



CARD

Centre for Agriculture and Rural Development

Committed to farmer's prosperity



Farmer's Training and Exposure Visit Program Modules



on
Agriculture, Horticulture, Livestock & Fisheries

From Executive Director's Desk

The Government of India initiated the extension reform in agriculture a long time ago. But it was only schemes like ATMA and NHM, have proved to be a watershed in the development of agriculture, horticulture, fisheries, and livestock, etc. These schemes were mainly based on the concept of "Seeing is Believing". The farmers, through the medium of Demonstration, Mela, Training, and Tours are acquainted with the agricultural techniques practiced elsewhere and based on the results they get motivated to replicate the same in their farms and village.

So far, Technology Exposure Tours have been found to be the best source of informal learning for farmers. So, these schemes have helped farmers not only raising the farm productivity- both quantitatively and qualitatively, but also have become the prime reason in improving the economic conditions of farmers with the added advantage of capacity building.

Centre for Agriculture and Rural Development (CARD), a national level non-profit organization is at the forefront of addressing the multitude of issues concerning agriculture, environment, and society at large. CARD is the only national-level organization that organizes farmers' exposure visits on behalf of various State Governments, District Authorities, Banks, Institutions, and the agribusiness industry. In the past, the CARD has successfully executed a large number of farmers' exposure visits cum training programs for over 18 states and 200 districts. CARD has developed 52 training and exposure visit modules suiting the needs of farmers belonging to different agro-climatic conditions, cropping patterns, horticulture, fisheries and animal husbandry practices and situations for improved farming practices and adoption of modern technology, etc.

It is hoped that this will serve as a comprehensive guide to bridge the technology and yield gaps and in achieving an evergreen revolution. We, therefore, request all the Commissioners and Directors of Agriculture, Horticulture, Animal Husbandry, and District Magistrates / Collectors / Deputy Commissioners, Project Director ATMA, MIDH, NLM, District Agriculture and District Horticulture Officer and Heads of various Banks, Institutions, Agencies, Corporate to avail this opportunity for capacity building of the farmers through exposure to the latest technology and farm practice.



About CARD

Registered in the year 2000, under the Societies Registration Act 1860, Centre for Agriculture and Rural Development is a premier Non-Government Organization, playing a vital role in the national efforts of developing India through agricultural transformation. CARD is committed towards reaching out to all parts of the rural society, especially the farming community. CARD also participates actively towards improving the quality of life of rural masses by addressing policy, technical and marketing related issues and executing training and technology exposure programs, livelihood and entrepreneurship projects and farmer industry business linkages for the development of agriculture and rural society. The society has been working in over 18 States and over 200 districts for providing training and technical support services to the farmers.

VISION

Encourage and facilitate rural communities to adopt an integrated approach to agriculture and work towards achieving better returns and economic success in partnership with the industry and institutions and in the face of rapid technological developments, climate change and globalisation.

MISSION

To play a vibrant role in the national endeavor of developing rural India through technological transformation and market led development; and participating in addressing market, technology, resource and capacity building related needs for livelihood security, farm profitability and sustainability of our environment and agriculture.

OBJECTIVES

- To play an active role as facilitator and project partner in technology led growth of Indian agriculture
- To promote partnership among farmers, industries and institutions for creating support ecosystem for farmers
- To promote marketing linkages and technology dissemination through training, exposure visits, seminars and fairs
- To execute livelihood projects and entrepreneurship programs in agriculture and work with the agri startups to grow them
- To execute literacy and awareness campaigns about various schemes and flagship programs of the Government for better adoption

THRUST AREAS

- Training & Capacity Building
- Agro Projects and Rural Livelihood Programs
- Project Facilitation and Startups Support
- Entrepreneurship Development Programs
- Promoting Farmer industry Partnerships
- Farmer Literacy Programs



ACHIEVEMENTS AT GLANCE

- Over 3 lakh farmers trained in the past two decades
- Covered 200 plus districts for farmer exposure visits and trainings all across India
- More than 400 agribusiness ventures created from CARD Bhagidari Centers
- Various National and State Level Agri Expo meets, benefitting over one million farmers
- Entrepreneurship Development programs all across India
- MoUs with over 2 dozen institutions of national eminence
- Financial support extended by over 400 bodies, including Central Ministries, State Governments and the industry

NEW INITIATIVES

- Expansion of ACABC under Entrepreneurship Development Programs
- New FPOs' Formation across various States
- Contract Farming Services to strengthen farmer- industry partnerships
- Project Facilitation Services for unemployed youth and ACABC trainees
- Rural Literacy Programs covering Government flagship schemes such as Water Literacy, Digital Literacy, Financial Literacy etc

HOW WE CAN WORK TOGETHER

- Farmers training on thrust areas in collaboration of State Departments of Agriculture, Horticulture, Fisheries, Animal Husbandry & Dairy
- Workshops / Seminars on thematic areas in joint collaboration with Govt Departments, NGOS, corporates, industrial bodies
- Organising farmers technology exposure visits within the state and outside of state and promote farmer industry partnerships
- Contract production for food processing industry and marketing linkages
- Livelihood Projects and Entrepreneurship programmes with CSR funding support by Corporates
- International collaboration for the exchange of business delegation, farmers groups, extension field functionaries etc.

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Farmers Training cum Exposure Visit
Programs on
THEMATIC
TOURS



Farmers Training cum Exposure Visit on

INTEGRATED CROPPING SYSTEM

Tamil Nadu Agricultural University, Coimbatore

Integrated Crop Management (ICM) is a holistic approach to sustainable agriculture. It is a system of crop production that conserves and enhances natural resources while producing food on an economically viable and sustainable foundation. It is based on a good understanding of the interactions between biology, environment, and land management systems. ICM is particularly appropriate for small farmers because it aims to minimize dependence on purchased inputs and to make the fullest possible use of indigenous technical knowledge and land-use practices. Modern agriculture must produce high yields. This is also possible when intensely cultivated fields alternate with natural habitats in which countless animals and plant species thrive. Integrated Crop Management aims to reconcile the economic demands on agriculture with environmental protection. The coexistence of agricultural land and wildlife sanctuaries is also an important aspect of this principle. The Tamil Nadu Agricultural University is working on the aspects of ICM for better crop yield per hectare. TNAU has also successfully implemented the nationally famous Tamil Nadu Precision Farming Project. The Horticultural Research Station, Udhaagamandalam, under TNAU is engaged in the production of high-quality vegetables under ICS. The seed production of temperate vegetables is taken up at State Horticultural Farm, Nanjanad.

Highlights of the Study Tour:

1. To see high tech farming and use of Integrated Cropping System in Agri/Horti crops
2. Training on new hybrids and varieties for the different ecosystems
3. Training on the latest projects and research activities taking place in TNAU, Coimbatore
4. Training and exposure to the Precision Farming system

Technical Study Tour Visits:

1. Tamil Nadu Agriculture University, Coimbatore
2. Horticulture Research Station Vijayanagaram, Ooty
3. Farmers field nearby Coimbatore
4. Exposure visits to Tamil Nadu Precision Farming Project sites

Expected Outcome of the event:

1. Adoption of advanced practices and the use of improved varieties
2. Awareness about Integrated Cropping System for major field crops
3. Awareness about the ongoing projects and research activities in various institutes
4. Adoption of resource management, ICT application and marketing linkages under the precision farming system



TENTATIVE ITINERARY:

Day 1:

- Depart from state to Coimbatore, Tamil Nadu.
- Overnight at Coimbatore.

Day 3: TNAU, Coimbatore.

- Visit to Tamil Nadu Agriculture University, Coimbatore Training on Integrated Farming Systems and their applications.
- Interaction with experts on farmers queries on practices to be followed.

Day 4: TNAU, Coimbatore

- Training on agriculture extension management practices.
- Training on marketing and value chain in Agri/Horti sector.

Day 5: TNAU, Coimbatore.

- Training on alternate cropping systems for different crops.
- Interaction with faculty and training on ongoing projects at TNAU. - Visit to TN Precision farming Project sites.

Day 6: TNAU, Coimbatore.

- Training on Integrated Pest Management.
- Training on modern technologies for more productivity per hectare.
- Imparting knowledge of major crops grown in the area.

Day 7: HRS, Ooty.

- Visit to Horticulture Research Station, Ooty.
- Training on the major crop grown in the area.
- Visit to botanical garden Ooty.

Day 8: Coimbatore.

- Visit to adjoining farmers fields for practical exposure to ICM.
- Interaction with farmers for packages and practices.
- Imparting knowledge of major crops grown in the area.

Day 9: Coimbatore.

- Summing up of visit.
- A day for local travel to places of interest.

Day 10: Back Journey.

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

INTEGRATED NUTRIENTS MANAGEMENT

Indian Institute of Soil Science, Bhopal

The combined use of different sources of plant nutrients i.e. organic, biological and inorganic amendments is essential for the maintenance and improvement of soil fertility and plant nutrient supply at an optimum level for achieving desired crop productivity. The aim of Integrated Nutrient Management (INM) is to integrate the use of natural and man-made soil nutrients to increase crop productivity and preserves soil productivity for future generations. Rather than focusing on nutrition management practices on one crop, INM aims at the optimal use of nutrient sources on a cropping system or crop-rotation basis. This encourages farmers to focus on long term planning and make greater consideration for environmental impacts. INM relies on a number of factors, including appropriate nutrient application, conservation and the transfer of knowledge about INM.

Boosting plant nutrients can be achieved by a range of practices covered in this guide such as terracing, alley cropping, conservation tillage, inter cropping, and crop rotation. In addition to the standard selection and application of fertilizers, INM practices include new techniques such as deep placement of fertilizers and the use of inhibitors or urea coatings that have been developed to improve nutrient uptake. In a country like India, to meet the ever-increasing demand for food for a continually expanding population, we cannot depend on organic farming but the use of organic and inorganic i.e. Integrated Nutrient Management is only the alternative to fulfill our agro targets.

Highlights of the Study Tour:

1. Visit of farmers to model organic farms to understand working with natural system
2. To learn about biological cycles within the farming system involving microorganisms, soil flora, and fauna, plants, and animals
3. To maintain and increase the long term fertility of soil through INM techniques
4. To learn INM applications in various agricultural/ horticultural crops and soil types
5. To understand the wider social, economic and ecological impact of the INM farming system

Technical Study Tour Visits:

1. Indian Institute of Soil Science, Bhopal
2. Field visits to see INM sites and organic farming models
3. Centre of Organic Farming

Expected Outcome of the event:

1. Adoption of localized INM recommendations, considering available nutrient sources.
2. To focus on using available nutrient resources more efficiently, effectively and sustainably than the past.
3. Assessment of agronomic productivity, economic profitability and ecological compatibility of packages.
4. To adopt large scale adaptive research and demonstration programs.



