UNIT 5 PIG FARMING

Structure

5.1 LEARNING OUTCOMES

a) Knowledge and Understanding: After studying this Unit, you will be able to:

- Understand the meaning and purpose of pig farming.
- Explain different breeds of pigs and their characteristics.

b) Practical and Professional Skills: After studying this Unit, you will be able to:

- Describe different pig production systems and general welfare issues associated with them.

5.2 INTRODUCTION

Dear Learner,

In order to be familiar with the welfare issues and welfare standards associated with pig farming, we need to understand the following:

- Concept of pig farming
- Different breeds of pigs
- Pig production systems
- Physical, mental and naturalness aspects of welfare
- General constraints in pig farming and welfare implications

The above issues are briefly discussed in this unit for your comprehension. In the next unit, you will be introduced to specific welfare issues in pig farming. The pig welfare standards are discussed in MAW-004 course.

Box 5.1: Pig Rearing

Pig rearing is economical because of the following reasons:

- Pigs have high fecundity, high feed conversion efficiency, early maturity, short generation interval and relatively require small space.
- Pigs are multipurpose animals providing meat and many valuable byproducts like fat, bristles etc.

Pig farming or piggery is rearing and breeding of domestic pigs as farm animals mainly for meat (pork) (Box 5.1). Pigs are omnivorous with unique ability to convert food waste and agricultural byproducts into meat. They are fast growing animals with feed conversion ratio of 3:1 (i.e., for every 3 kg of food consumed, pigs will gain one kg body weight).They form the most profitable livestock enterprise and help alleviating malnutrition among people living below poverty line. Pig rearing has been very popular in the North-East India and currently it is becoming popular in other parts of India as well. Besides meat, pigs also provide by-products, manure and bio-gas, and serve as a means of capital generation and insurance against risk (Chandra, 2000).

5.3 CONCEPT OF PIG FARMING

5.3.1 Role of Piggery in Food Security

The share of pork to the total meat production has been static for the last 15-20 years with contribution of about 10%. The piglets grow very rapidly, have high prolificacy and have very demanding needs. Unlike other farm animals, pigs do not graze grass and cannot be left in a field to feed for themselves. They need a balanced diet that the owner must supply. Pigs can be fed once or preferably twice a day. Even if they are fed once a day, pigs need to be inspected at least twice a day. They also need ready access to clean and fresh water at all the times.

Pigs are the most efficient domestic animals in converting the feedstuff and household / agricultural wastes into edible meat. Their contribution to the total meat production is reasonably good. Indigenous pigs produce the cheapest meat among all meat animals. The low income people can afford this meat. Pig farming for pork production was restricted to weaker sections of people in India until two

decades back. There was a social belief that pigs are dirty animals, being maintained on garbage and waste materials therefore consumption of pork must be avoided. However, improvements in pig farming on scientific line and human consciousness for the balanced food have now attracted use of pork in human diet across the social segments. As a result the proportion of pork consumers in the last two decades has increased tremendously.

The majority of pigs are raised for pork production. However, a small number are maintained primarily as a source of improved breeding stock. The sale of pigs which are to be used for breeding purpose has traditionally been restricted to purebred herds at Government pig breeding farms. The competition demands that breeder should develop herds that are highly productive for commercially important characters including high carcass quality.

Knowledge on all aspects of production, reproduction, behaviour, environment, transport, marketing and slaughter of pigs is required in order to address various welfare issues in pig farming.

5.3.2 Pig Population and Distribution in India

The bulk of the pig population in India is indigenous type with low growth rate and productivity (Box 5.2). As per the 20th Livestock Census (2019), India's total livestock population was found to be 535.78 million, showing an increase of 4.6% from the previous 2012 livestock census. However, the pig population experienced an overall 12.0% decrease, putting the total heads of pigs at 9.06 million, which amounts to 1.7% of the total livestock population in India. The pigs are widely distributed in all agro-climatic regions in India. Pig rearing is more popular in North-Eastern hilly region and the states with greatest pig production are Assam and Jharkhand with a total of 2.1 million and 1.28 million, respectively. Both states increased their pig population by approximately 30% from the 2012 census. The exotic/ crossbred herd totaled 1.90 million, a 22.76% decrease from 2012 and the indigenous/non-descript pigs totaled 7.16 million, a decrease of 8.66%.

