

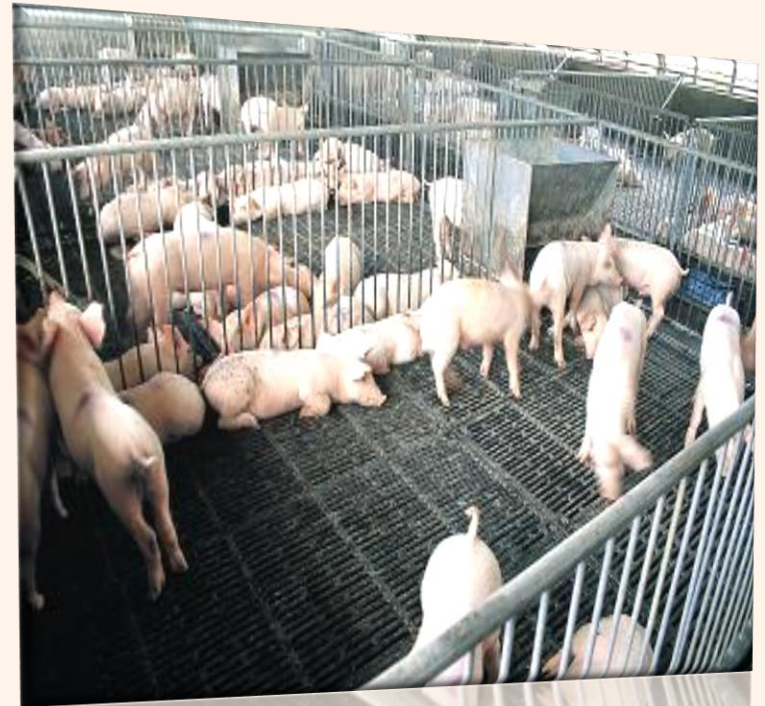
# Pig Farm /

# Piggery Business



# Introduction

Pig farming is the raising and breeding of pigs. Among the various livestock species, piggery is most potential source for meat production and pigs are more efficient feed converters after the broiler. Pig rearing has traditionally been in the main occupational axis of the socially backward down-trodden class of Indian population since time immemorial.



But at present commercial pig farming has greatly changed social scenario of this business in India. Now everyone is conscious about the economic importance of pig farming.

Pig farming for meat production is one of the best and profitable business ideas for people. There are several highly meat producing pig breeds available and Initial requirements of small investment, quick returns and utilization of bristles and manure further increase the importance of this animal.





Almost all of the pig can be used as food. Preparations of pig parts into specialties include: sausage, bacon, gammon, ham, skin into pork scratchings, feet into trotters, head into a meat jelly called head cheese (brawn), and consumption of the liver, chitterlings and blood.

The following factors can influence the type of pig farms in any given region:

- Available food supply suitable for pigs
- The ability to deal with manure or other outputs from the pig operation
- Local beliefs or traditions, including religion
- The breed or type of pig available to the farm
- Local diseases or conditions that affect pig growth or fecundity
- Local requirements, including government zoning and/or land use laws
- Local and global market conditions and demand
- Traditional farming styles and methods



Commercial pig farming in India for meat production is one of the best and profitable business ideas for the Indian people. There are several highly meat producing pig breeds available around the globe. Some of those are very suitable for commercial meat production according to the weather and climate of India. Pig farming will provide employment opportunities to seasonally employed rural farmers and Supplementary income to improve their living standards. The pig farming constitutes the livelihood of rural poor belonging to the lowest socio-economic strata and they have no means to undertake scientific pig farming with improved foundation stock, proper housing, feeding and management.

# Reasons Why You Should Invest in Pig Farming

- Pigs have low mortality rate compared to other animals. They are more rugged and easier to raise. They can also survive days without food or water.
- Pigs are also cheaper to raise compared to fishes or poultry because they can eat most foods that humans eat and even if you have to buy feed for them, their feeds are cheaper than those of other animals. If you do not have money for fancy pig feed, you can always make do with stuff you can find around you or food wastes from your kitchen. This is totally impossible with fishes.

- Also, you wouldn't have to worry about people stealing your pigs because most people would not touch live pigs with a 6-foot pole.
- The immune system of pigs is higher than other animals. As long as you give them the needed vaccines regularly, they would not fall sick. The same cannot be said for chickens which could be wiped out in one fell swoop by a disease outbreak.
- Pigs also generate more profit and if you ever get tired of pig farming, you could easily dive into real estate, using your pig farm as your first construction site.



