

# The Complete Technology Book on Meat, Poultry and Fish Processing (2nd Revised Edition)

**Author:** NPCS Board of Consultants & Engineers

**Format:** Paperback

**ISBN:** 9788190568548

**Code:** NI202

**Pages:** 488

**Price:** Rs. 1,475.00 US\$ 39.86

**Publisher:** NIIR PROJECT CONSULTANCY SERVICES

Usually ships within 5 days

India is endowed with the largest livestock population in the world. Livestock and poultry in Indian tropical and sub tropics play a critical role in agriculture economy by providing milk, meat, eggs etc and provide flexible reserves during period of economic stress and buffer against crop failure. Mutton and Chicken is an important livestock product which in its widest sense includes all those parts of the animals that are used as the food by the man. So, with increase in population there is also an increasing consumer demand for food products that are low in fat, salt and cholesterol at local, national and international levels. Food manufacturers need to be able to produce meat, poultry and fish products which are considered to be healthy and that can meet the consumer demands. Meat industry, although is a very developing stage in India, is the top food industry in the world. Processed meat products are poised for continuous growth in the country. Poultry is one of the fastest growing segments of the agricultural sector.

The main aim of this book is to provide complete guide on meat, fish and poultry processing. Owing to the wide variety of products and type of processes and treatments (curing, dry curing, fermentation, cooking smoking etc), this products need particular analytical methodologies for proper consumption. It examines the nutritional principles behind the drive for reductions in fat, salt and cholesterol in our diet, and illustrates formulations and procedures utilized to produce such products. The reader would get to explore brief discussion regarding the Indian meat industry followed by the next chapter which includes structure, composition and nutritive value of meat tissues, postmortem changes and some meat quality parameters are also added in the preceding chapters. It also discuss about meat cutting and packaging, processing of meat and meat products, microbial and other deteriorative changes in meat and their identification, chemical composition and nutritive value of poultry meat, pre slaughter handling, transport and dressing of poultry, fish products, freezing fish fillets, miscellaneous fish dishes, spreads, salads, loaves fish spreads for appetizers, sandwiches, shellfish and miscellaneous marine products, meat removal and pre freezing treatment, packing and freezing, classes and sizes of fresh and frozen oysters, freezing whole raw lobsters etc. The book contains manufacturing processes of various meat, chicken and fish products in much illustrative manner. Special content on machinery equipment photographs along with supplier details has also been included.

It is anticipated that, it turns out to be a resourceful book for entrepreneurs, technocrats, food technologists and others linked with this industry; as this would be an invaluable reference source for meat, poultry and fish processors, and food industry personnel involved in the development and marketing of new products.