Box 5.2: Average Meat Yield of Indian Pig

The average meat yield of Indian pigs is about 39 kg / animal, which is half of the world average (79 kg / animal). In subsistence-driven systems, insufficient feeding, ineffective health care and inbreeding are the major constraints to pigs in expressing their full performance.

5.3.3 Advantages of Pig Farming

In comparison to other livestock species, pig rearing has higher potential for small and marginal farmers or rural poor due to the following advantages:

1) Better feed conversion efficiency of pigs i.e. they attain more unit weight gain per kg of feed consumed as compared to other meat producing animals except broilers. They produce more live weight gain than other classes livestock.

2) Higher fecundity in pigs – Sows produce 6 - 12 piglets in each farrowing on an average. Pigs are prolific breeders, grow rapidly, mature quickly and can be managed to produce more than two litters in a year.

3) Pigs reach sexual maturity at an early age and can be bred as early as 8 - 9 months of age and can farrow twice in a year under optimal management conditions.

4) Pigs have shorter generation interval as compared to other farm animals.

5) Offers quick returns since the market weight of 60-90 kg can be achieved in a period of 7-10 months.

6) One of the few farm animals where nearly all parts of the animal can be used by the farm family and/or sold.

7) Converts damaged feeds (like kitchen/ hotel waste) which are either not edible or not very palatable to humans into valuable nutritious meat.

8) Apart from providing meat, it is also a source of bristles and manure.

9) Can survive and grow on wide variety of feed stuff viz. grains, vegetables, fruits, fodder, sugarcane byproducts, kitchen waste etc.

10) Offers employment opportunities to seasonally employed rural farmers and supplement income to improve their living standards.

11) Pigs require little initial investment and can be raised for their entire lifetime in enclosures, so they do not contribute to loss of grazing lands.

12) Pig products range from primary commodities such as pork, to processed food products such as sausages and smoked hams to cooked salted ears, eaten as snack foods.

13) Pigs fat can be used in poultry feed, soap, paints and other chemical industries.

14) Pig farming creates profitable work for the available labour on the farm, as it can be successfully combined with dairy or other agricultural activities..

15) Pigs utilize the waste products very efficiently. Table garbage, bakery waste, hotel and kitchen waste and unmarketable fruits and vegetables can be fed to pigs.

16) Pigs aid in maintaining soil fertility. The pigs faeces can be converted into good biological manure.

17) The pig production has a special significance in the northeastern region, where every family rears pigs and use pork as staple food.

Before we proceed, please complete activity 1.

Activity 1 (Web browsing, Discussion & Interpretation): Browse the latest livestock census data on farm animals and compare it with previous livestock census data. What are the population trends for different kinds of pigs? What could be the reasons for increase or decrease of cross-bred and indigenous pig population? Discuss with your friends and colleagues about its implications for welfare of pigs in general. Write the outcome.

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Check Your Progress 1

Note: a) Use the spaces given below for your answers.

b) Check your answer with those given at the end of the unit.

1) What is pig farming?

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2) Why is pig rearing economical?

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3) Write the status of pig farming in India.

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4) Write any four advantages of pig farming.

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5.4 DIFFERENT BREEDS OF PIGS

Different breeds of pigs are reared under different production systems with related implications to their welfare. The following types of pig breeds are commonly reared in India:

- Indigenous pigs
- Exotic pigs
- Crossbred pigs

5.4.1 Indigenous Pigs

Indigenous small pigs known as *desi* pigs are present throughout India and were the main contributor for pork production until 1970s. Indigenous pigs are poor pork producers with a wide variation in their phenotype, colour pattern, litter size and growth rate under different agro ecosystems. Due to their poor production capabilities, they have not been selected for improving their economic traits. Generally their average body weight is about 35 to 40 kg with litter size of 4-12. The indigenous pigs are reared as scavengers in rural, urban and semi-urban areas. Free roaming in muddy places and eating of garbage including human excreta has led it to be considered as a dirty and unhygienic animal. Important indigenous pig breeds and their home tracts are summarised in Table 5.1.