According to recent studies of changing scenario of Animal Husbandry and Meat Industry in India, Pig farming with a profit of 60% topped all other types of subsidiary occupations like dairying (10%), poultry (30%) and sheep rearing which is at 22%.

According to an estimate, the pork production was of Rs 1682 crores and the bristles production was of Rs. 115 crores during recent years.

The characteristic features of Pig as a livestock are the highest feed conversion efficiency, utilization of wide variety of feed stuff viz. grains, forages, damaged feeds, vegetables, fruits and garbage etc.,

higher proficiency with shorter generation interval, i.e., first breeding as early as 8-9 months of age, farrowing twice in a year and 6-12 piglets in each farrowing. Initial requirements of small investment, quick returns and utilization of bristles and manure further increase the importance of this animal.

Pork production in India is estimated at 464 thousand metric tons in FY 2014-15. From year 2010 to 2015 pork imports increased at a CAGR of 11 percent on steady demand in hotel, restaurant and institutional sector as well in high-end retail segment. In 2015, pork imports increased by 28 percent from the previous year to 527 metric tons.

This handbook is designed for use by everyone engaged in the pork production. The book explains about how to raise and care for pigs, by choosing the right breed, how to house, feed and breed them, butchering process, manufacturing process of various pork products and sample plant layouts & process flow sheets with machinery details. Major contents of the book are behavior of pigs, feeding management, pig breeding, housing management, diseases, pork processing, sausages, bacon, cooked ham, chilling and freezing of meat, meat packaging.

It will be a standard reference book for professionals, food technologists, entrepreneurs, and others interested in startup of pig farming and pork production.

# Table of Contents

## 1. Introduction

Advantages of Pig Farming in India

Physical Characteristics of Pigs

SWOT Analysis of Piggery Sector

Pig Breeds

(1) Large White Yorkshire

(2) Jangali Bandel/Wild Boar

(3) Pygmi Bandel

(4) Landrace

(5) Middle White Yorkshire

(6) Hurra

(7) Chwanche

(8) Banmpudke

(9) Hampshire

(10)Duroc



## 2. Behaviour of Pigs

Social Behaviour

Rooting Behaviour

Maternal Behaviour

Huddling Behaviour

Leadership

Sexual Behaviour

## 3. Feeding Management

Nutrition

Types of Nutrition

Feeding of Boars

Feeding of Female

Feeding of Farrowing Sow and Litter

Feeding for Piglets

Feeding of Growing and Finishing Pigs

Orphan Pigs

Weaners  
Baconers  
Gilts

## 4. Pig Breeding

Managing the Sows

Selection of Breeding Gilt

Recognising the Heat

Selecting the Boar

Managing the Boar

Feeding and Housing the Boar

Timing the Service

The Birth and Care of the New-Born Piglets

Preparation Measures

Birth

Care of the New Born Piglets

Problems Related to the Birth

Slow Delivery

Accidental Killing of the Piglets by the Sow

The Sow Becomes ill After Farrowing

## 5. Housing Management

Selection of Housing Location

Fencing

Construction Plan for a Good Pig House/Shed

Housing and Equipment

- The Boar and Boar Pen
- The Sow and Sow Pen
- The Dry Sow and Dry Sow Housing
- Farrowing Pens
- Weaners and Weaner Housing
- Grower and Finishing Pens