## Contents

## 1. INDIAN MEAT INDUSTRY

Livestock Resource

Meat Production

World Scene

Processed Meat Industry

## 2. STRUCTURE, COMPOSITION AND NUTRITIVE

### VALUE OF MEAT TISSUES

Structure of Muscle Tissue

Skeletal Muscle and Associated Connective Tissue

Smooth Muscles

Cardiac Muscles

Composition of Muscle Tissue

Water

Protein

Lipids

Carbohydrates

Minerals

Vitamins

Nutritive Value of Meat Tissues

## 3. POSTMORTEM CHANGES

Loss of Homeostasis

Postmortem Glycolysis and pH Decline

Rigor Mortis

Loss of Protection from Invading Microorganisms

Degradation due to Proteolytic Enzymes

Loss of Structural Integrity

## 4. SOME MEAT QUALITY PARAMETERS

Meat Colour

Water Holding Capacity

Marbling

Quantum of Connective Tissue

Firmness

Meat Storage Conditions

Cold Shortening

Thaw Rigor

Antemortem Factors Affecting Meat Quality

## 5. MEAT CUTTING AND PACKAGING

Wholesale Cuts of Lamb Carcass

Wholesale Cuts of Buffalo or Beef Carcass

Grading

Packaging

Overwraps

Tray with Overwrap

Shrink Film Overwrap

Vacuum Packaging

Modified Atmosphere Packaging

## 6. PROCESSING OF MEAT AND MEAT PRODUCTS

Basic Processing Procedures

Cured and Smoked Meats

Hams

Commercial Processing of Ham

Cooked Ham

Country Ham

Prosciutto  
Bacon  
Commercial Processing of Bacon  
Sausages  
Classification  
Processing Steps  
Formulations of Some Sausages with Special Features  
Intermediate Moisture and Shelf Stable Meat Products  
Humectants  
Basic Processing Techniques  
Stability of Intermediate Moisture Meats  
Hurdle Concept  
Restructured Meat Products  
Other Popular Meat Products  
7. MICROBIAL AND OTHER DETERIORATIVE CHANGES  
IN MEAT AND THEIR IDENTIFICATION  
Sources of Microbial Contamination of Meat  
Growth of Microorganisms in Meat  
Deteriorative Changes in Meat  
Identification of Meat Spoilage  
8. FRAUDULENT SUBSTITUTION OF MEAT AND  
ITS RECOGNITION  
Recognition of Fraudulent Substitution or Adulteration  
Physical Methods  
Anatomical Methods  
Dentition  
Bone Percentage of Carcass  
Ribs on the Thorax  
Characteristics of Long Bones  
Histological Methods  
Chemical Methods  
Composition of Body Fats  
Immunological/Serological Methods  
Electrophoretic Methods  
Isoelectric Focusing  
Enzyme-Linked Immuno Sorbent Assay (ELISA)  
9. CHEMICAL COMPOSITION AND NUTRITIVE  
VALUE OF POULTRY MEAT  
Chemical Composition  
Moisture  
Protein  
Fat  
Carbohydrate  
Vitamins  
Minerals  
Nutritive Value  
10. PRE-SLAUGHTER HANDLING, TRANSPORT  
AND DRESSING OF POULTRY  
Pre-slaughter Care and Handling  
Transport  
Dressing of Poultry  
Slaughtering  
Scalding

Defeathering  
Singeing  
Washing  
Removal of Feet and Oil Gland  
Evisceration  
Chilling and Draining  
Washing  
Grading  
Packaging  
Storage

## 11. ANTEMORTEM AND POSTMORTEM EXAMINATION OF POULTRY

Antemortem Inspection of Poultry  
Postmortem Inspection

## 12. PROCESSING OF SOME CONVENIENCE POULTRY PRODUCTS

Tandoori Chicken  
Chicken Barbecue  
Chicken Seekh and Shami Kababs  
Chicken Kofta  
Poultry Pickle  
Chicken Samosa  
Chicken Sausage  
Chicken Patties  
Chicken Tikka

## 13. ROLE OF MEAT AND POULTRY PRODUCTS IN HUMAN NUTRITION

### 14. CURED MEATS

General Recommendations  
Thawing Frozen Cuts  
Sanitation is Important  
Curing Cellar Temperature  
Curing Methods for Large Meat Cuts  
Artery Pumping  
Injecto Curing  
Sweet Pickle Cure  
Dry Cure  
Curing Pickle Ingredients and Government Regulations  
Permitted Moisture Content  
Phosphates  
Ascorbates  
Flavourings  
Preparing Pickles for Curing  
Pumping Pickles  
Using Sodium Erythorbate (or Sodium Ascorbate)  
Without Phosphate and Sodium Erythorbate  
When Phosphates are Used  
Government Regulations Concerning Destruction of Trichinae  
Boneless Pork Loins and Loin Ends  
Coppa  
Freezing to Destroy Trichinae  
Management Assistance in Safeguarding Processed Meats  
Hams and Picnics

