World pork production is 110.7 million tonnes (2012) and forms 0.3% of total pork meat production. Pork is a major meat in a numbers of countries such as China, Denmark, USA, UK and Canada. There are 13.5 million pigs in India comprising of desi, cross breeds and pure breed exotic pigs. The Uttar Pradesh ranks first among the states having 2.3 million pigs and possess 17% of total pigs in the country pig meat production in India is supported by large numbers of Indigenous breeds of pigs, cross breeds (constituting of 17% of total pigs) and exotic breeds including Yorkshire, Landrace and Hampshire.

In India the pig production remained largely a scavenging activity with little input cost and primarily an activity of weaker section. Pork production is not only a source of income and livelihood for these people but also choice of meat for consumption.

Pork continues to occupy an important position as a food resource in developed countries as well as in developing countries. The pig has been a scavenger and in early domestication it was raised as a means of utilizing human food wastes. In many countries pig still performs this function as a "backyard inhabitant".

**Current Status of slaughter operation in India**

Although pork is an important food item, its production and handling systems, have not received same social recognition as that of other food materials. The production of pork takes place in most of the place under unhygienic environments. As such there are no specified places for slaughter to pig in rural area and slaughter is being carried out in cattle shed, under tree, open places etc. In their places there are no basic facilities like adequate clean water. Cleanliness and arrangement to hang the carcass on ground level. The skinning and spiting of carcass was done in the ground level without following any hygienic procedures. The unhygienic way of production of pork leads to many parasitic diseases in human beings globally.

**Reasons behind the poor hygienic status of pork in India**

Production system difficulty in applying hygienic practices in herd of few pigs say 10 or less which is very common is our production system. Further, our production systems are characterized by production by masses compared to the mass production by a few in the European countries where the pig production practices.

- **Socio – religious – cultural – political**: The taboos related to pig rearing and further pork processing.
- **Lack of producer awareness and low economic status**: Majority of the pig farmers in our country belong to the below poverty line strata.
Lack of consumer awareness: Most of our pork consumers are either not aware of or not worried about the consequence of eating unhygienically produced pork via zoonosis, microbiological and even physico-chemical aspects.

Public Health aspect of Pork consumption

FAO, WHO and OIE define Veterinary Public Health (VPH) as "The contributions to the physical, mental and social well being of humans through an understanding and application of veterinary science". Veterinary public health contributes to public health through the knowledge, skills and resources of veterinary science. This generally relates to the understanding, prevention and control of zoonotic diseases and food safety issues. The scope of VPH is clearly multidisciplinary, involving not only veterinarians in public and private sectors, but also other health and agriculture professionals, communication experts and scientists as well as paraprofessionals. An interdisciplinary team approach to problem solving, research, control programmes and communication is essential for the improvement of human health in a significant and sustainable manner.

Life cycle of Trichinella Spp

Hazards associated with pork consumption:

In many developing and transition countries, parasitic zoonoses such as cysticercosis, echinococcosis and trichinellosis cause serious human suffering and considerable losses in livestock and human productivity thus posing a significant hindrance to economic development. Although effective and reliable tools for the diagnosis, prevention and control of parasitic zoonoses are now available their implementation has not always been successful in many countries. This is primarily due to lack of awareness on the presence of impact of the causing parasites (Taercsaaaginala, Taenia solium and echnococcus sapp and trichinella spp)
Taeniasis/Cysticercosis, Echinococcosis and Trichinellosis have been known in human and veterinary medicine for centuries. The three zoonotic diseases that remain a significant cause of human morbidity and mortality in many parts of the world. These diseases have veterinary health implications while Cysticercosis can be present its pigs and ruminants; it is mainly biological cycle involving pigs that is dangerous for humans. Trichinellosis aspects domestic pigs and mainly wild carnivores.

The economic impact of these diseases can be divided into three categories:

1. Cost due to disease in humans
2. Cost due to the disease in animals and there causing production losses and/or condemnation at the slaughterhouse
3. Cost of the control programmer to mitigate or eliminate / eradicate the disease

In many lesser developed and transition / restructuring countries, parasitic zoonoses such as Cysticercosis and Trichinellosis cause serious human suffering and considerable losses in agricultural and human productivity.

It has been estimated that millions of person worldwide are infected with Taenia solium the most serious tapeworm species in human infections. Although effective and reliable tools for the diagnosis, prevention and control of parasitic zoonosis are now available, there parasitic remain an important problem in many countries.

Human Cysticercosis is a disease associated with poverty in areas where people eat pork and traditional is practiced. It is endemic in the Andean area of South America, Brazil, the people’s republic of China, the Indian subcontinent and south East Asia. The spread of this disease is facilitated by poor hygiene, inadequate sanitation and the use of untreated or partially treated waste water and due to the lack of awareness of their presence, knowledge on their impact and poor stakeholder cooperation.
TAENIASIS DUE TO TAENIA SOLIUM & SWINE CYSTICERCOSIS

Taeniasis due to T.Solium is an infection of the small intestine of man with the adult stage of the pork tape worm and Cysticercosis the tissue reaching with its larval or cystic stage cysticercus cellulose which occurs most commonly in the musculature of the pig but T.Solium reaches the trachea occasioned by the condemnation of pig carcass.