Table 5.1: Important indigenous pig breeds and their home tracts
(Source: NBAGR, Karnal)

S.No.	Indigenous Breeds	Home Tract
1	Ghungroo	West Bengal
2	Niang Megha	Meghalaya
3	Agonda Goan	Goa
4	Tenyi Vo	Nagaland
5	Nicobari	Andaman & Nicobar
6	Doom	Assam
7	Zovawk	Mizoram
8	Ghurrah	Uttar Pradesh
9	Mali	Tripura
10	Purnea	Bihar and Jharkhand

Box 5.3: Ghungroo Pig - A Potential Strain of Indigenous Pig for the Rural Farmers

Ghungroo an indigenous strain of pig from West Bengal is popular among the local people because of high prolificacy and ability to sustain in low input system. It produces high quality pork utilizing agricultural by-products and kitchen wastes. Ghungroo are mostly black coloured with typical bull dog face appearance, with a litter size of 6-12 piglets, individually weigh about 1.0 kg at birth and 7.0 – 10.0 kg at weaning. Both sexes are very much docile and easy to handle. In the breeding tract they are maintained under

scavenging system and mainly act as insurance to the rainfed agriculture. The Ghungroo pigs are being maintained under intensive system of rearing with standard breeding, feeding and managemental system at National Research Centre on Pig, Guwahati. This indigenous strain is performing very well in terms of productive and reproductive efficiency. Some of the selected sows have delivered as many as 17 piglets as compared to the other indigenous strains of pigs maintained at the institute farm.

(Source: Animal Science Division, ICAR)

5.4.2 Exotic Breeds of Pigs

In India there are 158 pig breeding farms in government sector in different parts of the country, catering the need of the 8 bacon factories in government sector and 150 pig processing units in private sector. These government pig breeding farms are maintaining the exotic stock of Large White Yorkshire, Middle White Yorkshire, Berkshire, Hampshire, Landrace, Tamworth etc. The government strategy in piggery development is to use improved exotic pigs for grading up of the indigenous stock. The exotic pig breeds that are used in India for crossbreeding and genetic up-gradation are briefly described hereunder (Fig. 5.1).

a) **Large White Yorkshire:** It is the most extensively used exotic breed in India. White coat colour with occasional black pigmented spots, erect ears, snout of medium length and dished face are the typical characteristics of this breed. Mature body weight ranges from 300 to 500 kg.

b) **Middle White Yorkshire:** Typical characteristics of this breed include white coat colour, long muscular neck and long back with a mature body ranging from 270 to 360 kg.

c) **Landrace:** Pigs of this breed are typically white coloured with black skin spots. They have a long body, large drooping ears and long snout. Mature body weight ranges from 250-350 kg.

d) **Berkshire:** Black coloured animals with white patches on feet, snout and tail. Small head, face depressed in middle and saucer shaped body with

Large White Yorkshire Berkshire

Fig. 5.1: Exotic Breeds of Pigs

flexible ribs are typical characteristics of this breed. Mature body weight ranges from 280-350 kg.

e) **Hampshire:** Animals are black with white strip across forelegs to shoulder. Typical characteristics include small and erect ears, small and compact body. Sows have good mothering ability.

5.4.3 Crossbreds

The All India Coordinated Research Project (AICRP) on Pigs started in 1970 has developed pigs of the following genotypes/genetic groups (Fig. 5.2):

- Improved indigenous pigs
- Crossbreds having 50:50 inheritance from Landrace and indigenous pigs
- Large White Yorkshire crossbreds having 50% indigenous inheritance
- Crossbreds having 75% Large White Yorkshire and 25% indigenous inheritance
- Landrace crossbreds having 25% indigenous inheritance
- Hampshire crossbreds carrying 25% and 50% indigenous inheritance
- Landrace X indigenous half-breds from reciprocal crosses

Presently, AICRP centers on Pigs follow a breeding plan to maintain crossbred animals of 75% exotic inheritance. Mega Seed Project on Pig and AICRP on Pig implemented by theNational Research Centre on Pig enabled regular supply of good quality pig germplasm and location-specific research on pig nutrition and breeding throughout India

Fig. 5.2: Crossbred varieties developed by AICRP on Pigs

Before we proceed, please complete activity 2.

Activity 2 (Visit): Visit a nearby commercial pig farm and discuss with farm supervisor about the pig breeds reared in the farm and related welfare reasons, if any. Write your observations.

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Check Your Progress 2

Note: a) Use the spaces given below for your answers.

b) Check your answer with those given at the end of the unit.

1) Name any four indigenous pig breeds and their home tracts.

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2) Give four examples each for exotic and crossbred pigs.