Different Models/Types of Pig House/Sheds

## 6. Diseases

### Internal Parasites

#### (1) Roundworm

- Symptoms
- Prevention

#### (2) Tapeworm

- Symptoms
- Prevention

### External Parasites

#### (1) Mange

- Symptoms
- Prevention
- Treatment

#### (2) Lice

- Symptoms
- Prevention
- Treatment



### (3) Myiasis

- Symptoms
- Prevention and Treatment

### (4) Anaphrodisias

- Symptoms
- Prevention
- Treatment

### (5) Leptospirosis

- Symptoms
- Prevention and Treatment

### (6) Brucellosis

- Symptoms
- Prevention and Treatment

### (7) Uterine Prolapsed

- Symptoms
- Prevention and Treatment

## (8) Mastitis

- Symptoms
- Prevention
- Treatment

## (9) Endometritis (Bacteria)

- Symptoms
- Prevention and Treatment

## **Diseases and Disorders of Digestive Tract**

### (1) Birth Diarrhoea

- Symptoms
- Prevention
- Treatment

### (2) Red Diarrhoea or Clostridial Enteritis

- Symptoms
- Prevention and Treatment

### (3) Fat Diarrhea

- Symptoms
- Prevention and Treatment

### (4) Post Diarrhea

- Symptoms
- Prevention and Treatment

### (5) Salmonellosis

- Symptoms
- Prevention and Treatment

### (6) Swine Dysentery

- Symptoms
- Prevention
- Treatment

### (7) Post Weaning Syndrome (Oedema Disease)

- Symptoms
- Prevention and Treatment

# Diseases of the Respiratory Tract

## (1) Influenza

- Symptoms
- Prevention and Treatment

## (2) Pleural Pneumonia

- Symptoms
- Prevention and Treatment

## (3) Atrophic Rhinitis (Inflammation of the Nose)

- Symptoms
- Prevention and Treatment

## (4) Pasteurellosis

- Symptoms
- Prevention and Treatment

## (5) Porcine Respiratory and Reproductive Syndrome (PRRS)

- Symptoms
- Prevention and Treatment



## Disease Causing Problems in Walking

### (1) Arthritis

- Symptoms
- Prevention and Treatment

### (2) Streptococcal Infections

- Symptoms
- Prevention and Treatment

## Nutritional Disorders

### (1) Anaemia

- Symptoms
- Control and Treatment

## Other Diseases

### (1) Foot and Mouth Disease (FMD)

- Symptoms
- Prevention and Treatment

### (2) Hog Cholera

- Symptoms
- Control

### (3) African Swine Fever

- Symptoms
- Control

### (4) Swine Influenza

- Symptoms
- Control

### (5) Transmissible Gastroenteritis (TGE)

- Control

### (6) Enteric Colibacillosis

- Symptoms
- Control

### (7) Salmonellosis

- Symptoms
- Control

### (8) Erysipelas

- Symptoms
- Control

## (9) Anthrax

- Symptoms
  - Prevention and Treatment
- Vaccination Schedule for Pigs

## 7. Pork Processing

### Stunning

#### Stunning Methods

- Percussion Stunning
- Electrical Stunning
- Carbon Dioxide Gas Stunning

### Bleeding

- Bleeding on a Rail
- Horizontal Bleeding
- Bleeding Without Stunning

### Hair or Skin Removal

#### Skinning Method

Evisceration

Splitting and Head Removal

Chilling the Carcass

Carcass Cutting Equipment

Basic Equipment Needed for the Slaughtering Operation

Useful Additional Equipment

## **8. Sausages**

Sausage Types

(1) Fresh Sausage

(2) Cooked Sausage

(3) Dry & Semi-Dry Sausages

(4) Luncheon Meats and Jellied Products

Sausage Ingredients

Sausage Recipes and Procedures

Fresh Pork Sausage

Italian Style Pork Sausage

Bratwurst

Nurnberger Bratwurst

Polish Sausage

Smoked Kielbasa

Coarse Ground Bologna

Frankfurters

Cooked Salami

Summer Sausage

Dry Beef Salami

Honey Loaf

Spiced Luncheon Loaf

Family Loaf

Main Types of Products Worldwide

(1) Frankfurters (Wieners)

(2) Grill Sausages

(3) Bratwurst

(4) Bologna

(5) Mortadella

- (6) Mettwurst
- (7) Breakfast Sausage
- (8) Blood Sausage
- (9) Weisswurst
- (10) Liver Sausage

#### Processing Stages

- (1) Ingredients and Additives
- (2) Formulation
- (3) Comminution
- (4) Smoking/Cooking

Quality Aspects of the Finished Product

Safety Aspects

## 9. Bacon

Introduction

Processing Stages

- Traditional Wiltshire Curing
- Injection of Pork Sides



- Immersion in a "Live Brine"
- Maturation
- Modern Wiltshire Cured Bacon
- Modern Bacon Production
- Pig Production and Slaughter
- Slaughter and Chilling
- Immersion Curing (Tank Curing)
- Bag Curing
- Dry Curing
- Smoking
- Tempering and High-Speed Slicing
- Packaging
- Storage Instructions

## 10. Cooked Ham

Introduction

Types of Products

Raw Materials

## Processing Technology

- Reception
- Brine Injection
- Massaging and/or Tumbling
- Cooking
- Cooling
- Final Product