In humans cysticercosis can affect many anatomical areas like muscles, subcutaneous tissues, eyes, but it becomes prominent in the central nervous system (CNS) causing what is known as neurocysticercosis (NCC). NCC is the most common parasitic disease of the CNS and one of the most common cause of epilepsy. T.Solium is a major public health problem in most areas of Latin America, Africa and Asia. Industrialized countries may experience in increase the Taeniosis and Cysticercosis due to international travel and migration worldwide, as many as 50 million people are infected with T.Solium and up to 50,000 deaths per year due to cysticercosis.

Consumption of uninspected pig meat is understudying a major source of taeniasis. The transmission of T. Solium to pigs is the essential partner in the pig- man- pig cycle requires that pigs have access to human faces and that people consumes improperly cooked pork. The major risk features related to transmission to eggs to pigs can be summarized as follows:

- Expensive or tree range pig rearing
- Outdoor human defecation near or in pig rearing areas.
- Use of pigs to scavenge and eat human faces (sanitary policeman)
- Deliberate use of human fecal as pig feed
- Connection of pig pens to human latrines (Pig sty privies)
- Use of sewage effluent, sludge or right soil to irrigate and are fertilize pig pastures and food crops.
- Involving of human carries in pig rearing and care.

The prevention of free ranging and scavenging can be very effective in interrupting the transmission of T.Solium to pigs.

Among humans, tapeworm carries are potential sources of contagion to themselves and to those living in their close environment.

There are two commonly recognized ways in which person to person transmission can occur.

1. The ingestion of eggs in contaminated food and water.
2. The introduction of eggs from faeces into the mouth contaminated hands.

For effective control of taeniasis, the following measures are recommended:

- Improvement in sanitary infrastructures
- Prevention of porcine cysticercosis
- Implement meat inspection
- Prevention of contaminated pork meat commercialization
- Render potentially infected pork meat no infections.
- Teaching hygienic habits and hand washing to general population.
Supplying health education, in particulars to children to promote long term changes.

To control cysticercosis the following control measures are recommended:

- Establishment generic surveillance for Taeniosis: tapeworm carries should be detected and treated.
- Avoidance of void food and water that might be calculated with Soil in fecal matter
- Strict hygienic measures and hand washing (when visiting endemic area)
Trichinellosis:

Trichinellosis is a parasitic Zoonosis Caused by the muscle dwelling Trichinella spp parasitic nematodes. The relatively Simple basic transmission pattern of trichinella i.e. ingestion of infected meat, may seem easy to break for the centre of the parasite.

However despite many efforts to control the disease it still remains an important food – borne parasitic zoonosis in many parts of the world with an estimated 11 million human case globally. Trichinella prevalence in swine varies from country to country and regionally within countries. The lowest prevalence rate in domestic swine is found in countries where enclosed (intensive) animal production systems and meat inspection program have been plate for many years.

Main symptoms of a trichinellosis infection in humans are nausea diarrhea, vomiting, fatigue; fever and abdominal discomfort are its first symptoms of trichinellosis headaches, fever chills, cough, eye swelling aching joints and muscle pains, itchy skin, diarrhea or constipation follow the first symptoms. If the infection is heavy patients may experience difficulty in coordinating movements and have heart and breathing problems. In severe cases death can occur.

The Major risk features related to transmission of Trichinella include

- Exposure of pigs to rodents and wildlife
- Extensive or free range pig rearing
- Consumption of un inspected pork
- Failure of meat inspection procedures
- Consumption of meat from backyard pigs
- Consumption of un inspected pork meat sausage like product
- Inadequate cooking of the pork

Global increase in animal and meat trade can transfer Trichinella to new areas where this parasite is absent as very rare. Marketing of meat or meat products through modern chain super markets may turn localized event who a widely distributed outbreak. Migration of human and consequently their food habits which became a risk further for Trichinellosis under some circumstances in new regions. Food for personal consumption prepared from meat obtained in regions where Trichinellosis is endemic pose a risk when people travel to other countries. Good Production practices, including high level sanitation, rodent and cat control on farm, can prevent opportunities for exposure of pigs to these parasites.

Alternatively meat inspection, proper commercial processing and adherence to guidelines for in home preparation of meat are effective methods for reduction of risks for human exposure.

Pork we eat
Main measure to prevent Trichinellosis could be summarized as follows:

- Cook meat products until the juices run clear or to an internal temperature of 60°C.
- Freeze pork less than 15 cm thick for 20 days at -15°C to kill any worms.
- Do not allow hogs to eat cooked and uncooked carcasses of other animals.
- Clean meat grinders thoroughly if you prepare your own ground meats.
- Make people aware that curing (salting) drying, smoking, microwave cooking of meat does not instantly kill infective worms.
- Educate the public about personal hygiene like washing of hands after defecation and before eating, prevention of contamination of soil, water and food by the use of proper toilet facilities, adoption of strict sanitation procedures.
- Effective pest and pet control.
- Identification and immediate treatment of infected persons.