TENTATIVE ITINERARY:

Day 1:

- Depart from state to Bhopal.
- Overnight at Bhopal.

Day 2 & 3: Indian Institute of Soil Science, Bhopal.

- Visit to Indian Institute of Soil Science
- Training on common package and practices followed for Integrated Nutrient Management
- Interaction with a scientist for farmers' queries.
- Overnight at Bhopal.

Day 4: Indian Institute of Soil Science, Bhopal.

- Indian Institute of Soil Science, Bhopal
- Training on Integrated Nutrient Management practices
- Overnight in Bhopal.

Day 5: Indian Institute of Soil Science, Bhopal.

- Visit to adjoining farmer's field at the Bhopal area for practical exposure.
- Interaction with local farmers
- Overnight in Bhopal.

Day 6: Indian Institute of Soil Science, Bhopal

- Training on soil testing.
- Visit to local farms related to INM.
- Overnight at Bhopal.

Day 7: Central Institute of Agriculture Engineering.

- Exposure Visit to CIAE.
- Discussion with Scientists.
- Training on power tiller operated agricultural machinery.
- Machinery for seedbed preparation and land leveling.
- Overnight at Bhopal.

Day 8: Hoshangabad

- Exposure visit to Hoshangabad to see the public privet model in extension
- Visit to agriculture mechanized farms.

Day 9 & 10: Back Journey

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on **PRECISION FARMING**

Jain Irrigation Systems Ltd., Jalgaon, Maharashtra

Agriculture is the backbone of the Indian economy and the villages are the lifelines of growth of India. Precision agriculture is a pro-active approach that reduces some of the risks and variables common to agriculture. The concept of precision agriculture offers the promise of increasing productivity while decreasing production costs and minimizing environmental impacts. Precision Agriculture is changing the way Indian farmers and agribusinesses view the land from which they reap their profits. It's about collecting timely geospatial information on soil-plant-animal requirements and prescribing and applying site-specific treatments to increase agricultural production and protect the environment. Precision Farming is gaining in popularity largely due to the introduction of high technology tools into the agricultural community that is more accurate, cost-effective, and user-friendly. In the light of today's urgent need, there should be an all-out effort to use new technological inputs for the development of our society, as well as to make the "Green Revolution" an "Evergreen Revolution". Farmers can get exposure on precision farming at JISL, Jalgaon and all activities are organized under the auspices of Jain Hi-Tech Agri Institute (JHAI) for awareness and motivation especially amongst farmers for increasing their income.

Highlights of the Study Tour:

1. To see hi-tech farming and the use of improved varieties and farm resources
2. To know the working of precision farming on the farm
3. To know about the global Positioning System (GPS), yield Monitoring, Variable Rate Technology (VRT), Remote sensing, Geographic Information system (GIS)
4. Training on micro-irrigation systems

Technical Study Tour Visits:

1. Visit to Jain Irrigation Systems Ltd. Jalgaon, Maharashtra
2. Visit to Jain hills Jalgaon for tissue culture excellence in Banana
3. Visits to MPKV, Banana Research Station, Jalgaon
4. Visit to adjoining precision model farms

Expected Outcome of the event:

1. Adoption of advanced practices and high tech farming
2. Adoption of improved methods, techniques and practices in production, extension, marketing, and value chain
3. Adoption of precision technology and micro-irrigation that can help to improve the efficiency of farm operations
4. Adoption of PF that covers three aspects such as data collection, analysis or processing of recorded information and recommendations based on available information
5. Adoption of precision farming techniques to obtain the highest yields and quality and reduce costs on resources



TENTATIVE ITINERARY:

Day 1 and 2:

- Depart from the state to Jalgaon.

Day 3: Jalgaon.

- Visit to JISL, Plastic Park, Jalgaon.
- Communication session with experts on Jains Products and Services.
- Training on micro-irrigation systems and their role in the booming agricultural economy of India.

Day 4: Jalgaon.

- Visit to JISL Food Park, Jalgaon.
- Training on the processing of banana and fruits at Jain Food Park.

Day 5: Jain Hills, Jalgaon.

- Visit to Jain Agri Park Jalgaon.
- Training on tissue culture technology in India.
- Interaction with the biotech experts on tissue culture in Banana.

Day 6: MPKV, Banana Research Station, Jalgaon

- Visit to MPKV, Banana research Station.
- Training on high tech farming and tissue culture in Banana.
- Training on IPM practices to be followed in Banana.

Day7: MPKV, Banana Research Station, Jalgaon

- Training on nutrition and intercropping in banana.
- Training on ongoing projects at the research station.
- Training on natural resource management.

Day 8: Jalgaon to state capital.

- Departure from Jalgaon.

Day 9 & 10:

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

FARM MECHANIZATION

Central Institute of Agricultural Engineering, Bhopal

Farm Mechanization is an important element for the modernization of agriculture. It has the potential of enhancing farming efficiency, economic returns and generating employment in rural areas. Madhya Pradesh is the hub of agricultural farm mechanization activities with Central Institute of Agriculture Engineering and Central Farm Machinery Training & Testing Centers being located at Bhopal and Budni respectively. In the development of farm mechanization in India, the CIAE, Bhopal has been playing a pivotal role. The Institute has developed a large number of farm machineries and tools and it has established well-equipped research laboratories and a Model Agro-Processing Centre for demonstration of processing activities to farmers and entrepreneurs, two well-equipped workshops and prototype production centre. The institute has developed a mechanized system of rice-wheat cropping to increase the productivity and plastic mulch machine for planting in plastic mulch conditions for groundnut and vegetables. Central Farm Machinery Training & Testing Institute (CFMTTI), Budni is the centre for field testing of various farm equipment and is also providing training to develop human resources for mechanization which is indispensable for increasing agricultural productivity and energy conservation in agriculture.

Highlights of the Study Tour:

1. To enhance understanding on the use of farm machinery and tools
2. To create understanding on-farm efficiencies and economic returns with farm mechanization
3. To help farmers/technicians/extension workers etc. in the selection, operation, repair, maintenance, management and other aspects of mechanization
4. To see hi-tech farming and the use of improved varieties and farm resources
5. To encourage energy conservation in agriculture through various training programs

Technical Study Tour Visits:

1. Central Institute of Agricultural Engineering (CIAE), Bhopal
2. Central Farm Machinery Training & Testing (CFMTT), Budni
3. Public-Private Partnership model of Dhanuka at Hoshangabad
4. Field visits to see mechanized farming

Expected Outcome of the event:

1. Mechanization of rice-wheat cropping system for increased productivity of crops
2. Adoption of hi-tech farming and use of improved tools and farm resources
3. Mechanization of rice cultivation
4. Tractor mounted plastic mulch laying machine
5. Adoption of the improved and mechanized methods, techniques, tools, and machinery for production and value chain in agriculture



TENTATIVE ITINERARY:

Day 1 & 2: Arrive to Bhopal

- State capital to Bhopal
- Arrive to Bhopal
- Overnight in Bhopal.

Day 3&4: Bhopal

- Expose visit to Central Institute of Agricultural Engineering (CIAE), Bhopal
- Training on power tiller operated agricultural machinery
- Machinery for seedbed preparation and land leveling
- Safety in the use and operation of various agricultural machinery.
- Visit to different departments of CIAE.

Day 5 & 6: Budni

- Visit to Central Farm Machinery Training & Testing (CFMTT), Budni
- Selection, Operation, Safety, and Maintenance of Improved Agricultural Machinery
- Training Program on Agro Processing & value addition Equipment.
- Exposure to various machineries in field testing
- Visit to local farm practice and service by CFMTT
- Overnight at Budni.

Day 7: Hoshangabad

- Exposure visit to Hoshangabad to see the public-private model in extension
- Visit to agriculture mechanized farms.

Day 8:

- Sightseeing in Bhopal
- Overnight in Bhopal.

Day 9&10:

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

AGRICULTURE MARKETING

IARI, New Delhi and NIAM, Jaipur

India is an agricultural country and the one-third population depends on the agricultural sector directly or indirectly. Agriculture remains the main stay of the Indian economy since times immemorial. Indian agriculture contribution to the national gross domestic product (GDP) is about 14 per cent. With food being the crowning need of mankind, much emphasis has been on commercializing agriculture production. For this reason, adequate production and even distribution of food have of late become a high priority global concern. Agricultural marketing is mainly the buying and selling of agricultural products. The Indian Agricultural Research Institute (IARI), New Delhi is the country's premier national institute for agricultural research, education, and extension. It has served the cause of science and society with distinction through first-rate research, generation of appropriate technologies and development of human resources. In fact, the Green Revolution was born in the fields of IARI and the main extension objective is to promote client-oriented on-farm research and technology assessment, refinement and transfer through participatory approaches and by promoting the Institute-Village Linkage Program. In the development of agricultural marketing in Rajasthan, the Ch. Charan Singh National Institute for Agricultural Marketing (CCS NIAM), Jaipur has been playing a pivotal role. The impact of this institution on the economy of the state is widely recognized. This institute has brought about a real revolution in agriculture marketing and has contributed to increased agriculture quality production and improved marketing channels through better coordination with vendors, farmers, and agricultural scientists.

Highlights of the Study Tour:

1. Identify location specific and economically viable different crops
2. Adoption of mechanized farming technology
3. Training about the latest production technology developed by institutes
4. To learn about the various marketing aspects-
5. Facilities available in the markets
6. Market fees and taxes
7. Methods of transportation
8. Methods of packaging
9. Marketing problems

Technical Study Tour Visits:

1. Training on different channels of agriculture marketing
2. Training on advanced cultivation practices including
3. Green House Management and Water Conservation

Expected Outcome of the event:

1. Adoption of the advanced practices in farming and the use of improved varieties and farm resources
2. Awareness about the use of improved quality seeds/planting material and crop diversification and their impact on income levels
3. Adoption of integrated farming systems, improved post-harvest and processing technologies, better packaging, grading, and marketing systems
4. Adoption of the improved methods, techniques, and practices in production, extension, marketing, and value chain in horticulture produces
5. Adaptation of Agricultural Marketing Information Network
6. Awareness about Agricultural Marketing Infrastructure



TENTATIVE ITINERARY:

Day 1 & 2: Delhi

- Depart from State capital
- Arrive to Delhi.

Day 3: IARI, Pusa

- Visit to Indo-Israel project at Pusa
- Training on Green House Management and Water Conservation
- Exposure visit to Horticulture. Visit to National Agriculture Science Museum, IARI PUSA.
- Night stay at the guest house.

