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Status of pig rearing in India

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Abstract

Pigs form a very important component of the Indian livestock sector. Pigs are generally raised by economically weaker section of the society, which not only provide them with a better nutritional support but also serves as an important source of livelihood. As a cheap source of healthy animal protein pigs can meet the requirement for the weaker section of the society. A total of six pig breeds have been recognised in India. But the larger population consisting of the non-descript type of pigs usually have less production ability and provides a meagre return to the farmers. However, implementation of proper cross-breeding programmes and even development of popular and locally acceptable new breeds by crossing desi pigs with high yielding exotic breeds have resulted in an expansion in the popularity of pig rearing. Increase in the consumption of pork at urban centres in India and more acceptance of the pig meat by the society has resulted in an increase in the demand. To meet this demand and to remove the production deficit a much closer analysis of the pig population and status of pig farming at the village level will help in providing an idea for better planning and implementation of new schemes.

Keywords: Pig, Rearing, Livestock, Status

Introduction

According to the 19th Livestock census of India pigs comprises 2.01% to the total livestock population (<http://dahd.nic.in>). Pig population in India is estimated to be 10.29 million and it ranks 5th in the world. Pig rearing has the potential to form an important and inclusive farm practice which can help socio-economic backward section of the society and poor farmers to attain stability of nutritional status at a comparatively low expenditure and also obtain a sustainable source of income by fulfilling the ever increasing demand for the pork. Out of the total pigs 23.85% are either exotic or crossbred and rest indigenous. 89.62% of the total pigs are found in rural areas. However, farmers in the rural areas keep these pigs as scavengers which make them more susceptible to disease and skin infections. This practice of rearing makes them less appealing to the consumers who prefer a clean and hygienic production of pork. Scavenging by pigs also exposes them to a wide variety of diseases and as pigs serves as an important reservoir for most of the zoonotic diseases and thus pose a great threat to human and animal population. So, a clean, hygienic and scientific approach will not only help in healthy development of animals but also helps in increasing the appeal for pork production and consumption, thereby increasing the overall profit.

Distribution of pig population

18th livestock census has recognized total six breeds of exotic pigs, six breeds of crossbred pigs and five breeds of indigenous pigs. However total number of indigenous pig breeds has been reported to be six by NBAGR (<http://www.nbagr.res.in>). 78% of the total indigenous pigs are nondescript; most of our indigenous pigs are locally well adapted and have excellent disease resistance property. Hence there is urgent need to characterize and improve our vast nondescript population. In comparison to 2007 census 2012 census showed a decrease of 9.06% in the population of pigs (<http://dahd.nic.in>). If we will see the distribution of this indigenous pig population, most of them are concentrated in central north eastern India, needs intensive area specific approach of improvement. Distribution of overall pig population in country indicates Assam is having highest pig population (15.89%) followed by Uttar Pradesh (12.96%) and Jharkhand (9.35%). Total crossbred population in India is 2.46 million

maximum of which are present in Assam followed by Nagaland and Mizoram. Among indigenous breeds Doom breed is having highest population of around 2 lakhs. A total of 6 pig breeds have been identified and characterized by NBAGR. These include Ghoongroo (West Bengal), Niang Megha (Meghalaya), Agonda Goan (Goa), Tenyi Vo (Nagaland), Nicobari (Andaman & Nicobar) and Doom (Assam) (<http://www.nbagr.res.in>).

Scope for improvement

The cross breeding programmes has been taken up by using Middle White Yorkshire boars to improve the local stock. Mass awareness campaign and extensive training programmes has received major fillip during last five years and there has been a tremendous rise in piggery farms established by educated class of the society. The department has established one piggery development training center at C.D.F. Aligarh. At Ranchi Tamworth has been used by crossing it with local pigs of Purnia origin to produce a population of pigs which has shiny black coat colour without any skin problem, large litter and higher body growth. In addition to these two exotic breeds, Landrace has also been used for crossing with local pig population of western Uttar Pradesh.