## Quality Aspects of the Finished Product

- Color
- Texture
- Flavor

## Safety Aspects

# 11. Chilling and Freezing of Meat

## Definitions

## Effects of Freezing

Microbiological Effects

Mould Growth

Fat Rancidity

Physical Effects

Ice Formation - Mechanical and Chemical Effects

Effects on Meat Properties

- Colour
- Drip Losses
- Cooking Losses
- Fatty Tissue

Storage Life

Management of the Cold Chain

Types of Freezers

## **12. Meat Packaging**

Advantages of Packaging

Purpose of Packaging

## Requirements for Packaging Materials

(1) Single-Layer Films

(2) Multi-Layer Films

## Types of Packaging

(1) Controlled Atmosphere Packaging (CAP)

(2) Vacuum-Packaging

(3) Masterpack

(4) Modified-Atmosphere Packaging

Packaging Guidelines for Meat and Meat Products

## 13. Sample Plant Layouts & Process Flow Sheets with Machinery Details

## See more

<https://goo.gl/FtAHmp>

<https://goo.gl/BH3Jws>

<https://goo.gl/nHx98z>

*Visit us at*

[www.entrepreneurindia.co](http://www.entrepreneurindia.co)



***Take a look at NIIR PROJECT  
CONSULTANCY SERVICES on  
#StreetView***

**<https://goo.gl/VstWkd>**

*Locate us on  
Google Maps*

<https://goo.gl/maps/BKkUtq9gevT2>



# Contact us

## NIIR PROJECT CONSULTANCY SERVICES

106-E, Kamla Nagar, Opp. Spark Mall,  
New Delhi-110007, India.

Email: [npcs.ei@gmail.com](mailto:npcs.ei@gmail.com) , [info@entrepreneurindia.co](mailto:info@entrepreneurindia.co)

Tel: +91-11-23843955, 23845654, 23845886, 8800733955

Mobile: +91-9811043595

Website : [www.entrepreneurindia.co](http://www.entrepreneurindia.co) , [www.niir.org](http://www.niir.org)

Take a look at NIIR PROJECT CONSULTANCY SERVICES on #StreetView

<https://goo.gl/VstWkd>



# **Niir PROJECT CONSULTANCY SERVICES**

**An ISO 9001:2015 Company**

# Who are we?

- *One of the leading reliable names in industrial world for providing the most comprehensive technical consulting services*
- *We adopt a systematic approach to provide the strong fundamental support needed for the effective delivery of services to our Clients' in India & abroad*



*We at NPCS want to grow with you by providing solutions scale to suit your new operations and help you reduce risk and give a high return on application investments. We have successfully achieved top-notch quality standards with a high level of customer appreciation resulting in long lasting relation and large amount of referral work through technological breakthrough and innovative concepts. A large number of our Indian, Overseas and NRI Clients have appreciated our expertise for excellence which speaks volumes about our commitment and dedication to every client's success.*





*We bring deep, functional expertise, but are known for our holistic perspective: we capture value across boundaries and between the silos of any organization. We have proven a multiplier effect from optimizing the sum of the parts, not just the individual pieces. We actively encourage a culture of innovation, which facilitates the development of new technologies and ensures a high quality product.*



# What do we offer?

- *Project Identification*
- *Detailed Project Reports/Pre-feasibility Reports*
- *Business Plan*
- *Industry Trends*
- *Market Research Reports*
- *Technology Books and Directory*
- *Databases on CD-ROM*
- *Laboratory Testing Services*
- *Turnkey Project Consultancy/Solutions*
- *Entrepreneur India (An Industrial Monthly Journal)*



# How are we different ?

- *We have two decades long experience in project consultancy and market research field*
- *We empower our customers with the prerequisite know-how to take sound business decisions*
- *We help catalyze business growth by providing distinctive and profound market analysis*
- *We serve a wide array of customers , from individual entrepreneurs to Corporations and Foreign Investors*
- *We use authentic & reliable sources to ensure business precision*



# Our Approach

**Requirement collection**

**Thorough analysis of the project**

**Economic feasibility study of the Project**

**Market potential survey/research**

**Report Compilation**



# Who do we serve?

- *Public-sector Companies*
- *Corporates*
- *Government Undertakings*
- *Individual Entrepreneurs*
- *NRI's*
- *Foreign Investors*
- *Non-profit Organizations, NBFC's*
- *Educational Institutions*
- *Embassies & Consulates*
- *Consultancies*
- *Industry / trade associations*



# Sectors We Cover

- *Ayurvedic And Herbal Medicines, Herbal Cosmetics*
- *Alcoholic And Non Alcoholic Beverages, Drinks*
- *Adhesives, Industrial Adhesive, Sealants, Glues, Gum & Resin*
- *Activated Carbon & Activated Charcoal*
- *Aluminium And Aluminium Extrusion Profiles & Sections,*
- *Bio-fertilizers And Biotechnology*
- *Breakfast Snacks And Cereal Food*
- *Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling*