Curing Whole Smoked Hams  
Arterial Pumping of Pickle  
Pumping Scales  
Pumping  
Fast Cure  
Full Cure  
Procedure for Smoking  
Marketed as Uncooked Hams  
Ready to Eat Fully Cooked Hams  
Artery-Pumped Smoked Picnics (Shoulders)  
Ready-to-Eat Fully Cooked Picnics  
Boneless Oval Shaped and Elongated Ready-to-Eat  
Smoked Hams in Fibrous Casings  
Processing Procedure  
Boneless of Bone-in-Pear-Shaped Ready-to-Eat Smoked  
Hams Processed in Stockinette  
Processing Procedure  
Export Hams and Picnics  
Processing Procedure  
Boiled Hams  
Processing Procedure  
Canned Hams (Pear-Shaped and Pullman)  
Processing Procedure  
Washing and Boning  
Smoke is Optional  
Filling and Pressing  
Cooking  
Cooling  
Keep Under Refrigeration  
Prosciutti (Italian-Style Hams)  
Processing Procedure  
Pork Butts and Loins  
Capocollo (Italian-Style Cured Butts) (Also Capicola, Capicola)  
Dry Cure Procedure  
Fully Cooked Ready-to-Eat Capocollo  
Curing  
After-Cure Treatment  
Smoking  
Final Treatment  
Twins Wrapping  
Smoked Boneless Butts  
Processing Procedure  
Dewey Hams (Loins)  
Processing Procedure  
Canadian-Style Bacon  
Curing  
Stuffing (Encasing)  
Smoking  
After-Smoke Treatment  
Bacon (Bellies)  
Continuous Process with Overnight Cure  
Box Dry-Cured Bacon  
Processing Procedure

Dry Penetronic-Cured Bacon  
The Penetronic Machine  
Processing Procedure  
Injecto-Cured Bacon  
Injecto Process  
Cured Beef Products  
Beef Bacon  
Dried Beef for Slicing  
Dried Beef for Slicing (Fast Method)  
Processing Procedure  
Kosher-Style Corned Beef Brisket  
Curing Pickle  
Curing  
Packaging  
Cooked Corned Beef Rounds  
Curing Pickle  
Curing  
Boning  
Aging and Flavour Development  
Molding and Cooking  
Chilling and Stuffing  
Peppered Beef Rounds  
Boning  
Aging  
Smoking and Cooking  
Packaging  
Pastrami  
Curing Pickle  
Curing  
Rubbing  
Smoking and Cooking  
Chill and Package  
Cured and Smoked Beef Tongues  
Artery Pumping and Curing  
Cover Pickle Curing  
Smoking  
Cured and Cooked Beef Tongues Canned in Tin or  
Glass Containers  
After-Cure Treatment  
Packaging  
Processing  
For Tin Containers  
For Glass Containers  
15. SAUSAGES  
Fresh Sausages  
Low Temperatures are Important  
Practice Strict Sanitation  
Destruction of Trichinae  
Avoid Smeary Texture  
Use of Spices  
Shelf-Life  
Casings and Stuffing  
Processing Procedure

Hot Whole Hog Sausage  
Processing Procedure  
Procedure  
Seasoning Formulas  
Meat Selection  
Grinding and Mixing  
Italian-Style Sausage  
Processing Procedure  
Fresh Chorizos  
Bockwurst (White Sausage)  
Bockwurst using Nonfat Dry Milk  
Dry and Semidry Sausages  
Government Regulations  
Selection of Meats  
Cleanliness of Kitchen and Equipment  
The Sausage Making Procedure  
Dry Salami  
Processing Procedure  
Genoa Salami  
Processing Procedure  
Salami De Milano  
Salami Dâ€™Arles  
Processing Procedure  
Dried Farm Sausage  
Processing Procedure  
Pepperoni Sticks  
Processing Procedure  
Dried Chorizos  
Processing Procedure  
Tiroler Landjager Sausage  
Processing Procedure  
Mortadella (Dry Process)  
Mortadella-Style Sausage using Nonfat Dry Milk  
Krakauer Dry Sausage  
Cervelat Summer Sausage  
Cervelat Sausage using Nonfat Dry Milk  
Thuringer-Style Sausage using Nonfat Dry Milk  
Semidry Sausages using Lactic Acid Starter Culture  
Suggestions for Producing a Semidry Sausage with Lactacel  
Lactic Acid Starter Culture  
Meat Formulation  
Spice Formulation  
Grinding and Mixing  
Addition of Starter Culture  
Stuffing  
Smoking Schedule  
Cervelat Summer Sausage with Lactic Acid Starter Fermentation  
Smoking Procedure for Both Methods  
Thuringer Summer Sausage with Lactic Acid Starter Fermentation  
Thuringer Sausage using Lactic Acid Starter Culture  
Meat Formulation  
Spice Formulation  
Hot Bar Sausage using Lactic Acid Starter Culture