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5.5 PIG PRODUCTION SYSTEMS

Pig production systems are defined as all subsistence or commercial production systems where the purpose of the operation includes some or all of the breeding, rearing and management of pigs intended for pork production. Different pig production systems that are prevalent in India are:

1) Scavenging / nomadic system / extensive system
2) Semi intensive / semi-extensive system
3) Small scale indoor housing
4) Intensive system
5) Integrated system

5.5.1 Scavenging / Extensive System /Nomadic System

- Old and primitive pig rearing system by traditional pig keepers on subsistence basis.
- Few pigs that are reared by a family are allowed to roam free and fed on scavenging garbage materials with low nutritional quality like banana waste, rice bran, local herbaceous plants and kitchen waste (Fig. 5.3).
- Pigs in groups are also reared under nomadic system by scavenging.
- Characterized by poor growth, low litter size, high rates of piglet mortality, low feed conversion efficiency and poor quality of pork and pork products.
- Does not require effort in management and practically no expenditure on feeding. Only night shelter made-up of locally available materialis provided.
- Economics of pig rearing is not a serious concern in this system.
- Indigenous pigs are mostly reared in this system as they are well adapted to local environment.
- A major hazard of scavenging system is that pigs have access to human excreta which contain parasites and the same can be transmitted back to man through pork.

Fig. 5.3: Nomadic /scavenging system of rearing pigs

(Source: Vet Helpline India Pvt. Ltd.)

5.5.2 Semi-Intensive / Semi-Extensive System

- It is a modified way of scavenging system.
- Pigs are generally kept in strong enclosures either made of wood or strong fencing materials.
- Small wooden houses are provided within the enclosures for shelter.
- This system requires a large area for free movement of pigs.
- Pigs are allowed for rotational grazing and small quantity of balanced ration is provided in the shelter.
- No systematic breeding is practiced. For farrowing, sows are shifted to a movable farrowing pen.
- Pigs reared under this system helps in increasing the fertility of the soil due to their habit of digging soil and passing excreta.

5.5.3 Small Scale Indoor Housing

- In this system only 1-2 pigs are kept in wood or bamboo houses (Fig. 5.4).
- No cement or concrete is used for construction of this type of houses.
- The pigs are fed with kitchen garbage and homemade feed and other available vegetable crop and their by products such as banana stems, tubers, brewer's grains and other ingredients including salt and mineral mixture and cooked partially.
- The ventilation is natural and pigs are healthy.
- Practiced successfully in North-eastern region of India.

Fig.5.4: Small scale indoor pig farming in North-East India

(Source: ICAR and ILRI)

5.5.4 Intensive System

- It is the most common system of large scale production.
- Units are generally capital intensive and involve more number of pigs.
- Modern high performance breeds of pigs are used and provided with optimum conditions of housing, feeding and management in order to ensure maximum pork production (Fig. 5.5).

Fig.5.5: Intensive pig farming

(Source: Bhadauria et al., 2019; Singh, 2020)

5.5.5 Integrated System

- Integration of pig production with other farm enterprises like fish farming, production of algae, methane gas production, ducks, water hyacinth and vegetable production.
- Enhances the efficiency of resource use and overall farm output.

Example: Pig farm above the fish ponds on a raised platform or adjoin to fish ponds (Fig 5.6) so that manure can drop straight into the water and fish can utilize the manure.

Fig.5.6: Integrated pig-fish farming

(Source: Bhadauria et al., 2019)

Among the above pig production systems, the semi-intensive system is more welfare friendly for pigs in general, followed by the small scale indoor housing, extensive and intensive systems. In the intensive production systems, the pigs are fully dependent on external inputs and five freedoms of optimum animal welfare are compromised. In addition, the routine pig management practices like tail docking / tipping, castration, teeth reduction, use of farrowing crates etc also contribute adversely to the welfare of pigs reared in intensive systems.

5.6 PHYSICAL, MENTAL AND NATURALNESS ASPECTS OF WELFARE

From a scientific viewpoint, welfare of pigs in different production systems falls into three main areas viz.

1) Biological functioning / Physical status
2) Naturalness and
3) Feelings and emotions / Mental status.

Let us discuss them briefly as applicable to pigs in different production systems.

5.6.1 Biological Functioning

Biological functioning is the ability of pigs to cope with its environment in different production systems and the biological responses that pigs may need to make to continue to be able to function, or the biological impact when they are unable to cope. This view of welfare considers pig's hormonal and physiological responses linked to production, reproduction and health. Largely it deals with how pigs respond to stressors in their daily life in different production systems. Welfare declines when the animal's responses are no longer sufficient. *Example:* Housing is a major welfare issue for pigs in intensive systems. High stocking density, poor ventilation and inadequate feeding elevates stress. Gradually pigs become more susceptible to diseases, reduced growth or poorer reproductive ability.

