plan is also a very important tool for getting the interest of key employees or future investors.

A business plan typically comprises of eight elements.

Elements of a Business Plan

Executive Summary

The executive summary follows the title page. The summary should clearly state your desires as the business owner in a short and businesslike way. It is an overview of your business and your plans. Ideally this should not be more than 1-2 pages.

Your Executive Summary should include:

- The Mission Statement: Explain what your business is all about.

Example: Nike's Mission Statement

Nike's mission statement is "To bring inspiration and innovation to every athlete in the world."

- Company Information: Provide information like when your business was formed, the names and roles of the founders, the number of employees, your business location(s) etc.
- Growth Highlights: Mention examples of company growth. Use graphs and charts where possible.
- Your Products/Services: Describe the products or services provided.
- Financial Information: Provide details on current bank and investors.
- Summarize future plans: Describe where you see your business in the future.

Business Description

The second section of your business plan needs to provide a detailed review of the different elements of your business. This will help potential investors to correctly understand your business goal and the uniqueness of your offering.

Your Business Description should include:

- A description of the nature of your business
- The market needs that you are aiming to satisfy
- The ways in which your products and services meet these needs
- The specific consumers and organizations that you intend to serve
- Your specific competitive advantages

Market Analysis

The market analysis section usually follows the business description. The aim of this section is to showcase your industry and market knowledge. This is also the section where you should lay down your research findings and conclusions.

Your Market Analysis should include:

- Your industry description and outlook
- Information on your target market
- The needs and demographics of your target audience
- The size of your target market
- The amount of market share you want to capture
- Your pricing structure
- Your competitive analysis
- Any regulatory requirements

Organization & Management

This section should come immediately after the Market Analysis.

Your Organization & Management section should include:

- Your company's organizational structure
- Details of your company's ownership
- Details of your management team
- Qualifications of your board of directors
- Detailed descriptions of each division/department and its function
- The salary and benefits package that you offer your people
- The incentives that you offer

Service or Product Line

The next section is the service or product line section. This is where you describe your service or product, and stress on their benefits to potential and current customers. Explain in detail why your product of choice will fulfill the needs of your target audience.

Your Service or Product Line section should include:

- A description of your product/service
- A description of your product or service's life cycle
- A list of any copyright or patent filings
- A description of any R&D activities that you are involved in or planning

Marketing & Sales

Once the Service or Product Line section of your plan has been completed, you should start on the description of the marketing and sales management strategy for your business.

Your Marketing section should include the following strategies:

- **Market penetration strategy:** This strategy focuses on selling your existing products or services in existing markets, in order to increase your market share.
- **Growth strategy:** This strategy focuses on increasing the amount of market share, even if it reduces earnings in the short-term.
- **Channels of distribution strategy:** These can be wholesalers, retailers, distributors and even the internet.
- **Communication strategy:** These can be written strategies (e-mail, text, chat), oral strategies (phone calls, video chats, face-to-face conversations), non-verbal strategies (body language, facial expressions, tone of voice) and visual strategies (signs, webpages, illustrations).

Your Sales section should include the following information:

- **A salesforce strategy:** This strategy focuses on increasing the revenue of the enterprise.
- **A breakdown of your sales activities:** This means detailing out how you intend to sell your products or services – will you sell it offline or online, how many units do you intend to sell, what price do you plan to sell each unit at, etc.

Funding Request

This section is specifically for those who require funding for their venture.

The Funding Request section should include the following information:

- How much funding you currently require.
- How much funding you will require over the next five years. This will depend on your long-term goals.
- The type of funding you want and how you plan to use it. Do you want funding that can be used only for a specific purpose, or funding that can be used for any kind of requirement?
- Strategic plans for the future. This will involve detailing out your long-term plans – what these plans are and how much money you will require to put these plans in motions.
- Historical and prospective financial information. This can be done by creating and maintaining all your financial records, right from the moment your enterprise started, to the present day. Documents required for this are your balance sheet which contains details of your company's assets and liabilities, your income statement which lists your company's revenues, expenses and net income for the year, your tax returns (usually for the last three years) and your cash flow budget which lists the cash that came in, the cash that went out and states whether you had a cash deficit (negative balance) or surplus (positive balance) at the end of each month.

Financial Planning

Before you begin building your enterprise, you need to plan your finances. Take a look at the steps for financial planning:

Step 1: Create a financial plan. This should include your goals, strategies and timelines for accomplishing these goals.

Step 2: Organize all your important financial documents. Maintain a file to hold your investment details, bank statements, tax papers, credit card bills, insurance papers and any other financial records.

Step 3: Calculate your net worth. This means figure out what you own (assets like your house, bank accounts, investments etc.), and then subtract what you owe (liabilities like loans, pending credit card amounts etc.) the amount you are left with is your net worth.