Critical Factors Related to the Use of Starter Culture (Lactacel)  
 Cooked Smoked and Unsmoked Sausages (Frankfurters, Weiners, Bologna Types)  
 MID Regulations Concerning Added Materials in  
 Sausage Products  
 New FDA Ban on Premixed Commercial Seasoning Containing Sodium Nitrite  
 Outline of Rapid Processing Procedure for Skinless Frankfurters Through Conveyor System  
 Bologna-Type Sausages: Jumbo, Long, and Ring  
 Chopping Operation using Grinder  
 and Conventional Chopper  
 Chopping Operation when High-Speed Chopper is used  
 Chopping Operation when Grinder, Conventional Chopper,  
 and an Emulsifier are used  
 Chopping Operation when High-Speed Chopper and  
 an Emulsifier are used  
 Chopping Operation using Grinder, Mixer, and an Emulsifier  
 Other Added Materials  
 Stuffing  
 Smoking and Cooking  
 Fast Process using Combination of Glucono Delta Lactone or Sodium Acid Pyrophosphate and Sodium  
 Erythorbate  
 Frankfurter Sausages (Wieners)  
 Chopping Operation using Grinder and Conventional Chopper  
 Chopping Operation when High Speed Chopper is used  
 Chopping Operation when Grinder, Conventional Chopper and Emulsifier are used  
 Chopping Operation when High Speed Chopper and  
 Emulsifier are used  
 Chopping Operation using Grinder, Mixer, and Emulsifier  
 Added Materials  
 Stuff  
 Smoke and Cook  
 Fast Process using Combination of Glucono Delta Lactone with or without Sodium Acid Pyro-phosphate and  
 Sodium Erythorbate  
 Oil Spice for Smoked Meat Flavor  
 Ring Bologna using Nonfat Dry Milk  
 Large Bologna using Nonfat Dry Milk  
 Bologna Formulas using Soy Protein  
 High Grade Frankfurter using Nonfat Dry Milk  
 Processing Data  
 Frankfurter using Soy Protein Concentrate  
 Hot Dogs Extended with Textured Vegetable Protein  
 Skinless Frankfurters using Nonfat Dry Milk  
 Skinless Cheesefurters using Nonfat Dry Milk  
 Cooked Salami (Salami Cotto)  
 Cooked Salami Cotto (Perishable) Finest Quality Cooked  
 Salami in 3- or 6-LB Cans  
 Salami Cotto using Nonfat Dry Milk  
 Kosher and Kosher-Style Salami  
 Minced Ham  
 All Meat Smoked Sausage  
 Smoked Link Sausage with 3½ % Cereal and Nonfat Dry Milk Added  
 •Smokies• Pork Sausage  
 New England Style Smoked Sausages  
 Smoked Italian-Style Hot or Mild Sausage