Day 4: IARI, Pusa

- Assemble at Water Technology Centre, IARI PUSA for Tour briefing.
- Discussion with scientists on Drip & Micro-irrigation. Training on Green House Management and Water Conservation.
- Departure from New Delhi to Jaipur.

Day 5&6: NIAM, Jaipur

- Move to the National Institute of Agriculture marketing, (NIAM) Jaipur.
- Training & Visit at NIAM
- Visit & Lecture on Agriculture marketing at NIAM, Jaipur.
- Training on Food Processing Technology.
- Visit to different departments of NIAM.
- Night stay at the guest house.

Day 7 & 8: Jaipur

- Move to State Institute of Agriculture management, (SIAM) Jaipur.
- Visit & Lecture on Agriculture Management at SIAM, Jaipur.
- Field demonstration in local farmer's field with experts.
- Visit in the soil science department with experts.
- Discussion with scientists & experts.
- Night stay at the guest house.

Day 9 & 10: New Delhi -

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

AGRICULTURE TECHNOLOGIES

IARI, New Delhi and PAU, Ludhiana

Agriculture in India is the core sector for food security, nutritional security, and sustainable development & for poverty alleviation. The Indian Agricultural Research Institute (IARI), New Delhi is the country's premier national Institute for agricultural research, education, and extension. It has served the cause of science and society with distinction through first-rate research, generation of appropriate technologies and development of human resources. In the development of agriculture in Punjab, the Punjab Agriculture University (PAU) has been playing a pivotal role. This university has brought about a real revolution in farming techniques and has contributed to increased agriculture production and improvement of the cultivators' economic status. This University has developed high yielding varieties of wheat, rice, bajra and developed advanced farm mechanization technology which has spearheaded Punjab's journey towards making the state and the country self-sufficient in many key crops. Central Institute of Post Harvest Engineering and Technology (CIPHET), Ludhiana is continuously helping not only the state but also the country by undertaking basic, applied and adaptive engineering and technology research in post-harvest sector of cereals, pulses, oilseeds, fruits, vegetables, flowers, spices, plantation crops, products of forest origin, livestock and aquaculture products including agricultural structures and environmental control.

Highlights of the Study Tour:

1. To identify location specific and economically viable different crops.
2. Adoption of mechanized farming methods
3. Showing advanced practices in agriculture farming and the use of improved varieties and farm resources.
4. Imparting training to the farmers about the latest technology developed by research institutes for the production of different crops.
5. To learn about the supply of quality agriculture inputs like seeds, fertilizers, pesticides, irrigation water, and machinery & equipment, etc.
6. To adopt an integrated farming systems approach for enhanced per-unit income

Exposure Visits:

1. To visit the Indian Agricultural Research Institute (IARI), New Delhi
2. To visit Punjab Agriculture University (PAU), Ludhiana
3. Two days of training and extension service program at PAU, Ludhiana
4. Field visits to see foreign projects going on at IARI and PAU
5. To visit the Central Institute of Post Harvest Engineering and Technology (CIPHET), Ludhiana

Expected Outcome of the event:

1. Adoption of sprinkler irrigation techniques for greenhouses including drip, along with resource conservation technologies such as water harvesting
2. Awareness about the use of improved quality seeds/ planting material and crop diversification and their impact on income levels
3. Adoption of integrated farming systems and improved post-harvest and processing technologies along with better packaging and value addition
4. Adoption of the improved methods, techniques, and practices in production, extension and value chain
5. Adoption of farm resource conservation and farm mechanization



TENTATIVE ITINERARY:

Day 1 & 2: Delhi

- Depart from State capital
- Arrive to Delhi.

Day 3: IARI

- Visit to Indo-Israel project at Pusa
- Training on Green House Management and Water Conservation
- Exposure visit to Horticulture. Visit to National Agriculture Science Museum, IARI PUSA.
- Night stay at the guest house.

Day 4 & 5:

- Assemble at Water Technology Centre, IARI PUSA for Tour briefing.
- Discussion with scientists on Drip & Micro-irrigation.
- Training on Green House Management and Water Conservation.
- Departure from Delhi to Ludhiana.

Day 6 & 7: Ludhiana

- Visit to various departments at PAU, Ludhiana
- Training on Management Practices in Agriculture.

Day 8: Ludhiana

- Exposure visit to Central Institute of Post Harvest Engineering and Technology (CIPHET), Ludhiana
- Discussion with experts
- Night stay at the guest house.

Day 9 & 10: Punjab -

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on **SEED PRODUCTION**

Maharashtra

The availability of quality seeds of improved cultivars is considered crucial for realizing the productivity and adoption of cultivars in different agro-climatic conditions. The quality of seed alone is known to account for at least a 15-25% increase in productivity. However, the lack of quality seed continues to be one of the greatest impediments to bridging the vast yield gap. Therefore, to approach the potentially realizable yield of a cultivar, the production and distribution of quality seed are essential. Maharashtra Hybrid Seeds Company Limited, popularly known as 'Mahyco', was established in 1964 by Dr. Badrinarayan R. Barwale and is a pioneer and leader in the Indian Seed Industry. The company strives to provide quality hybrid seeds to Indian farmers. Since its inception, it has been engaged in plant genetic research and production of quality hybrid seeds for the farming community of India. Currently, it is engaged in the research, production, processing, and marketing of approximately 115 products in 30 crop species including cereals, oilseeds, fiber and vegetables. Mahyco is also developing genetically enhanced crops with the use of gene transfer technology. Mahyco has a national presence with its network across the country. Mahyco is the first private enterprise in India to produce and market hybrids of Cotton, Sorghum, Pearl Millet, Sunflower and Wheat. Mahyco is the first Indian company to commercially grow and market transgenic Bollgard cotton- India's first transgenic crop in 2002. Jalna is also the headquarter of the popular vegetable seed company, Bejo Sheetal Seeds Pvt. Ltd, which is a joint venture with Bejo Zaden b.v., Holland. The vegetable seeds, specifically TPS, cabbage, cauliflowers, chilly, and brinjal produced by the company is rated top of the line in the market.

Highlights of the Study Tour:

1. To identify location specific and economically viable crops.
2. Imparting training on latest practices and cultivation techniques for seed production
3. To understand the economic importance on seeds and availability of various hybrid seeds
4. To get training and exposure to seed production system under contract farming

Technical Study Tour Visits:

1. Mahyco seed company, Jalna, Maharashtra
2. Bejo Sheetal Company, Jalna, Maharashtra
3. Seed production farms of farmers

Expected Outcome of the event:

1. Adoption of high-quality seed in major crops
2. Taking up seed production programs at farmer level
3. Adoption of advanced practices in seed production farming
4. Awareness about the benefits of seed production and quality seeds use
5. Adaptation to better land and resource utilization



TENTATIVE ITINERARY:

Day 1 and 2:

- Depart from state to Jalna, Maharashtra.

Day 3: Jalna

- Visit to Mahyco seed company (R&D centre)
- Training on seed production for vegetables and cereals.
- Interaction session with the breeders and technicians.

Day 4: Jalna

- Visit to Mahyco Seed Company
- Training on common packages and practices followed for seed production in vegetables.
- Interaction with technical staff of the seed production department for solving farmers queries on technical issues.

Day 5: Jalna

- Visit to Mahyco seed production farm for practical exposure to farm practices adopted by professional breeders.
- Interaction with local farmers to well verse with the technical issues and care to be taken during vegetable and cereal seed production.

Day 6: Jalna

- Visit to Bejo Sheetal company and see hi-tech seed production programme.
- Interaction with technical staff to get knowledge about the various hybrids of the crops.

Day 7: Jalna

- Visit to farmers' fields for exposure on various crops like Cotton, Sorghum, Pearl Millet, Sunflower and Wheat
- Interaction with the technical staff for management practices to be followed.

Day 8: Jalna

- Visit to Bejo Sheetal seed production farm for practical exposure
- Overnight in Jalna.

Day 9 & 10:

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on **ORGANIC FARMING**

Rajasthan

Organic agriculture is a production system that sustains the health of soils, ecosystems, and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation, and science to benefit the shared environment and promote fair relationships and good quality of life for all involved. Organic farming is not new to the Indian farming community. Several forms of organic farming are being successfully practiced in diverse climate, particularly in rainfed, tribal, mountains and hilly areas of the country. Much of the forest produce economic importance like herbs, medicinal plants, etc., by default come under this category. Among all farming systems, organic farming is gaining wide attention among farmers, entrepreneurs, policymakers and agricultural scientists, as it minimizes the dependence on chemical inputs (fertilizers; pesticides; herbicides and other agrochemicals) thus safeguards/improve quality of resources and environment. It is labor-intensive and provides an opportunity to increase rural employment and achieves long term improvements in the quality of the resource base.



Highlights of the Study Tour:

The visit program will fulfill the objectives of:

1. Demonstration of organic farming technologies
2. Training on organic farming and vermicomposting
3. Training on the preparation of biodynamic compost and organic manure.

Technical Study Tour Visits:

1. M.R. Morarka GDC Rural Research Foundation, Jaipur
2. Training and extension service programme at Morarka Foundation, Jaipur
3. Field visits to see major crops are grown in the area under organic farming Like - Saharia Organic Resort, Village Maheshpura, Jaipur

Expected Outcome of the event:

1. Diversion and adaptation towards the usage of organic food
2. Awareness about the benefits of organic food
3. Adoption of organic farming technologies
4. Adoption of the new growing techniques for resource savings such as soil and other resources and quality yields.



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from State capital to Jaipur
- Arrival at Jaipur
- Overnight in Jaipur.

Day 3 & 4: Jaipur

- Visit to M.R. Morarka GDC Rural Research Foundation, Jaipur
- Training on the benefits of organic farming
- Discussions with experts
- Field visits to see major crops are grown in the area under organic farming Saharia Organic Resort, Village Maheshpura, Jaipur.

Day 5: Jaipur

- Training on Organic Farming at Saharia Organic Resort
- Introduction on About Organic farming
- Application of organic farming in Orchids & green crops
- Discussion with experts
- Visit to the organic fields in nearby areas.

Day 6: Jaipur

- Training on Plant protection measures in organic farming
- Training on Organic farming
- Visiting organic farms to see the preparation method of organic manures
- Organic farming in vegetable cultivation.

Day 7 & 8: Jaipur

- Training on the benefits of Organic Farming
- Discussion and Demonstration on Saharia Organic Resort
- Preparation and uses of organic materials
- Methods for the making of organic farming
- Visit State Institute of Agriculture Marketing, Jaipur.

Day 9:

- Visit to National Institute of Agriculture Marketing, Jaipur.
- Return from Jaipur to State Capital.