Step 4: Make a spending plan. This means write down in detail where your money will come from, and where it will go.

Step 5: Build an emergency fund. A good emergency fund contains enough money to cover at least 6 months' worth of expenses.

Step 6: Set up your insurance. Insurance provides long term financial security and protects you against risk.

Risk Management

As an entrepreneur, it is critical that you evaluate the risks involved with the type of enterprise that you want to start, before you begin setting up your company. Once you have identified potential risks, you can take steps to reduce them. Some ways to manage risks are:

- Research similar business and find out about their risks and how they were minimized.
- Evaluate current market trends and find out if similar products or services that launched a while ago are still being well received by the public.
- Think about whether you really have the required expertise to launch your product or service.
- Examine your finances and see if you have enough income to start your enterprise.
- Be aware of the current state of the economy, consider how the economy may change over time, and think about how your enterprise will be affected by any of those changes.
- Create a detailed business plan.

Tips



- Ensure all the important elements are covered in your plan.
- Scrutinize the numbers thoroughly.
- Be concise and realistic.
- Be conservative in your approach and your projections.
- Use visuals like charts, graphs and images wherever possible.

11.6.5 Procedure and Formalities for Bank Finance:

The Need for Bank Finance

For entrepreneurs, one of the most difficult challenges faced involves securing funds for startups. With numerous funding options available, entrepreneurs need to take a close look at which funding methodology works best for them. In India, banks are one of the largest funders of startups, offering funding to thousands of startups every year.

What Information Should Entrepreneurs Offer Banks for Funding?

When approaching a bank, entrepreneurs must have a clear idea of the different criteria that banks use to screen, rate and process loan applications. Entrepreneurs must also be aware of the importance of providing banks with accurate and correct information. It is now easier than ever for financial institutions to track any default behaviour of loan applicants. Entrepreneurs looking for funding from banks must provide banks with information relating to their general credentials, financial situation and guarantees or collaterals that can be offered.

General Credentials

This is where you, as an entrepreneur, provide the bank with background information on yourself. Such information includes:

- Letter(s) of Introduction: This letter should be written by a respected business person who knows you well enough to introduce you. The aim of this letter is set across your achievements and vouch for your character and integrity.
- Your Profile: This is basically your resume. You need to give the bank a good idea of your educational achievements, professional training, qualifications, employment record and achievements.
- Business Brochure: A business brochure typically provides information on company products, clients, how long the business has been running for etc.
- Bank and Other References: If you have an account with another bank, providing those bank references is a good idea.
- Proof of Company Ownership or Registration: In some cases, you may need to provide the bank with proof of company ownership and registration. A list of assets and liabilities may also be required.

Financial Situation

Banks will expect current financial information on your enterprise. The standard financial reports you should be prepared with are:

- Balance Sheet
- Cash-Flow Statement
- Business Plan
- Profit-and-Loss Account
- Projected Sales and Revenues
- Feasibility Study

Guarantees or Collaterals

Usually banks will refuse to grant you a loan without security. You can offer assets which the bank can seize and sell off if you do not repay the loan. Fixed assets like machinery, equipment, vehicles etc. are also considered to be security for loans.

The Lending Criteria of Banks

Your request for funding will have a higher chance of success if you can satisfy the following lending criteria:

- Good cash flow
- Adequate shareholders' funds
- Adequate security
- Experience in business
- Good reputation

The Procedure

To apply for funding the following procedure will need to be followed.

1. Submit your application form and all other required documents to the bank.
2. The bank will carefully assess your credit worthiness and assign ratings by analyzing your business information with respect to parameters like management, financial, operational and industry information as well as past loan performance.
3. The bank will make a decision as to whether or not you should be given funding.

Tips



- Get advice on funding options from experienced bankers.
- Be cautious and avoid borrowing more than you need, for longer than you need, at an interest rate that is higher than you are comfortable with.

11.6.6 Enterprise Management - An Overview: How to Manage Your Enterprise

To manage your enterprise effectively you need to look at many different aspects, right from managing the day-to-day activities to figuring out how to handle a large scale event. Let's take a look at some simple steps to manage your company effectively.

Step 1: Use your leadership skills and ask for advice when required.

Let's take the example of Ramu, an entrepreneur who has recently started his own enterprise. Ramu has good leadership skills – he is honest, communicates well, knows how to delegate work etc. These leadership skills definitely help Ramu in the management of his enterprise. However, sometimes Ramu comes across situations that he is unsure how to handle. What should Ramu do in this case? One solution is for him to find a more experienced manager who is willing to mentor him. Another solution is for Ramu to use his networking skills so that he can connect with managers from other organizations, who can give him advice on how to handle such situations.

Step 2: Divide your work amongst others – realize that you cannot handle everything yourself.