All Meat Polish Sausage  
Polish Sausage in Vinegar Pickle  
Polish Sausage Containing 3½ % Cereal and Nonfat Dry Milk  
Polish Style Sausage with Textured Soy Protein  
Polish-Style Sausage using Nonfat Dry Milk  
Blood Sausage  
Cure Pork Tongues  
Cure Beef Blood  
Cure Beef Shank Meat  
Cure Pork Snouts  
Cure Pork Jowls or Backfat  
Precook Meats  
Grind, Chop, and Mix  
Stuff and Tie  
Cook  
Chill  
Smoke Bung-Encased Sausages  
Keep Product Refrigerated  
Liver Sausage Smoked or Unsmoked  
Keep Product Refrigerated  
Braunschweiger Liver Sausage  
Braubnshweiger-Style Liver Sausage with Soy Protein  
Braunschweiger with Isolated Soy Protein  
Braunschewiger-Style Liver Sausage using Nonfat Dry Milk  
Kosher-Style Liver Sausage  
Farmer-Style Liver Sausage  
Bohemian Liver Sausage  
Homemade German-Style Liver Sausage (Housmacher Leberwurst)  
Hungarian-Style Rice Liver Sausage  
Ring Liver Pudding  
Cooked Krakauer Sausage  
Berliner Sausage using Nonfat Dry Milk  
Knockwurst  
Thuringer Knockwurst  
Knoblauch Sausage using Nonfat Dry Milk  
Acme Sausage using Nonfat Dry Milk  
Miscellaneous Sausages  
Heat-and-Serve Pork Sausage  
Best Quality Canned Pork Sausage  
Canned Bulk Breakfast Sausage with 3½ % Cereal Added  
Sausage Canned in Vegetable Oil (Good Quality)  
Suggested Process  
Final Chill  
Canned Chorizos in Lard  
Canned Vienna Sausages  
Canned Imitation Vienna Sausage  
Canned Vienna Sausages with Beans and Tomato Sauce  
Prepare Vienna Sausages  
Prepare Beans  
Prepare Sauce  
Fill Cans  
Suggested Process  
Vienna Sausages Packed in Barbecue Sauce

Canning Procedure  
 Suggested Process  
 Cocktail Frankfurters in Glass Jars  
 Retort  
 Suggested Process  
 16. FISH PRODUCTS  
 Separating Fish Flesh from Bones and Skin Mechanically  
 Yield of Flesh and Waste from some Pacific Ocean Fish Passed through a Laboratory-Model Flesh Separator  
 Reducing Drip Loss in Fish Fillets  
 Treatment for Freezing  
 Results of Tests on Fresh Fish  
 Manufacturing Fish Flour (Fish Protein Concentrate)  
 Salted and Pickled Fish  
 Salting Fish  
 Salting of Cod, Lusk, Haddock, Hake, and Pollock  
 Cleaning  
 Salting  
 Drying  
 Skinning and Boning  
 Salting Mackerel  
 Salting Salmon  
 Salting Mullet  
 Dry-Salting  
 Brine-Salting  
 Bismark Herring and Variations  
 Cut Spiced Herring  
 Pickled Herring for Rollmops, Cut Spiced, or Bismark Herring  
 Herring in Wine Sauce  
 "Scotch-Cured" Herring  
 Rollmops  
 Herring in Sour Cream Sauce  
 Matjeshering  
 Gaffelbiter  
 Gabelebissen  
 German Delicatessen Anchovies  
 Scandinavian Anchovies  
 Russian Sardines  
 Potted Herring  
 Fish Pickled in Wine  
 Pickled Haddock Fillets  
 Pickled Salmon  
 Pickled and Spiced Mackerel Fillets  
 Pickled Eels  
 Canning Frozen-at-Sea Tuna  
 Canning Fresh Tuna  
 Canning Salmon  
 Canning Mackerel  
 Canning Sardines in Oil  
 Canning California Sardines  
 Canning Herring  
 Canning Shad  
 Canned Salmon Caviar Canape Spread Base