Day10:

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

POSTHARVEST MANAGEMENT

Central Institute of Post Harvest Engineering and Technology, Ludhiana

The total production of fruits in the world is around 370 MT. India ranks first in the world with an annual output of 45 MT. While there are almost 180 families of fruits grown all over the world, citrus fruits constitute around 20% of the world's total fruit production. Major Indian fruits consist of mango, banana, citrus, apple, guava, papaya, pineapple and grapes. In vegetables, India is the second-largest producer in the world (ranks next to China) and accounts for about 15% of the world's production of vegetables. The current production level is over 100 million MT and the total area under vegetable cultivation is around 6.5 million hectares which are about 3% of the total area under cultivation in the country. In the case of vegetables, potato, tomato, onion, cabbage, and cauliflower account for around 60% of the total vegetable production in the country. But India loses about 25 - 30% of its produce due to improper Post Harvest Management. A loss estimated at Rs 60,000 crores per year India wastes fruits and vegetables every year equivalent to the annual consumption of the United Kingdom. To reduce the Post Harvest Losses, cold chain infrastructure needs to be created along with Post Harvest Management practices. The Central Institute of Post Harvest Engineering and Technology, Ludhiana is the premier institute to undertake research, technology development, extension and industry linkages on Post Harvest Management, appropriate to agriculture production catchments and agro-industries. Farmers can be benefited by exposure visit to CIPHET and training on Post Harvest Management technologies.

Highlights of the Study Tour:

1. Exposure to new technologies for post-harvest management of fruits and vegetables
2. Training on ongoing research projects at CIPHET
3. Training on the latest projects and research activities taking place in PAU, college of Horticulture
4. Exposure to post-harvest and processing industry

Technical Study Tour Visits:

1. Central Institute of Post Harvest Engineering and Technology, Ludhiana
2. Visits to adjoining farmers' fields and interaction with local farmers about cultural practices followed
3. Visit to Punjab Agriculture University, Dept. of Horticulture and Dept. of Engineering
4. Visit to PHM and F&V processing units in Ludhiana

Expected Outcome of the event:

1. Adoption of advanced practices and the use of improved technologies for PHM
2. Awareness about post-harvest management losses and their impact on income levels
3. Awareness about the ongoing projects and research activities in PHM
4. Adoption of PHM practices to reduce losses and improve profitability



TENTATIVE ITINERARY:

Day 1 and 2:

- Depart from state to Ludhiana.
- Overnight at Ludhiana.

Day 3: Ludhiana.

- Visit to CIPHET campus.
- Training on the latest post-harvest technologies developed by CIPHET.
- Overnight at Ludhiana.

Day 4: Ludhiana.

- Visit to CIPHET campus.
- Training on ongoing research projects to combat post-harvest losses for fruits and vegetables.
- Interaction with scientists and technical staff for farmers' queries.

Day 5: Ludhiana.

- Visit to nearby farmers' fields to know their practices for PHM.
- Interaction with farmers of adjoining areas for better crop production and reducing losses.

Day 6: PAU, Ludhiana

- Visit to Department of Horticulture PAU Ludhiana.
- Imparting knowledge to the farmers on fruits and vegetables grown in the area.
- Overnight in Ludhiana.

Day 7: PAU, Ludhiana.

- Visit to the Department of Food Technology at PAU, Ludhiana.
- Training on high tech horticulture with respect to PHM.
- Interaction with scientists and technical staff for farmer's queries.

Day 8: Ludhiana.

- Visit to Kitty Food Industries, Ludhiana.
- Exposure to the food processing industry for entrepreneurship development.
- Overnight in Ludhiana.

Day 9 & 10: Ludhiana to State Capital

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

PUNJAB RICE FARMING

Punjab – where farmers can learn advanced rice cultivation practices

The agriculture in Punjab is highly intensive in terms of land, capital, energy, nutrients, agriculture inputs, and water, etc. With only 1.5 percent of the geographical area of the country, Punjab contributes more than 70 percent in the case of wheat and 45 percent rice to the central pool and at the world, level contributes 1 % of rice and 2 % of wheat. Punjab grows crops like wheat, maize, rice, bajra and in cash crop category it grows cotton, sugarcane potatoes, etc. Among oilseeds, they dominate in rapeseed, groundnut, mustard, and sesame. In the development of agriculture in the State, the Punjab Agriculture University (PAU) has been playing a pivotal role. The impact of this institution on the economy of the state is widely recognized. The adoption of innovative techniques like double transplanting of paddy, paddy without puddling and ridge cultivation, has made Punjab rich in their farming and use of the latest Agri machinery for higher production of Agro Commodities. The use of hybrid rice seeds by the farmers of the state has increased the rice production of the state many folds. The adoption of these techniques can be extremely useful to the paddy growing farmers in other States. It can bring huge benefits to the farmers in other States and these techniques need to be shown to farmers for large scale adoption.

Highlights of the Study Tour:

This farmers' domestic learning program will fulfill the following objectives:

1. To learn the new paddy cultivation practices
2. To identify location specific and economically viable paddy cultivation
3. Exhibiting integrated farming systems such as mixed cropping and crop rotation practices
4. Adoption of mechanized farming methods
5. To learn the supply and quality of Agricultural inputs like seeds, fertilizers, pesticides, irrigation water, machinery & equipment, etc. used in paddy cultivation

Technical Study Tour Visits:

1. To visit Punjab Agriculture University (PAU), Ludhiana
2. Two days of training and extension service program at PAU, Ludhiana
3. To visit bio-fertilizer units, honey processing plant and IPM laboratories
4. To visit the Central Institute of Post Harvest Technologies (ICAR) Ludhiana
5. To visit paddy farms based on new techniques

Expected Outcome of the event:

1. Adoption of micro-irrigation techniques, including drip and sprinkler irrigation along with resource conservation technologies such as water harvesting
2. Adoption of the advanced practices in farming and the use of improved varieties and farm resources
3. Adoption of integrated farming systems and improved post-harvest and processing technologies with better packaging, grading, and marketing systems
4. Adoption of the improved methods, techniques and practices in production, extension and, marketing of paddy cultivation
5. Adoption of the new paddy growing techniques for resource savings and extra yields
6. Adoption of farm resource conservation and farm mechanization



TENTATIVE ITINERARY:

Day 1 & 2: Delhi/Ludhiana

- Departure from State capital to Ludhiana
- Shifted to PAU, Ludhiana, Farmer's Guest House
- Evening Film show on new agriculture techniques and practices
- Overnight in Ludhiana

Day 3: Ludhiana

- Training on preparation of idea Nursery and Sree method.
- Visit to various paddy farms
- Training on the latest technology of rice cultivation.
- To see market linkages and marketing systems.

Day 4: Ludhiana

- Training on different varieties of paddy and their management.
- Training on pest management of paddy cultivation
- Overnight in Ludhiana.

Day 5 & 6: Ludhiana

- Visit to progressive farmer's paddy farms
- Training on the latest techniques adopted by farmers.

Day 7: Ludhiana

- Training on Integrated Nutrient Management in Paddy cultivation.
- Discussion with experts

Day 8: Ludhiana

- Training on ridge cultivation techniques by PAU scientists
- Discussion cum Interaction with experts

Day 9 & 10: Ludhiana

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

WOMEN EMPOWERMENT, MICROFINANCE, AND SHG

National Agro Foundation, Chennai

Women play multifaceted roles for the welfare of the families, communities and the nation. Women Empowerment refers to increasing and improving the social, economic, political and legal strength of the women, to ensure equal rights to women, and to make them confident enough to claim their rights. SHG formation webbed with microfinance proves to be India's greatest victory in achieving women empowerment. Self Help Group (SHG) is a small association of village people, a village-based financial intermediary committee usually composed of 10-12 local women or men preferably from the same socio-economic background. They join together for the purpose of solving their common problems. The SHG promotes small savings among its members and the savings are kept with a bank. These SHGs are linked to banks for the delivery of microcredit. Mainly the SHG members are women. SHGs have benefitted its members in many ways like income, employment opportunities for the women and also have enhanced the equality of women as participants, decision-makers and benefits in the democratic, economic, social and cultural spheres of life. NAF Centre for Rural Development has more than 1500 community-based institutions such as Farmers Clubs, Self Help Groups (SHG), Farmers Interest Groups (FIGs), etc. Many of them have taken up both farm-based as well as non-farm based livelihood activities for income generation. NAF has developed need-based demand-driven training and capacity development programs with new modalities and technologies, providing lifelong opportunities for rural people and creating a culture of "sustainability" by bringing massive behavioral transformation among the farming and rural community.

Highlights of the Study Tour:

1. To train on forming and nurturing small, homogenous, participatory self-help group (SHG)
2. To train on how to identify and analyze the problems women face in perspective of their social and economic environment
3. To provide exposure to how microfinance and SHG movement enhanced the women's livelihood in Tamil Nadu
4. To train on the working mechanism of SHG and the objectives of SHG in empowering women
5. To train on the concept of Farmers Producer Organization (FPO) and its organizational structure
6. To train on the concept of the role of women in agriculture

Technical Study Tour Visits:

1. Visit to well functioning SHGs
2. Visit to SHG promoted business entities in Thiruvallur District and Kanchipuram District- Bakery unit, Agri Implements- Custom Hiring Centre, Export Garment Unit, Greens Cultivation, Power Loom Unit.
3. Visit to a Farmer Producer Organization

Expected Outcome of the event:

1. Understanding of the structure of SHG, its organization, functioning, and financial sustainability
2. Encouragement of savings habits, self-help among the group
3. Awareness of self-employment, entrepreneurial development and well-being of women
4. Awareness of the role of women in agriculture
5. Awareness of the FPO concept and its success



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Chennai, Tamil Nadu.
- Reach NAF- CFRD campus by night.

Day 3:

- CFRD, Illedu- Training on SHG promotion and formation for livelihood clusters. Roles and responsibilities of SHG groups, Book maintenance, Empowering women in managing finance, controlling of common funds, Maintaining internal lending, Prioritizing and Sanctioning of loans.

Day 4:

- Training on role of District Industries Centre, MSME, KVIC, NRLM, MORD in women empowerment, the formation of Women Farmer Group, Strengthening Women Farmer Organization.

Day 5:

- Exposure visit to well-functioning SHG, SHG promoted Business Units and Farmer Producer Organization.