Even the most skilled manager in the world will not be able to manage every single task that an enterprise will demand of him. A smart manager needs to realize that the key to managing his enterprise lies in his dividing all his work between those around him. This is known as delegation. However, delegating is not enough. A manager must delegate effectively if he wants to see results. This is important because delegating, when done incorrectly, can result in you creating even more work for yourself. To delegate effectively, you can start by making two lists. One list should contain the things that you know you need to handle yourself. The second list should contain the things that you are confident can be given to others to manage and handle. Besides incorrect delegation, another issue that may arise is over-delegation. This means giving away too many of your tasks to others. The problem with this is, the more tasks you delegate, the more time you will spend tracking and monitoring the work progress of those you have handed the tasks to. This will leave you with very little time to finish your own work.

Step 3: Hire the right people for the job.

Hiring the right people goes a long way towards effectively managing your enterprise. To hire the best people suited for the job, you need to be very careful with your interview process. You should ask potential candidates the right questions and evaluate their answers carefully. Carrying out background checks is always a good practice. Running a credit check is also a good idea, especially if the people you are planning to hire will be handling your money. Create a detailed job description for each role that you want filled and ensure that all candidates have a clear and correct understanding of the job description. You should also have an employee manual in place, where you

put down every expectation that you have from your employees. All these actions will help ensure that the right people are approached for running your enterprise.

Step 4: Motivate your employees and train them well.

Your enterprise can only be managed effectively if your employees are motivated to work hard for your enterprise. Part of being motivated involves your employees believing in the vision and mission of your enterprise and genuinely wanting to make efforts towards pursuing the same. You can motivate your employees with recognition, bonuses and rewards for achievements. You can also motivate them by telling them about how their efforts have led to the company's success. This will help them feel pride and give them a sense of responsibility that will increase their motivation.

Besides motivating your people, your employees should be constantly trained in new practices and technologies. Remember, training is not a one-time effort. It is a consistent effort that needs to be carried out regularly.

Step 5: Train your people to handle your customers well.

Your employees need to be well-versed in the art of customer management. This means they should be able to understand what their customers want, and also know how to satisfy their needs. For them to truly understand this, they need to see how you deal effectively with customers. This is called leading by example. Show them how you sincerely listen to your clients and the efforts that you put into understand their requirements. Let them listen to the type of questions that you ask your clients so they understand which questions are appropriate.

Step 6: Market your enterprise effectively.

Use all your skills and the skills of your employees to market your enterprise in an effective manner. You can also hire a marketing agency if you feel you need help in this area.

Now that you know what is required to run your enterprise effectively, put these steps into play, and see how much easier managing your enterprise becomes!

Tips



- Get advice on funding options from experienced bankers.
- Be cautious and avoid borrowing more than you need, for longer than you need, at an interest rate that is higher than you are comfortable with.

11.6.7. 20 Questions to Ask Yourself Before Considering Entrepreneurship

1. Why am I starting a business?
2. What problem am I solving?
3. Have others attempted to solve this problem before? Did they succeed or fail?
4. Do I have a mentor¹ or industry expert that I can call on?
5. Who is my ideal customer²?
6. Who are my competitors³?
7. What makes my business idea different from other business ideas?
8. What are the key features of my product or service?
9. Have I done a SWOT⁴ analysis?
10. What is the size of the market that will buy my product or service?
11. What would it take to build a minimum viable product⁵ to test the market?
12. How much money do I need to get started?
13. Will I need to get a loan?
14. How soon will my products or services be available?
15. When will I break even⁶ or make a profit?
16. How will those who invest in my idea make a profit?
17. How should I set up the legal structure⁷ of my business?
18. What taxes⁸ will I need to pay?
19. What kind of insurance⁹ will I need?
20. Have I reached out to potential customers for feedback?

Tips



- It is very important to validate your business ideas before you invest significant time, money and resources into it.
- The more questions you ask yourself, the more prepared you will be to handle the highs and lows of starting an enterprise.

Footnotes:

1. A mentor is a trusted and experienced person who is willing to coach and guide you.
2. A customer is someone who buys goods and/or services.
3. A competitor is a person or company that sells products and/or services similar to your products and/or services.
4. SWOT stands for Strengths, Weaknesses, Opportunities and Threats. To conduct a SWOT analysis of your company, you need to list down all the strengths and weaknesses of your company, the opportunities that are present for your company and the threats faced by your company.

5. A minimum viable product is a product that has the fewest possible features, that can be sold to customers, for the purpose of getting feedback from customers on the product.
6. A company is said to break even when the profits of the company are equal to the costs.
7. The legal structure could be a sole proprietorship, partnership or limited liability partnership.
8. There are two types of taxes – direct taxes payable by a person or a company, or indirect taxes charged on goods and/or services.
9. There are two types of insurance – life insurance and general insurance. Life insurance covers human life while general insurance covers assets like animals, goods, cars etc.



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