Most of the pigs reared by farmers are of non-descript type. These pigs usually have low feed conversion efficiency, small litter, larger farrowing interval, slow growth and lower slaughter weight. Since, pig rearing is one of the most important occupations of rural poor and weaker sections of the society, even these non-descript pig population form an important backbone of the socio-economic status of the poor farmers. It directly acts as an insurance coverage for the downtrodden and socially weaker section of the society. Not only does it generate employment to the educated unemployed youth, but it also acts as important source of cheap animal protein for the weaker sections who can-not afford costlier meat. The composition of pork is such that it even provides high amount of animal fat which is a rich source of energy as well as other important micronutrients and macronutrients, which specially include fat soluble vitamins. The lard present in pig meat imparts a typical flavour to the cooked pork, which has made it popular among a large mass of people. Though, demand for pork is increasing day by day, the production is on a decrease as is evident from the comparison of the 18th and 19th livestock census, which is indicating a reduction in the number of pig population. Rural farmers of India most commonly keep locally available pigs which are not able to give proper return to them. In addition they may also suffer from skin diseases. These pigs are reared on scavenging, which makes them less appealing to greater section of the society. Scavenging is practised by farmers to reduce the cost of rearing these pigs. But this practice also makes them much susceptible to external and internal parasites, as well as other common diseases. As pigs acts as reservoir for many zoonotic diseases, this practice is highly un-acceptable. A clean and neat pig rearing practise will not only protect the animals from unwanted diseases and complications but will also help in improving the surrounding environment and sanitation. This will also prevent the breakout of any major zoonotic disease. So, there is a need of such a concept which can provide them an ideal model for profitable and hygienic pig rearing. Also, introduction of good quality boar/sire for the sows already present in villages will help in up-gradation of these animals in successive generations, which will finally result in quicker and higher return per animal.

From Financial Year 2009-10 to 2014-15, pork production increased at a slow pace with compound annual growth rate of 1.4 percent due to population growth. Indigenous pigs are small sized, have slow growth rate, small litter size and have low quality pork. Average meat yield of indigenous breeds in India is around 35 Kg/animal, which is very low in comparison to world average of around 78 Kg/animal (<http://gain.fas.usda.gov>). The major challenges that affect the growth of pork sector include lack of sufficient breeder farms, lack of knowledge and management practice, diseases like classical swine fever, porcine reproductive and respiratory syndrome (PRRS), and porcine rotavirus (<http://gain.fas.usda.gov>). Pig farming and consumption is also constrained as most of the pig farmers belong to the lower socio-economic strata of the society and undertake pig farming as a livelihood rather than well managed and hygienic pig rearing with improved foundation stock, clean housing, management and health care (<http://gain.fas.usda.gov>).

Challenges and potential

The challenges faced by the country in securing the food as well as nutritional security to fast growing population need an integrated approach in livestock farming. Among the various livestock species, piggery has the most potential source for meat production and pigs are the choice of animal for securing security of animal protein, as it is the most efficient feed converters after the chicken broiler flocks. Apart from providing meat, it is also a source of bristles and manure. Manure of pigs can be used for both as a fertilizer, as well as slurry for growth of planktons in fish ponds. Bristles produced by them are used for making very good quality brushes which also include the best quality of shaving brushes. Pig farming has the potential to provide employment opportunities to seasonally employed rural farmers and supplementary income to improve their living standards.