Day 6:

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on **SOLAR POWER**

Rajasthan

Agriculture solar power has boomed, with farmers investing in cost-saving and sustainable technology that is friendly to the environment. Solar power is most commonly used to generate electricity and heat water, although if used correctly, the power from the sun can be harnessed to fulfill many useful functions throughout the farm. Indian farming is facing several challenges with the usage of energy but when it comes to solar power, everyone wins. The amount of energy from the sun that reaches the Earth each day is absolutely enormous. All the energy stored in the world's reserves of oil, coal, and natural gases is matched to the energy of just 20 days of sunshine. Because of this, it is easy to understand why solar energy farms are becoming more and more popular around India. Using the sun to dry crops and grain is one of the oldest applications of solar energy. Solar drying equipment can dry crops faster and more evenly than leaving them in the fields after harvest, with the added advantage of avoiding damage by birds, pests, and weather. In dairy operations using daylighting can increase production. However, these would only be successfully implemented when the involvement of people is ensured as decision-makers, monitors and evaluators. Thus, CARD initiated the training and exposure visit to Rajasthan to make farming community to aware of the usage of solar power and realizing the maximum adoption of the technology.



Highlights of the Study Tour:

1. To learn advanced practices of Solar Energy
2. To the maintenance of the Solar Power System
3. To learn about new technologies and practices
4. To learn about Solar Power System setup

Technical Study Tour Visits:

1. Electrical Lab Visit
2. Visits to Solar Panel at a nearby place
3. Visits to adjoining entrepreneurs and interaction with local farmers

Expected Outcome of the event:

1. Adoption of Solar System and its uses
2. Adoption of improved methods, techniques and practices in the solar system
3. Awareness about solar panels



TENTATIVE ITINERARY:

Day 1: Departure from District HQ to New Delhi by train at night.

Day 2:

- Arrival at New Delhi and proceeds to the guest's house.
- Assemble at Water Technology Center, IARI PUSA for Tour briefing.
- Discussion with scientists on Drip & Micro-irrigation.
- Training on Green House Management and Water Conservation.
- Discussion on National Agriculture Science Museum, IARI PUSA.
- Departure From New Delhi to Jaipur by bus.
- Arrival at Jaipur and proceeds to the guest house.

Day 3:

- Opening Ceremony at the Institution related to Solar Energy.
- Learn about Safety Instruments, Safety & Its Importance, PPEs, Safety signs, Safety Slogans, Safety Rules, Fire Extinguishers.
- Lecture on Meters. Discussion about the types of Meters.
- Lecture on wires and cables.
- Night stay at Guest House, Jaipur.

Day 4:

- Recap of the previous day program.
- Query session of previous day sessions.
- Lecture on renewable energy (Solar, wind, thermal).
- Lecture on Solar power panel.
- Lecture on Solar charges.
- Night stay at Guesthouse, Jaipur.

Day 5:

- Recap of the previous day program.
- Query session of previous day sessions.
- Lecture on Solar and Non- Solar inverter & Batteries.
- Night Stay at Guesthouse, Jaipur.

Day 6:

- Recap of the previous day program.
- Lecture on Power system setup.
- Solar Setup tool & Meters.
- Maintenance of Solar Power System.
- Night Stay at Guesthouse, Jaipur.

Day 7:

- Valediction and certificate distribution.
- Departure from Jaipur to District HQ.

Day 8:

- Arrival at its own destination.



Farmers Training cum Exposure Visit on **RURAL INFRASTRUCTURE, BIOGAS & SWACH BHARAT GRAMIN**

NATIONAL AGRO FOUNDATION, CHENNAI

Rural infrastructure is a key component of rural development and an important ingredient in ensuring any sustainable poverty reduction program. The proper development of Infrastructure in rural areas improves the rural economy and quality of life. It promotes better productivity, increased agricultural incomes. Adequate employment, etc. nearly half of India's 1.2 billion population do not have toilets at home. 60% of India's rural population defecate in open either due to lack of toilets, lack of their operation and maintenance, due to the absence of water or inappropriate technology with no scientific mode of digesting the waste, leading to rural men questioning the usefulness of toilets. Lack of adequate means of disposing waste is a growing nuisance for heavily populated areas, carrying the risk of infection, disease, particularly to vulnerable groups such as the very young, and the elderly, India is one of the fast-growing countries in the world, providing much importance and encouragement for the popularization of green projects. There is tremendous growth in the biogas sector, waste management, and sustainable agriculture development. India has a vast potential of 6.38*10¹⁰ cubic meter of biogas per annum from 980 million tonnes of cattle dung produced. Biogas is so far, has mostly been used as fuel for cooking and running stationary engines. There are a number of Goshalas, dairies, villages communities having a large number of cattle which have the potential of installing biogas enrichment and bottling systems.



Highlights of the Study Tour:

1. Importance of rural Godown/storage structure, How farmers are benefited through rural infrastructure
2. Application of mobile app-Kisan Suvidha
3. Schemes and benefits of Swach Bharat mission
4. Biogas and its utility

Exposure visit:

1. Visit to vegetable grading and packing center FPO
2. Visit to Uzhavar Sandai, Rural Godown, E-Seva Center
3. Visit to any of the regulated markets

Expected Outcome of the event:

1. Idea of installing Bio gas plant- Energy Conservation
2. Importance of sanitation measures at village level
3. Rural Infra structure and its impact on village growth



TENTATIVE ITINERARY:

Day 1:

- Depart from state to Chennai, Tamil Nadu.
- Reach NAF- CFRD campus by night.

Day 2:

- CFRD, Illedu—rural infrastructure—rural Godowns, warehouses, drying yard, market yard /Rythu bazar, E-Seva center, schemes and subsidies available under NABARD, MOFPI, APEDA enabling ICT in rural area village knowledge Resource center, rural infrastructure: farm machinery in agriculture and Custom Hiring centers.

Day 3:

- CFRD, Illedu- Swach Bharat: the need for individual cleanliness, cost-effective technology training soak pits, compost pits, solids waste digestion technology, financial incentives and subsidies for gas plant installation.

Day 4:

- Exposure field visit –Uzhavar Sandai (farmers market), rural Godown, E-Seva center and a visit to vegetable grading and sorting unit.
- NFA-CDRD field visit – Exposure to drip irrigation system, solar motor, vermicomposting unit, Azolla unit, biogas plant.

Day 6:

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on **NATURAL RESOURCE MANAGEMENT & COMMON CONSERVED AREA**

National Agro Foundation, CHENNAI

The Term “National Resource Management” (NRM) encompasses a broad spectrum of activities and projects. This information bulletin is focused on those NRM activities that specifically require the participation of local communities for their sustainable management. Examples of these kinds of projects include micro-watershed management, Irrigation water management, soil and water conservation, community forestry, community-based coastal zone fisheries management, and conservation of biodiversity. Natural resources (land, water, biodiversity, and genetic resources, biomass resources, forests, livestock, and fisheries) – the very foundation of human survival, progress, and prosperity, have been degrading fast, and the unprecedented pace of their erosion is one of the root cause of the agrarian crisis that the country is facing. The demographic and socio-economic pressures notwithstanding, the unmindful agricultural intensification, overuse of marginal lands, imbalanced use of fertilizers, organic matter depletion and deteriorating soil health, extensive diversion of prime agriculture lands of nonagricultural uses, misuse and inefficient use of irrigation water, depleting aquifers, salinization of fertile lands and waterlogging, deforestation, biodiversity loss, and genetic erosion, and climate change are the main underlying causes. Farming System Based Natural Resources Management is the need of the hour for the farmers. A holistic approach is, therefore, essential for the management of natural resources through simultaneously addressing the conservation and development of natural resources as well as increased and sustained productivity, production, and profitability, livelihood security, equity and stability of the people – the making of the Second Green Revolution.

Highlights of the Study Tour:

- 1 Understand the concept of a watershed and natural resource management
- 2 Methods of improving soil fertility – Green manuring, Zero tillage,
- 3 Concept of Conservation agriculture
- 4 Water conservation, Micro Irrigation, Rain Water harvesting
- 5 Agroforestry/ Social forestry
- 6 Climate change adaptation in agriculture

Exposure Visits:

- 1 Visit to Watershed areas in Kancheepuram District
- 2 Visit of Climate change proofing project implemented area

Expected Outcome of the event:

- 1 The practice of growing green manure imparted
- 2 Soil management and Conservation of Soil fertility
- 3 Raised field bunds, methods of control of soil erosion, Farm pond
- 4 Benefits of micro-irrigation



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Chennai, Tamil Nadu. – Reach NAF
- CFRD campus by night.

Day 3:

- CFRD, Illedu – Introduction of Community based natural resource management and Integrated NRM, Land Use Planning and Land-based interventions for the conservation of natural resources, Methods of soil conservation.

Day 4 :

- CFRD, Illedu – Water Engineering structures of NRM, soil Management and Conservation Measures Improvement of soil quality, Residual management Silvopasture and its importance, Alley cropping / Tree and crop interactions, Windbreak systems.

Day 5 :

- Exposure visit of NAF promoted watershed areas to understand about natural resource management

Day 6:

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on **SOIL HEALTH, SUSTAINABLE AGRICULTURE & ORGANIC FARMING**

NATIONAL AGRO FOUNDATION, CHENNAI

The prevailing agricultural system, variously called “conventional farming”. “Modern Agriculture”, or “industrial farming” has delivered tremendous gains in productivity and efficiency. Food production worldwide has risen in the past 50 years; the World Bank estimates that between 70 percent and 90 percent of the recent increases in food production are the result of conventional agriculture rather than greater acreage under cultivation. The modern agricultural practices which are heavily dependent on the use of chemical pesticides, inorganic fertilizers and growth regulators have raised the agricultural production manifold but at the cost of resource depletion, environmental deterioration and loss of crop diversity. Therefore it was realized that modern agriculture is not sustainable in the long run, hence the concept of sustainable agriculture emerged which not only emphasizes the conservation of the natural resources but also maintains the quality of the environment. It is a balanced management system of renewable resources including soil, wildlife, forests, crops, fish, livestock, plant genetic resources, and ecosystems without degradation and to provide food, livelihood for current and future generations maintaining and improving productivity and ecosystem services of these resources. Managing for soil health (improved soil function) is mostly a matter of maintaining suitable habitat for the myriad of creatures that comprise the soil food web. This can be accomplished by disturbing the soil as little as possible, growing as many different species of plants as practical, keeping living plants in the soil as often as possible, and keeping the soil covered all the time.

Highlights of the Study Tour:

1. Methods of sustainable agriculture
2. Soil health management
3. Organic farming technologies
4. How to obtain organic certification

Exposure Visit:

1. Visit and interaction with farmers practicing Organic Agriculture
2. Visit to Organic Farmer Producer Organization

Exposure visit:

1. Plant protection methods in organic farming
2. Importance of cultivating organic food crops and their demand in the market
3. Awareness of soil health management



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Chennai, Tamil Nadu.
- Reach the NAF-CFRD campus by night.