5.6.2 Naturalness

The naturalness component suggests that good welfare depends on the pig being able to live a 'natural' life and to be able to express its evolved behaviour patterns.

Example: The scavenging / extensive system followed by semi-extensive system of pig production systems are close to natural life compared to intensive system.

Naturalness concept suggests we should not infringe the pig's physical wholeness (such as performing procedures like surgical castration or tail docking or teeth reduction etc), and that we should create conditions where the pig has a life that accords with its species-specific capacities and adaptation patterns.

Example: In spite of their poor reputation, pigs by nature are not filthy. The sweat glands are ineffective in pigs and therefore they seek relief from heat by wallowing in mud or shallow waterholes to lower body temperature. Pigs have proved to be among the intelligent of all domestic animals, even more intelligent than dogs. The wild pigs always live in area which contains water, feeding areas, resting place and site for cooling, rubbing and defecation. A wild pig moves 1.5-3 km per day. Under farm conditions pigs spend 80% of time in rest, 12% in feeding , 8% time engaged in other activities like playing, drinking, fighting etc. When pigs are hungry they make more cries and vocalizations.

5.6.3 Feelings and Emotions

Feelings and emotions concept suggests that pigs are sentient and experience pain, fear, distress, pleasure etc. and they play a central role in the determination of welfare. This meaning is probably closest to the public perception of animal welfare.

Example: There are several animal welfare issues in management, transportation and slaughter of pigs, which are painful and causing stress. However, pigs in extensive and semi extensive systems are able to root and explore, which is associated with positive emotions.

In summary, the biological functioning is about measuring the responses of pigs to infer how well they cope with the production system environment. The naturalness is about the match between the production systems environments that the pig is in compared to the environment in which the species evolved. The feelings are primarily focused on what pigs are experiencing in the entire production system.

(Please refer MAW-001, Unit 2 on 'Scientific Understanding of Animal Welfare' for detailed discussion on the above three issues)

5.7 GENERAL CONSTRAINTS IN PIG FARMING - WELFARE IMPLICATIONS

The general constraints in pig farming with related implications to animal welfare are:

- Unfavourable climates - hot and /or humid conditions for exotic / cross breeds in intensive farming (Freedom from distress, thermal and physical discomfort)
- Low quality feed resources in scavenging / semi-intensive pig production systems (Freedom from hunger, thirst and malnutrition)
- Diseases and limited access to services in scavenging / semi-intensive pig production systems (Freedom from pain, injury and disease)

- Low genetic potential for meat production and resultant cross breeding (Ethical breeding).
- Pig farm management practices like surgical castration or tail docking or teeth reduction (Freedom from pain and distress) etc.

The exotic or cross-bred pigs give more meat, but need improved production management, feeding, housing and veterinary care. In semi-intensive and small scale indoor pig production systems like in North-East India, the human-animal bonding is positive, economics is secondary and welfare concerns are generally taken care within the available resources. However, in intensive pig production systems, cross-bred / exotic high yielding pigs are used to meet the rising demand for pork in urban areas. The human-animal bonding here is determined by economics and welfare concerns are generally compromised over economic reasons.

Before we proceed, please complete activity 3.

Activity 3 Welfare Concerns & Five Freedoms in Different Pig Production Systems: In the units 7-12 under MAW -001, we discussed the five freedoms in detail. In the above section we examined the major characteristics of different pig production systems. Discuss them with friends or colleagues *vis-a-vis* the five freedoms. How well do these pig production systems address the five freedoms? Rate them on 1 to 5 scale as: 1= not at all addressed; 2=minimally addressed; 3=moderately well addressed; 4 = very well addressed, and; 5=extremely well addressed.

Pig Production System / Five Freedoms	*Freedom from Hunger, Thirst & Malnutri-tion*	*Freedom from Thermal & Physical Discomfort*	*Freedom from Pain, Injury & Disease*	*Freedom to Express Normal Behaviour*	*Freedom from Fear & Distress*
Scavenging / Extensive / Nomadic System					
Semi Intensive / Semi-Extensive System					
Small Scale Indoor Housing					
Intensive System					
Integrated System					

Check Your Progress 3

Note: a) Use the spaces given below for your answers.

b) Check your answer with those given at the end of the unit.

1) Write the meaning of pig production system.

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2) Name the different pig production systems that are prevalent in India.