Canned Fish Chowder  
 Make a Fish Broth First  
 Fill Cans  
 Suggested Process  
 Canned Norwegian-Style Fish Balls (Fiskeboller)  
 Suggested Process  
 Canned Salmon or Tuna Loaf in 12-oz or 3-or 6-Lb Oblong Cans  
 Canned Fish Cakes  
 Frozen Fish  
 Freezing Minced-Fish Blocks  
 Preparation of Minced Fish Flesh  
 Preparation of the Frozen Blocks  
 Freezing Ready-to-Heat-and-Eat Fish Sticks  
 Forming Fillet Blocks  
 Freezing Fillet Blocks  
 Cutting the Fish Sticks  
 Coating the Sticks  
 Frozen Foods Dipping Batter Mix  
 Frozen Foods Breading Mix  
 Cooking the Sticks  
 Cooling and Packaging the Cooked Sticks  
 Freezing  
 Freezing Fish Fillets  
 Fillets or Pieces of Breaded Fish  
 Freezing Halibut and Salmon Steaks  
 Steaking the Frozen Whole Fish  
 Freezing  
 Frozen Heat-and-Eat Fried Fish  
 Frozen Fish Chowder  
 Frozen Fish Stew  
 Frozen Tu-Noodle  
 Frozen Swordfish au Gratin  
 Smoked Fish  
 Smoking Salmon  
 Hard-Smoked Salmon  
 Barbecued Sablefish (Kippered Black Cod)  
 Canned Smoked Salmon Spread  
 Suggested Process  
 Processing Kippered Salmon  
 Processing Kippered Herring  
 Canning Kippered Herring  
 Smoking Herring  
 •Bloaters•  
 Smoking Halibut  
 Smoking Haddock (Finnan Haddie)  
 Finnan Haddie (Scotch Method)  
 Smoking Alewives or River Herring  
 Smoking Mackerel  
 Smoking Sturgeon  
 Smoking Eels  
 Smoking Carp  
 Miscellaneous Fish Dishes, Spreads, Salads, Loaves  
 Fish Spreads for Appetizers, Sandwiches

Fish Loaf  
Fried Fish Cakes  
Marinating Fried Small Fish  
Fish Sausage  
Salmon Salad  
Alternatives  
Tuna Salad  
Tuna Salad with Textured Vegetable Protein  
Smoked Herring Salad  
German-Style Herring Salad  
Italian-Style Herring Salad  
Alaska-Style Herring Salad  
Tuna Souffle  
Salmon Loaf  
Tuna Noodle Casserole  
Lutefisk  
Standard Cooking Procedure  
17. SHELLFISH AND MISCELLANEOUS MARINE PRODUCTS  
Shrimp  
Freezing Shrimp  
Preparation of Raw Shrimp  
Blast Freezing Shrimp  
Freezing Glazed Shrimp  
Freezing Cooked Shrimp  
Canning Shrimp  
Suggested Process  
Frozen Shrimp in Creole Sauce  
Frozen Shrimp Bisque  
Frozen Shrimp Creole  
Frozen Curried Shrimp  
Frozen Shrimp Patties with Textured Vegetable Protein  
Flavour Base for Rice Pilaf with Freeze-Dried Shrimp  
Smoked Shrimp  
Pickled Spiced Shrimp  
Clams  
Preparing Clams for Freezing  
Soft Clams  
Hard Clams (Quahog)  
Surf Clams  
Freezing  
Canning Razor Clams  
Canning Clam Extract  
Canning Clam Nectar  
Maryland Fried Clams  
Canned Clam Chowders  
For Manhattan Chowder  
For New England Chowder  
Batch Process  
Canned Clam Stew (Hot Pack)  
Frozen New England Clam Chowder  
Made from Fresh Clams  
Made from Canned Clams  
Packaging