Day 3:

- CFRD, Illedu Soil Physical, Chemical and Biological characteristic of Soil Health Card, Need for Soil testing, Methods of Soil sampling and soil test based recommendation, Efficient Nutrient Management.
- Role of Green Manure and Green Leafy Manure in enhancing soil fertility, texture and structure, Holistic fertilizer management and Fertilizer use efficiency of healthy soil.

Day 4:

- CFRD, Illedu – Principles and steps followed in sustainable agriculture for the ecological and economic sustainability of farming, Introduction, and Principles of Organic Farming Procedures for Organic Certification, Marketing of Organic Produces- Exporting of Organic products.

Day 5:

- Field Exposure Visit – Organic Farmer Producer Organization and Visit to NAF's Modern Soil Testing Laboratory at Chennai.

Day 6:

- Back journey to respective places.





**FARMERS TRAINING AND
EXPOSURE VISIT PROGRAM
ON
FIELD CROPS**



Farmers Training cum Exposure Visit on

ANDHRA PRADESH

A hub of Advance Technologies

Andhra Pradesh is a leading State in agriculture and horticulture, having diverse agro-climatic conditions suitable for the cultivation of a wide range of crops. The state is having a strong industrial base with agro-processing, value-added agriculture, and agro exports. The well-developed basic infrastructure, enterprising and innovative farmers, vibrant crop-based farmers' organizations are playing a significant role in the regulation of the market and economic valuation for farmers. It is one of India's main rice-producing states. The adoption of innovative techniques like double transplanting of paddy, paddy without puddling and ridge cultivation, has made Andhra Pradesh a significant stake in farming. The use of hybrid rice seeds by the farmers of the state increased the rice production many folds in the Andhra Pradesh. The adoption of these techniques can be extremely useful to the paddy-growing farmers in other states. It can bring huge benefits to the farmers in other States and these techniques need to be shown to farmers for large-scale adoption. The major crops grown here include paddy, sugarcane, oilseeds, beans, and pulses. Thus, farmers from different parts of the country can get quality exposure and learning by exposure visit to Andhra Pradesh and seeing high-tech farming systems, integrated cropping, resource management, drip irrigation systems, tissue culture labs, research, and marketing systems.

Highlights of the Study Tour:

The farmer's domestic learning program will fulfill the following objectives –

1. To learn the agriculture cultivation practices
2. To identify location specific and economically viable different crops
3. Exhibiting integrated farming systems such as mixed cropping and crop rotation practices
4. To learn more about the diversification of areas from traditional crops to oilseeds and pulses crops, sugarcane, maize, cotton, etc
5. To see the marketing systems and exports by farmers and commodity groups

Exposure visit:

The farmers would be visiting the following places and get training cum exposure through technical demonstrations at:

1. ICRISAT: - International Crop Research Institute for Semi-Arid Tropics, Patancheru, Hyderabad
2. DRR: - Directorate of Rice Research, Hyderabad
3. NIRD: - National Institute of Rural Development, Rajendranagar
4. MANAGE: - National Institute of Agricultural Extension Management, Rajendranagar, Hyderabad
5. NAARM: - National Academy for Agricultural Research & Management
6. NRCS: - National Research Centre for Sorghum, Hyderabad

Expected outcomes of the event:

1. Adoption of micro-irrigation techniques, including drip and sprinkler irrigation along with resource conservation technologies such as water harvesting
2. Adoption of the advanced practices in farming and use of improved varieties and farm resources
3. Adoption of the improved methods, techniques, and practices in production, extension, marketing and value chain
4. Adoption of farm resource conservation and farm mechanization



TENTATIVE ITINERARY:

Day 1 &2:

- Departure from the state capital to Hyderabad.

Day 3& 4: Hyderabad

- Visit to International Crop Research Institute for Semi-Arid Tropics, Patancheru, Hyderabad,
- Training on Management Practices in Agriculture
- Overnight in Hyderabad.

Day 5: Hyderabad

- Visit to Directorate of Rice Research, Hyderabad
- Exposure visit to Central Plant Protection Training Institute
- Exposure visit to bio-fertilizers and organic fields.

Day 6: Rajendranagar

- Exposure visit to National Institute of Rural Development (NIRD)
- Exposure visit to National Institute of Agricultural Extension Management (MANAGE).

Day 7: Hyderabad

- Exposure visit to R&D production and processing sites of major seeds companies like Bayer, Vibha Agrotech, Nuziveedu, etc.
- Training on Hybrid Seed Processing for Cultivation.

Day 8: visit to Ramoji film city

- Visit to world famous Ramoji film city and interaction with Annadata publication and channel.

Day 9 & 10: Hyderabad

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

RICE

Indian Institute of Rice Research (IIRR), Hyderabad

Rice is grown in states like Punjab, Karnataka, Kerala, Andhra Pradesh, U.P, Bihar and West Bengal. It is the staple food of the States in southern and eastern India. Soils suitable for rice production are those with a pH of around 6.0. This includes a wide variety of soils ranging from sandy loam to salty clay loam. The land should be ploughed at least four times to get a field with good tilth. Every third year, the farmer should apply lime @ 2t/ha around one to two weeks before the seeds are sown. While transplanting, puddling should be done around three to four times to rid the land of weeds and help the soil retain water. These were a few little things that most of our farmers are ignorant of rice cultivation. Indian Institute of Rice Research (IIRR), formerly All India Coordinated Rice Improvement Project (AICRIP), was established by the Indian Council of Agricultural Research (ICAR) in 1965 with its national headquarters at Hyderabad. IIRR in its 44th year of useful existence has contributed significantly to the overall rice production front which has ensured food security for the country. The Institute's research work program aims for the welfare of the present and future generations of Indian rice farmers and consumers by ensuring food and nutritional security and to develop the technologies to enhance rice productivity, resource and input use efficiency and profitability of rice cultivation without adversely affecting the environment. Some research projects going on there can be very useful for the rice farmers.



Highlights of the Study Tour:

1. To see high tech farming and use of improved varieties for rice cultivation
2. Training on new rice hybrids and varieties for the different ecosystems
3. Training on the latest projects and research activities taking place in DRR, Rajendranagar, Hyderabad

Technical Study Tour visits:

1. Indian Institute of Rice Research (IIRR), Rajendranagar, Hyderabad
2. Visits to adjoining farmers' fields and interaction with local farmers for cultural practices followed
3. International Crop Research Institute for Semi-Arid Tropics (ICRISAT), Patancheru, Hyderabad

Expected Outcome of the event:

1. Adoption of advanced practices and the use of improved varieties
2. Awareness about post-harvest management and cultivation of rice as a major field crop in Indian Agriculture
3. Awareness about the ongoing projects and research activities in IIRR, Hyderabad



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Rajendra Nagar, Hyderabad.
- Overnight at Hyderabad.

Day 3: IIRR Hyderabad.

- Visit to Indian Institute of Rice Research (IIRR), Rajendra Nagar, Hyderabad.
- Training on Integrated Farming and its Application.
- Interaction with experts for farmers queries on practices to be followed.

Day 4: IIRR Hyderabad

- Training on Integrated Pest Management as a plant protection measure.
- Training on bio-fertilizers and organic rice cultivation.

Day 5: Hyderabad.

- Visit to local farmers' farms for practical exposure.
- Communication session with the local growers for updating on the latest practices to be followed.
- Awareness of market scenario and potential for rice cultivation.

Day 6: Hyderabad to ICRISAT, Patancheru.

- Visit to International Crop Research Institute for Semi-Arid Tropics, Patancheru.
- Interaction with faculty and training on ongoing projects at ICRISAT.

Day 7: ANGR Agriculture University, Hyderabad.

- Visit to ANGRAU, Hyderabad. -Training on modern technologies for more productivity per hectare. - Imparting knowledge of major crops grown in the area.
- Overnight in Hyderabad.

Day 8: MANAGE Hyderabad.

- Training on agriculture extension management practices.
- Evening for local travel and sightseeing.
- Overnight in Hyderabad.

Day 9 & 10: Hyderabad to state.

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

WHEAT

Indian Institute of Wheat and Barley Research, Karnal & PAU, Punjab

Wheat, one of the major Indian food crops, has played a formative role in the unfolding of India's history. The northern region of India has traditionally been dominated by wheat cultivation. The northern state of Punjab and Haryana plains in India has been abundant wheat producers. While this cereal grass has been studied carefully in the past, recent years of painstaking research has paid off with the development of distinctly superior varieties of Durum Wheat. Today, India is exporting sufficient quantities of all types of wheat and extensive research efforts are underway for improving cereal and grain output in the future. India is today the second-largest wheat producer in the whole world. Wheat Research (IIWBR) formed in 1978 for the improvement of wheat as a commercial crop, was detached from IARI and shifted to its present location at Karnal in 1990. DWR has a mission of increasing the productivity and profitability of wheat production on an economically sustainable basis. The Directorate of Wheat Research (IIWBR), Karnal through its national network of research Centre's has developed a large number of improved wheat and barley varieties and their production and protection technologies for different agro-climatic zones in the country. Despite the last few years of adverse climatic conditions like drought and terminal heat stress, the total annual wheat production still hovers around 72 MT, posing a challenge to the wheat scientists for breaking this stalemate.

Highlights of the Study Tour:

1. To learn advanced practices of wheat cultivation
2. To identify different varieties resistant to various diseases and physiological disorders in wheat cultivation
3. To become well versed with the new technologies and practices
4. To learn about increasing productivity through optimization of resources (soil, water, and inputs)

Exposure visit:

1. Indian Institute of Wheat and Barley Research, Karnal, Haryana
2. Visits to local wheat farms for practical exposure on the wheat industry
3. Visits to Regional Research Station IIWBRF lower dale, Ludhiana

Expected outcomes of the event:

1. Adoption of advanced practices and the use of improved location-specific cultivars.
2. Awareness about physiological disorders, diseases, and pests for their management.
3. Adoption of improved methods, techniques and practices in production, extension, and marketing
4. To increase sustainable productivity under intensive agriculture.



TENTATIVE ITINERARY:

Day 1 & 2:

- Travel from the state capital to Karnal.

Day 3: IIWBR, Karnal

- Training on a multilocal and multidisciplinary research program on wheat improvement.
- Training on genetic improvement of wheat through identification and dissemination of superior germplasm.

Day 4: IIWBR, Karnal

- Imparting knowledge to farmers on characteristics of different varieties and cultivars.
- Training on understanding economics, marketing and using basic levels in wheat markets.

Day 5: IIWBR, Karnal

- Training on the sustainability of a wheat-based cropping system.
- Imparting knowledge to the farmers on diseases/ pests common to wheat cultivation and care to be taken to prevent them.