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3) What is the general animal welfare status among the pig production systems?

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5.8 LET US SUM UP

- In this unit you were introduced to the meaning and purpose of pig farming, contribution of pigs to food security, major breeds of pigs, differences between different pig production systems and general animal welfare issues associated with them.
- Pig farming or piggery is the rearing and breeding of domestic pigs as farm animals mainly for meat.
- Pig production systems are all production systems where the purpose of the operation includes some or all of the breeding, rearing and management of pigs intended for production of meat.
- Different pig production systems that are prevalent in India are: Scavenging / nomadic system / extensive system; Semi intensive / semi-extensive system; Small scale indoor housing; Intensive system, and; Integrated system.
- Among the pig production systems, the semi-intensive system is more welfare friendly in general, followed by the small scale indoor housing, extensive, integrated and intensive systems. In the intensive production systems, the pigs are fully dependent on external inputs and five freedoms of optimum animal welfare are compromised.

- The welfare of pigs in the five production systems fall into three main areas viz., biological functioning, naturalness and feelings and emotions.

(In the next unit, you will be introduced to specific animal welfare issues in pigs)

5.9 KEYWORDS

Boar: An adult male pig.

Farrowing: A term specific to swine that refers to the action of giving birth.

Fecundity: Ability to produce an abundance of off springs.

Omnivorous: A kind of animal that eats either other animals or plants.

Pig Production Systems: All subsistence or commercial production systems where the purpose of the operation includes some or all of the breeding, rearing and management of pigs intended for meat production.

Piggery: Pig farming or piggery is the rearing and breeding of domestic pigs as farm animal mainly for meat.

Pork : Pig meat is called as pork.

Piglet: The offspring of pig.

Sow: An adult female pig.

5.10 BIBLIOGRAPHY AND FURTHER READING

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5.11 SELF ASSESSMENT EXERCISES

1) Discuss the role of piggery in food security.
2) What are the advantages of pig farming?
3) Briefly describe the important characteristics of exotic pig breeds.
4) Illustrate different pig production systems that are prevalent in India.

5) Discuss the concepts of biological functioning, naturalness and feelings and emotions in relation to welfare of pigs.

5.12 ANSWERS / HINTS TO CHECK YOUR PROGRESS

Check Your Progress 1

1) Pig farming or piggery is the rearing and breeding of domestic pigs as farm animal mainly for meat and skins, while a few are reared as pets.

2) Pig rearing is economical because pigs have high fecundity, high feed conversion efficiency, early maturity, short generation interval and relatively small space requirement. Pigs are multipurpose animals providing meat and many valuable byproducts like fat, bristles etc.

3) As per the 20th Livestock Census, the pig population experienced an overall 12% decrease, putting the total head of pigs at 9.06 million. The pigs are widely distributed all over India. The pig rearing is more popular in North-Eastern hilly region and the states with greatest pig production are Assam and Jharkhand. The exotic/crossbred herd totalled 1.90 million, a 22.76% decrease from 2012 and the indigenous/non-descript pigs totalled 7.16 million, a decrease of 8.66%.

4) The advantages of pig farming include better feed conversion efficiency, higher fecundity, early sexual maturity, shorter generation intervals and one of the few farm animals where nearly all parts of the animal can be consumed by the farm family and/or sold.

Check Your Progress 2

1. The indigenous pig breeds and their home tracts include Ghungroo (West Bengal), Niang Megha (Meghalaya), Agonda Goan (Goa), Tenyi Vo (Nagaland), Nicobari (Andaman & Nicobar Islands) etc.

2. The examples for exotic pigs are Large White Yorkshire, Berkshire, Hampshire, Landrace, Tamworth etc. The examples for crossbred pigs are TANUVAS KPM Gold, HDK 75, Jharsuk, SVVU T17, Mannuthy White and Landlly.

Check Your Progress 3

1. Pig production systems are defined as all subsistence or commercial production systems where the purpose of the operation includes some or all of the breeding, rearing and management of pigs intended for meat production.

2. Different pig production systems that are prevalent in India are: Scavenging / nomadic system / extensive system; Semi intensive / semi-extensive system; Small scale indoor housing; Intensive system, and; Integrated system.

3. Among the pig production systems, the semi-intensive system is more welfare friendly in general, followed by the small scale indoor housing, extensive and intensive systems. In the intensive production systems, the pigs are fully dependent on external inputs and five freedoms of optimum animal welfare are compromised.