Canned Manhattan Clam Chowder  
For Condensed Canned Chowder  
Frozen Manhattan Clam Chowder (Batch Process)  
Frozen Clam Patties  
Crabs  
Canning Pacific Crab Meat  
Freezing Blue Crab Meat  
Cooking  
Meat Removal  
Freezing Soft-Shell Crabs  
Freezing King Crab Meat  
Freezing King Crab Legs in the Shell  
Freezing Dungeness Crab in the Shell  
Freezing Dungeness Crab Meat  
Cooking  
Meat Removal and Prefreezing Treatment  
Packing and Freezing  
Frozen Crab Cakes  
Frozen Deviled Crabs  
Packaging  
Frozen Crab Cakes  
Frozen Deviled Crab Pastries  
Frozen Crab Imperial  
Prepare White Sauce  
Prepare Crab  
Package and Freeze  
Chesapeake Bay Crab Imperial  
Frozen Crab Cocktail Balls  
Frozen Crab Patties  
Frozen Crabburgers  
Oysters  
Freezing Oysters  
Classes and Sizes of Fresh and Frozen Oysters  
Canning Oysters  
Frozen Oyster Stew  
Prepare Base  
Prepare Oysters  
Package  
Chesapeake Bay Oyster Stew  
Frozen Oyster Patties  
Virginia Pickled Oysters  
Lobsters  
Freezing Whole Raw Lobsters  
Freezing Spiny Lobsters  
Canning Lobster  
Frozen Lobster Chowder  
Frozen Lobster Newburg  
Frozen Lobster Bisque (Batch Process)  
Miscellaneous Marine Products  
Freezing Sea Scallops  
Shucking and Washing  
Bagging and Icing  
Freezing and Storing

Frozen Seafood Croquettes  
Crayfish Bisque  
Prepare the Crayfish  
Prepare a Dressing  
Prepare the Bisque  
Fill and Process  
Canning Mussels  
Pickling Mussels  
Pickled Mussels  
Canned Pickled Mussels  
Preparing Abalone Steaks  
Frozen Batter-Dipped Abalone Patties  
Fresh-Grain Russian Caviar  
Pickled Grainy Caviar  
Pasteurized Caviar  
Preparation of the Roe  
Pasteurization  
Dried Mullet Roes  
Freezing Sea Urchin Roe  
Freezing Turtle Meat  
Canned Terrapin Stew  
Suggested Process  
Canned Snapping Turtle Stew  
Preparation of Agar-Agar  
Dried Shark Fins  
Shark-Flesh Paste

## About NIIR

**NIIR PROJECT CONSULTANCY SERVICES (NPCS)** is a reliable name in the industrial world for offering integrated technical consultancy services. NPCS is manned by engineers, planners, specialists, financial experts, economic analysts and design specialists with extensive experience in the related industries.

Our various services are: Detailed Project Report, Business Plan for Manufacturing Plant, Start-up Ideas, Business Ideas for Entrepreneurs, Start up Business Opportunities, entrepreneurship projects, Successful Business Plan, Industry Trends, Market Research, Manufacturing Process, Machinery, Raw Materials, project report, Cost and Revenue, Pre-feasibility study for Profitable Manufacturing Business, Project Identification, Project Feasibility and Market Study, Identification of Profitable Industrial Project Opportunities, Business Opportunities, Investment Opportunities for Most Profitable Business in India, Manufacturing Business Ideas, Preparation of Project Profile, Pre-Investment and Pre-Feasibility Study, Market Research Study, Preparation of Techno-Economic Feasibility Report, Identification and Section of Plant, Process, Equipment, General Guidance, Startup Help, Technical and Commercial Counseling for setting up new industrial project and Most Profitable Small Scale Business.

NPCS also publishes various process technology, technical, reference, self employment and startup books, directory, business and industry database, bankable detailed project report, market research report on various industries, small scale industry and profit making business. Besides being used by manufacturers, industrialists and entrepreneurs, our publications are also used by professionals including project engineers, information services bureau, consultants and project consultancy firms as one of the input in their research.

Our Detailed Project report aims at providing all the critical data required by any entrepreneur vying to venture into Project. While expanding a current business or while venturing into new business, entrepreneurs are often faced with the dilemma of zeroing in on a suitable product/line.