Day 6: Karnal

- Visit to local farms in nearby Karnal.
- Interaction with local farmers regarding technical issues in wheat production.
- Understand the factors influencing production, marketing, and trade.
- Overnight in Karnal.

Day 7: IIWBR, Karnal to PAU Punjab

- Journey day from Karnal to PAU Ludhiana.
- Overnight in PAU, Ludhiana.

Day 8: BISA, Punjab

- Training and developing an understanding of different types of rust common to wheat.
- Imparting knowledge on ongoing projects at BISA, Punjab with respect to rust in wheat.
- Exposure to rust-resistant varieties for different agro-climatic conditions.

Day 9: Punjab

- Summing up of visit.
- A day for local travel in Punjab and adjoining areas.

Day 10: Back to state Capital

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

MAIZE

Indian Institute of Maize Research, Pusa Campus, New Delhi

Maize is considered a profitable option for diversifying agriculture in upland areas of India. It now ranks as the third most important food grain crop in India. The maize area has slowly expanded over the past few years to about 6.2 million ha (3.4% of the gross cropped area). Experts have predicted that this area would grow further to meet future food, feed, and other needs, especially in view of the booming livestock and poultry producing sectors in the country. Since land is limited for further expansion of maize area, future increases in maize production will be achieved through the intensification and the use of the latest hybrid seeds, practices, and technologies in maize production systems. Indian Institute of Maize Research, New Delhi, under ICAR was established in 1994 with the mandate to organize, conduct, coordinate and generate technologies for continuous enhancement in productivity and production of Maize for meeting the ever-increasing demand of human food, animal feed and industrial utilization for starch, oil, and other value-added products. The IIMR is entrusted with the overall responsibility of research, coordination and management of the multi-disciplinary programs at national level and maintaining linkages with international programs on maize improvement as well.



Highlights of the Study Tour:

1. To learn advanced practices in maize cultivation
2. To identify different hybrids and varieties resistant to various diseases
3. To get well versed in new technologies and practices
4. To learn about increasing productivity through optimization of resources (soil, water, and inputs)

Technical Study Tour visits:

1. Indian Institute of Maize Research, Pusa Campus, New Delhi
2. Visits to local maize farms for practical exposure to the maize industry
3. Visits to the Indo-Israel project at ICAR, New Delhi
4. Visit to various IARI divisions and farms

Expected Outcome of the event:

1. Adoption of advanced practices and the use of improved location-specific seeds
2. Awareness about physiological disorders, diseases, pests and resources management
3. Adoption of improved methods, techniques and practices in production, extension and marketing
4. To increase sustainable productivity under intensive agriculture system++



TENTATIVE ITINERARY:

Day 1 & 2:

- Travel from the state capital to New Delhi.
- Overnight in New Delhi.

Day 3: IIMR, Pusa

- Training on multilocal and multidisciplinary research programs on maize improvement.
- Training on natural resource management and optimum use for sustainable maize production.

Day 4: IIMR, Pusa

- Imparting knowledge to farmers on characteristics of different varieties and cultivars.
- Training on understanding of economics, marketing and using basic levels in maize markets.

Day 5: IIMR, Pusa

- Training on the sustainability of the maize-based cropping system.
- Imparting knowledge to the farmers on diseases/ pests common to maize cultivation
- Overnight in Pusa.

Day 6: New Delhi

- Visit to local farms in nearby New Delhi.
- Interaction with local farmers regarding technical issues in maize production.
- Understand the factors influencing production, marketing, and trade.

Day 7: IARI Pusa, New Delhi

- Visit to various departments of IARI
- Imparting knowledge on different research projects.
- Visit to IARI farms for practical exposure on different crops.

Day 8: IIMR, Pusa

- Training and developing an understanding of biocontrols and organic production at NCIPM, Pusa.
- Exposure to disease and pest resistant varieties for different agro-climatic conditions.
- Visit to Indo-Israel project.

Day 9: New Delhi

- Summing up of visit.
- Daylong visit for local sightseeing in Delhi.

Day 10: Back to state Capital

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

GROUNDNUT

National Research Center on Groundnut, Gujarat

Groundnut is a crop of global economic significance. India is the second-largest producer of groundnuts in the world. Low yields in Groundnut crop are however a matter of great concern for all those involved in research, extension, policymaking, production, and trade. The crop is grown commercially in about 8 million ha in India. Gujarat is the leader in the production of the crop, accounting for over 40% of the crop produced in India. The groundnut oil production in India hovers around 1.5 million tons per year. Junagadh, Jamnagar, Amreli, Bhavnagar, Rajkot are the main groundnut growing areas in Gujarat. Groundnut crop has multiple uses. It is used as edible oil, in soap making, cosmetics, lubricants, etc. National Research Institute for groundnut, Junagadh has been playing a critical role in research, extension, and development of Groundnut cultivation. The impact of this institution on the economy of the state is widely acknowledged. Groundnut has emerged as a crop of national importance for addressing the edible oil deficit and it also fits well in the sustainable food production system. For instance, groundnut possesses the ability to maintain or increase food production over the long term without damaging or depleting the resource base in the fragile ecosystem.

Highlights of the Study Tour:

1. To understand the practices of modern groundnut farming and the use of improved varieties and farm resources
2. To understand agriculture extension programs
3. To learn the scientific application of inputs like seeds, fertilizers, pesticides, irrigation, and machinery, etc
4. To understand resource management and exposure to integrated farming systems

Technical Study Tour visits:

1. Visit to National Research Institute for Groundnut, Junagadh
2. Visit to Gujarat Agriculture University, Junagadh
3. Visit to Directorate of Groundnut Research
4. Visit to Agro-Processing Industries

Expected outcomes of the event:

1. Adoption of modern farming techniques including the use of improved varieties and farm resources
2. Awareness about improved seeds, fertilizers, and modern irrigation techniques
3. Adoption of the new practices in production, technology, and marketing
4. Enhancing yields and quality while reducing the input cost per unit



TENTATIVE ITINERARY:

Day 1 & 2:

- Departure from State to Junagadh
- Overnight in Junagadh.

Day 3: Junagadh

- Exposure visit to National Research Centre of Groundnut
- To observe and learn their latest farming techniques.
- Visit to local farms to know their groundnut cultivation practices.

Day 4: Junagadh

- Training on integrated nutrient management in groundnut.
- To learn IPM activities in groundnut cultivation.
- Overnight in Junagadh.

Day 5: Junagadh

- Exposure visit to Directorate of Groundnut Research
- To provide information on Natural resource management and crop improvement
- Imparting knowledge to farmers on characteristics of different varieties.

Day 6: Junagadh Agricultural University

- Visit to various departments of Agriculture University, Junagadh.
- Training on management practices in agriculture.
- Training on pest management at the field level.

Day 7: Junagadh

- Visit to Gujarat State Seeds Corporation Limited to learn about high-quality seeds. To know innovative farming technologies
- To see market linkages and marketing systems.

Day 8: Junagadh

- Providing training on various aspects of economics, marketing and production of the crop.

Day 9 & 10:

- Back journey to respective destinations.



RAPESEED (MUSTARD)

Directorate of Rapeseed-Mustard Research, Bharatpur, Rajasthan

Rapeseed (Mustard) is a major oilseed crop in India grown on 13% of cropped land. Mustard oil is a major edible oil in India, particularly in Northern India, where it accounts for over 90% of the consumption. Rapeseed and mustard have the most edible oil content, ranging from 30% - 48%. In the case of white mustard, the oil content ranges from 25 to 33 percent. The oil obtained is the main cooking medium in Northern India and cannot be replaced by any other edible oil. The seed and oil are used as a condiment in the preparation of pickles and for flavoring curries and vegetables. Directorate of Rapeseed-Mustard Research has been established by the Indian Council of Agricultural Research (ICAR) as a national repository for rapeseed-mustard genetic resources and for undertaking basic, strategic and applied research to enhance the productivity and quality of oil and seed meal. The Centre is assigned a leadership role not only for the ICAR institutes but also for the State Agricultural Universities in developing ecologically sound and economically viable agro-production and protection technology based on location-specific interdisciplinary information through multilocation testing and co-ordination. Farmers can get immensely benefited by training cum exposure visits to DRMR.



Highlights of the Study Tour:

1. Directorate of Rapeseed-Mustard Research, Bharatpur, Rajasthan
2. Visits to adjoining farmers' fields and interaction with local farmers on cultural practices
3. Krishi Vigyan Kendra, Bharatpur

Technical Study Tour visits:

1. Directorate of Rapeseed-Mustard Research, Bharatpur, Rajasthan
2. Visits to adjoining farmers' fields and interaction with local farmers on cultural practices
3. Krishi Vigyan Kendra, Bharatpur

Expected Outcome of the event:

1. Adoption of advanced practices and the use of improved varieties
2. Awareness about post-harvest management and crop cultivation for Rapeseed-Mustard
3. Awareness about the ongoing projects and research activities in DRMR, Bharatpur
4. Adoption of the latest pest and natural resources management practices



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Bharatpur, Rajasthan.
- Overnight at Bharatpur.

Day 3: DRMR Bharatpur.

- Visit to Directorate of Rapeseed Mustard Research, Bharatpur, Rajasthan.
- Training on Integrated Farming and its application.
- Interaction with experts for farmers' queries on practices to be followed.

Day 4: DRMR Bharatpur.

- Training on Integrated Pest Management as a plant protection measure.
- Training on bio-fertilizers and organic cultivation.

Day 5: Bharatpur

- Visit to local farmers' farms for practical exposure.
- Communication session with the local growers for updating on the latest practices to be followed.
- Awareness of market scenario and potential for rapeseed cultivation.

Day 6: DRMR, Bharatpur.

- Visit to NRM section of DRMR, Bharatpur.
- Interaction with faculty and training on ongoing projects.
- Training on natural resource management for sustainable yields.
- Overnight in Bharatpur.

Day 7: Krishi Vigyan Kendra, Kumher, Bharatpur

- Visit to KVK, Kumher.
- Training on modern technologies and latest practices.
- Imparting knowledge of major crops grown in the area.
- Overnight in Bharatpur.

Day 8: KVK, Kumher

- Training on agriculture extension management practices.
- Evening for local travel and sightseeing.
- Overnight in Bharatpur.

Day 9& 10: Bharatpur to state

- Back journey to respective destinations.