- *Bamboo And Cane Based Projects*
- *Building Materials And Construction Projects*
- *Biodegradable & Bioplastic Based Projects*
- *Chemicals (Organic And Inorganic)*
- *Confectionery, Bakery/Baking And Other Food*
- *Cereal Processing*
- *Coconut And Coconut Based Products*
- *Cold Storage For Fruits & Vegetables*
- *Coal & Coal Byproduct*

- *Copper & Copper Based Projects*
- *Dairy/Milk Processing*
- *Disinfectants, Pesticides, Insecticides, Mosquito Repellents,*
- *Electrical, Electronic And Computer based Projects*
- *Essential Oils, Oils & Fats And Allied*
- *Engineering Goods*
- *Fibre Glass & Float Glass*
- *Fast Moving Consumer Goods*
- *Food, Bakery, Agro Processing*

- *Fruits & Vegetables Processing*
- *Ferro Alloys Based Projects*
- *Fertilizers & Biofertilizers*
- *Ginger & Ginger Based Projects*
- *Herbs And Medicinal Cultivation And Jatropha (Biofuel)*
- *Hotel & Hospitability Projects*
- *Hospital Based Projects*
- *Herbal Based Projects*
- *Inks, Stationery And Export Industries*

- *Infrastructure Projects*
- *Jute & Jute Based Products*
- *Leather And Leather Based Projects*
- *Leisure & Entertainment Based Projects*
- *Livestock Farming Of Birds & Animals*
- *Minerals And Minerals*
- *Maize Processing(Wet Milling) & Maize Based Projects*
- *Medical Plastics, Disposables Plastic Syringe, Blood Bags*
- *Organic Farming, Neem Products Etc.*

# Sectors We Cover *Cont...*

- *Paints, Pigments, Varnish & Lacquer*
- *Paper And Paper Board, Paper Recycling Projects*
- *Printing Inks*
- *Packaging Based Projects*
- *Perfumes, Cosmetics And Flavours*
- *Power Generation Based Projects & Renewable Energy Based Projects*
- *Pharmaceuticals And Drugs*
- *Plantations, Farming And Cultivations*
- *Plastic Film, Plastic Waste And Plastic Compounds*
- *Plastic, PVC, PET, HDPE, LDPE Etc.*



# Sectors We Cover *Cont...*

- *Potato And Potato Based Projects*
- *Printing And Packaging*
- *Real Estate, Leisure And Hospitality*
- *Rubber And Rubber Products*
- *Soaps And Detergents*
- *Stationary Products*
- *Spices And Snacks Food*
- *Steel & Steel Products*
- *Textile Auxiliary And Chemicals*



- *Township & Residential Complex*
- *Textiles And Readymade Garments*
- *Waste Management & Recycling*
- *Wood & Wood Products*
- *Water Industry(Packaged Drinking Water & Mineral Water)*
- *Wire & Cable*

# Contact us

## **NIIR PROJECT CONSULTANCY SERVICES**

106-E, Kamla Nagar, Opp. Spark Mall,  
New Delhi-110007, India.

Email: [npcs.ei@gmail.com](mailto:npcs.ei@gmail.com) , [info@entrepreneurindia.co](mailto:info@entrepreneurindia.co)

Tel: +91-11-23843955, 23845654, 23845886, 8800733955

Mobile: +91-9811043595

Website : [www.entrepreneurindia.co](http://www.entrepreneurindia.co) , [www.niir.org](http://www.niir.org)

Take a look at NIIR PROJECT CONSULTANCY SERVICES on  
#StreetView

<https://goo.gl/VstWkd>





# Follow Us



➤ <https://www.linkedin.com/company/niir-project-consultancy-services>



➤ <https://www.facebook.com/NIIR.ORG>



➤ <https://www.youtube.com/user/NIIRproject>



➤ <https://plus.google.com/+EntrepreneurIndiaNewDelhi>



➤ [https://twitter.com/npcs\\_in](https://twitter.com/npcs_in)



➤ <https://www.pinterest.com/npcsindia/>

[www.niir.org](http://www.niir.org)

[www.entrepreneurindia.co](http://www.entrepreneurindia.co)





**THANK YOU!!!**

**For more information,  
visit us at:**

**[www.entrepreneurindia.co](http://www.entrepreneurindia.co)**