Pig has got one of the highest feed conversion efficiency i.e. they produce more live weight gain from a given weight of feed than any other class of meat producing animals except the broilers. Pigs can utilise wide variety of feed stuffs viz. grains, forages, damaged feeds and garbage and convert them into valuable nutritious meat. However, feeding of damaged grains, garbage and other unbalanced rations may result in lower feed efficiency. They are one of the most prolific breeders with high fecundity and with shorter generation interval. A sow can be bred as early as 8-9 months of age and can farrow two times in a year. They have a very short gestation period of less than three months (114 days). They produce 6-12 or even more piglets in each farrowing. These piglets grow quickly to reach the market weight of more than 70 Kgs. Pig farming requires small investment on buildings, equipments, protection against diseases and management care. Pigs are known for their meat yield, which in terms of dressing percentage or carcass yield ranges from 60 to 80%, which in comparison to ruminants (55%) is very large. Pork provides one of the most nutritious meat with high fat and low water content and has got better energy value than that of other meats. It is rich in vitamins like thiamin, Niacin and riboflavin. Pigs manure is widely used as fertilizer for agriculture farms and fish ponds. Pigs store fat rapidly for which there is an increasing demand from poultry feed, soap, paints and other chemical industries. Pig farming provides quick returns since the marketable weight of fatteners can be achieved with in a period of 6-8 months. There is good

demand from domestic as well as export market for pig products such as pork, bacon, ham, sausages, lard etc.

Problems and solutions

Though six breeds of pigs have been identified in India, most of pig population in India consists of non-descript desi pigs which are usually black in colour, small in size, late breeders and tendency to have skin problems either due to deficiency or due to parasitic or fungal infestations. They also have lower litter size (low fecundity), low prolificacy and lower feed conversion efficiency. These animals are kept by the most poor and lower strata of the people, who keep them free to scavenge around the village, making them more susceptible to diseases (especially parasitic) and imbalanced growth due to unfulfilling nutrition. However, all these factors can be taken care of by crossing them with excellent exotic breeds like Landrace, Tamworth, Yorkshire, Hampshire and many others and selecting the most suitable progeny for inter-se-mating according to the need of the local farmers. With repeated selection and inter-se-mating a synthetic population can be produced which will be suitable for local condition, environment and demand. For clean and hygienic environment for rearing pigs, farmers should be provided proper guidance and incentives by the government. Clean housing and feeding facilities will not only improve the health of the pigs but will also prevent the infection of some important zoonotic diseases to their consumers. It will also make pork as an alternative option to a greater mass of the people.

Pig farming will provide employment opportunities to seasonally employed rural farmers and supplementary income to improve their living standards. The advantages of the pig farming are:

1. The pig can utilise wide variety of feed stuffs viz. grains, forages, damaged feeds and garbage and convert them into valuable nutritious meat. However, feeding of damaged grains, garbage and other unbalanced rations may result in lower feed efficiency.
2. Pig farming requires small investment on buildings and equipments.
3. The pig has got highest feed conversion efficiency i.e. they produce more live weight gain from a given weight of feed than any other class of meat producing animals except broilers.
4. They are prolific with shorter generation interval. A sow can be bred as early as 8-9 months of age and can farrow twice in a year. They produce 6-12 piglets in each farrowing.
5. Pigs are known for their meat yield, which in terms of dressing percentage ranges from 65 - 80 in comparison to other livestock species whose dressing yields may not exceed 65%.
6. Pig meat is most nutritious with high fat and low water content and has got better energy value than that of other meats. It is rich in vitamins like thiamin, Niacin and riboflavin.
7. Pigs manure is widely used as fertilizer for agriculture farms and fish ponds.
8. Pigs store fat rapidly for which there is an increasing demand from poultry feed, soap, paints and other chemical industries.
9. There is good demand from domestic as well as export market for pig products such as pork, bacon, ham, sausages, lard etc.

10. Pig farming provides quick returns since the marketable weight of fatteners can be achieved with in a period of 6-8 months.

Conclusion

The various aspects discussed gives an idea about the general problems and benefits the farmers may experience. However, pork as an exceptional, cheap and delicious source of animal protein makes keeping pigs by the socio-economic backward section of the society highly attractive. The ever increasing demand also provides a good market for better return of investment in pig farming. But it should always be taken up in a hygienic environment along with strong scientific guidelines and technological backup having the ability to infuse enthusiasm and commitment on the part of the farmer.

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