Farmers Training cum Exposure Visit on

OILSEED CROPS

Indian Institute of Oilseed Research, Hyderabad

The oilseed consumption pattern in India and consequently the production is undergoing visible changes in the new environment of liberalized trade. Consumption patterns are changing, as consumers are beginning to accept oils other than those consumed traditionally. To meet the changing demand, farmers have taken up the production of new oilseed crops, but India continues to be a deficit in the production of oilseeds. Changes in cropping patterns have also taken place with the help of technology missions and price support by the Government and new seeds launched by the industry. Although India ranks among the largest producers of oilseeds in the world such as the USA, China, and Brazil, its productivity is quite low. The low and fluctuating yields are primarily due to a large part of the cultivation being on marginal lands lacking irrigation and with low levels of input usage. Three oilseeds: groundnut, soybean and rapeseed/mustard, together account for over 80 percent of aggregate cultivated oilseeds output. Cultivation of other crops like sunflower, castor seed, and safflower, olive oil, canola, etc. can be equally beneficial to the farmers. Indian Institute of Oilseeds Research (IIOR) Hyderabad is a premier organization under the Indian Council of Agricultural Research (ICAR) with the responsibility to plan, coordinate and execute the research programs and has linkages with the industry and farmers to augment the production and productivity of Castor, Sunflower and Safflower. The oilseed farmers can, therefore, learn much from the visit to IIOR, ICRISAT and oilseed production farms in Andhra Pradesh.

Highlights of the Study Tour:

1. To see high tech farming and use of improved varieties for oilseed cultivation
2. Training on new technologies and varieties for different ecosystems
3. Training on latest practices and exposure to research activities, seeds & technologies

Technical Study Tour visits:

1. Indian Institute of Oil Seed Research, Rajendra Nagar, Hyderabad
2. Visits to adjoining farmers' fields and interaction with local farmers for cultural practices
3. International Crop Research Institute for Semi-Arid Tropics (ICRISAT), Patancheru, Hyderabad
4. Visit to National Institute of Plant Protection and Training, Hyderabad

Expected outcomes of the event:

1. Adoption of advanced cultivation practices
2. Awareness about crop rotation, inter and relay cropping for high yields and best profits
3. Awareness about the latest seeds, ongoing projects, research activities, and farmers linkages



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Rajendra Nagar, Hyderabad.
- Overnight at Hyderabad.

Day 3: IIOR Hyderabad

- Visit to Indian Institute of Oil Seed Research, Rajendra Nagar, Hyderabad.
- Training on Integrated Farming and its Application.

Day 4: IIOR Hyderabad

- Training on Integrated Pest Management as a plant protection measure.
- Training on bio-fertilizers and organic oilseed cultivation.

Day 5: Hyderabad.

- Visit to local farmers' farms for practical exposure.
- Interaction session with the local growers on latest practices
- Awareness on market scenario and potential for oilseed cultivation.

Day 6: Hyderabad to ICRISAT, Patancheru.

- Visit to International Crop Research Institute for Semi-arid Tropics, Patancheru.
- Interaction with faculty and training on ongoing projects at ICRISAT.

Day 7: ANGR Agriculture University, Hyderabad.

- Visit to ANGRAU, Hyderabad.
- Exposure to modern technologies for more productivity per hectare.
- Imparting knowledge of major crops grown in the area.
- Overnight in Hyderabad.

Day 8: IIOR Hyderabad.

- Interaction with experts on field visits, queries and concluding discussions
- Evening for local travel and sightseeing.
- Overnight in Hyderabad.

Day 9 & 10: Hyderabad to state.

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

PULSES

Indian Institute of Pulses Research, Kanpur

Pulses complement cereals in both production and consumption. In the production process, pulses improve soil fertility; require less water than cereals and their rotation with cereals controls diseases and pests. On the consumption side, these are relatively cheaper sources of protein. Despite their importance, the per capita availability of pulses has reduced to almost half from about 60 gm/day in 1950-51 to 26 gm/day in 2000-01 as against the recommendation (43 gm/day) of the Indian Council of Medical Research. The Indian Institute of Pulses Research, Kanpur is a premier organization of the Indian Council of Agricultural Research engaged in advanced studies on pulses. Kanpur Dehat, situated in the middle of the Holy Ganga & Yamuna River is agriculturally dominating district. About 83% of the rural population, by and large, depends on agriculture. Pulses ranked second to wheat in production and area in Kanpur district. Moreover, IIPR Kanpur is working on the refinement of the new technologies like integrated nutrient management, insect/pest management and different cropping systems for pulses. Chandra Shekhar Azad University of agriculture and technology, Kanpur is conducting research on a number of viable crops like Rabi cereals, Barley, legumes, pulses, and oilseed with advanced mechanization which could be very useful for farmers as they can adopt these kinds of farm practices for better production and processing. The Institute also develops appropriate production and protection technologies, production and supply of breeder seeds of improved varieties, demonstration and transfer of technologies and strategic coordination of pulse research through the wide network of testing centers across the country.

Highlights of the Study Tour:

1. To learn new cultivation techniques in pulses
2. Demonstration of integrated nutrient management in pulses
3. Imparting training to the farmers on insect/pest and weed management of pulses for better crop yield
4. Exhibiting productive cropping systems such as soybeans and short-duration varieties of paddy

Technical Study Tour visits:

1. To visit the Indian Institute of Pulses Research, Kanpur
2. Field visits to Kanpur Dehat region to see major pulses grown in the area
3. Visit to Chandra Shekhar Azad University of Agriculture and Technology, Kanpur
4. Exposure visit to Goldie Industries Kanpur, a leading manufacturer, and supplier of spices and processed foods

Expected Outcome of the event:

1. Adoption of advanced practices in pulses farming and the use of improved varieties and farm resources
2. Awareness about the benefits of pulse production and income which can be generated
3. Adaptation to better land and resource utilization



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Kanpur.
- Overnight at Kanpur.

Day 3: Kanpur

- Visit to Indian Institute of Pulses Research, Kanpur.
- Training on advanced agro practices for pulses cultivation.
- Overnight at Kanpur.

Day 4: Kanpur

- Training and extension program at IIPR, Kanpur.
- Interaction with Scientists and technical staff of the production department for solving farmers queries on technical issues.

Day 5: Kanpur

- Visit to Chandra Shekhar Azad University of Agriculture and Technology, Kanpur
- Interaction with technical staff to become well versed with technical issues and care to be taken during pulses production.
- Visit to adjoining farmer's field for practical exposure to farm practices adopted in the area.

Day 6: Kanpur Dehat Region.

- Visit to Kanpur Dehat Region.
- Training on productive cropping system.
- Training on diversification from traditional crops to pulses.

Day 7: Goldie Industries, Kanpur.

- Visit to Goldie Industries Kanpur.
- Interaction with the technicians for post-harvest management practices to be followed.
- Exposure visit to processing food plant at Goldie industries.
- Overnight in Kanpur

Day 8: Kanpur

- Day for a recreational visit to Phool Bagh, mall road Kanpur.
- Local travel and sightseeing.
- Overnight in Kanpur.

Day 9&10: back Journey

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

COTTON

Central Institute for Cotton Research (CICR), Nagpur

Cotton is the most important fiber crop not only of India but of the entire world. It provides the basic raw material (cotton fiber) to the cotton textile industry. Cotton is a commercial crop that plays an important role in strengthening the economy of 82 countries across the world. In India, apart from providing 60% of the fiber used in textile industries, the crop is also a source for 11.5 lakh tonnes of oil, 90 lakh tonnes of animal feed and about 200 lakh tonnes of cotton stalk that is used for fuel and value addition as particle boards. Changing consumer preferences and spurt in non-textile uses of cotton are also leading to the emergence of niche demand-supply chain. The private sector is today investing strongly into research into next-generation transgenic, hybrid seed production in the plant protection arena. The Central Institute for Cotton Research, Nagpur must keep pace with the fast-changing scenario and bring about a paradigm shift in the R&D focus in public sector cotton research under the NARS. It is also time to connect research innovations to the needs of stakeholders in the entire cotton value chain.

Highlights of the Study Tour:

1. To see the process of cotton farming and the use of improved varieties and farm resources
2. Exhibiting integrated cotton farming systems such as mixed cropping and crop rotation practices
3. Adoption of mechanized farming methods
4. Packaging of cotton

Technical Study Tour visits:

1. Visit to Central Institute of Cotton Research (CICR)
2. Two days training and extension service programme at CICR, Nagpur
3. To visit high-tech integrated farms in Nagpur
4. Two days of training & visit to the CIRCOT Ginning centre
5. To visit the NBSS & CITRUS ICAR institution, Nagpur

Expected outcomes of the event:

1. Adoption of new cotton farming techniques and use of improved varieties
2. Awareness about the use of improved quality seeds/ planting material and crop diversification and their impact on income levels
3. Adoption of the improved methods, techniques, and practices in production, extension, marketing, and value chain in cotton produces



TENTATIVE ITINERARY:

Day 1 & 2: State/Nagpur

- Departure from State to Nagpur.
- Overnight at Nagpur.

Day 3: Nagpur

- Registration and Video cassettes show.
- Training at CICR on Fiber Length.
- Lecture on Fiber Strength, Fiber Fineness.
- Overnight at Nagpur.

Day 4: Nagpur

- Lecture on Cotton production in India.
- Training on Fiber Laboratory.
- Visit to CICR, Nagpur.
- Overnight at Nagpur.

Day 5: Nagpur

- Training on Pathology (Integrated Pest Management), Marketing of Cotton.
- Visit to Ankur seed Ltd,
- Overnight at Nagpur.

Day 6& 7: Nagpur

- Training on Processing in Ginning Technology. Practical's. By-product utilization Preparation of particle boards and hard boards at GTC.
- Visit to NRCC, Nagpur.
- Overnight at Nagpur.

Day 8: Nagpur

- Visit to NBSS, Nagpur.
- Feedback of trainees & Certificate distribution.
- Local visit and sightseeing at Nagpur.
- Overnight at Nagpur.

Day 9&10: Back to State

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on

SUGAR CANE

Indian Institute of Sugarcane Research, Lucknow

Sugarcane is grown in several states of the country having diverse agro-climatic conditions both in tropical and subtropical regions and as such, the problems of sugarcane crops are of distinct and diverse nature. As a consequence, research emphasis and approaches vary and are largely location-oriented. Strong research infrastructure has been established over the years to cater to the needs of the crop. The research support in sugarcane is provided at two levels, i.e. Central and State levels. At present, the research centers are being run by the Indian Council of Agricultural Research, State Agricultural Universities, State Departments of Agriculture and Non-Government Organizations. The Indian Council of Agricultural Research sanctioned the All India Coordinated Research Project on Sugarcane (AICRPS) in 1970-71 as a 4th Five Year Plan Project to intensify research on important problems of sugarcane having regional or local significance with its headquarters at the Indian Institute of Sugarcane Research, Lucknow. The first Workshop of AICRP on Sugarcane was held on January 15-19, 1970 at the Indian Institute of Sugarcane Research, Lucknow.

Highlights of the Study Tour:

The farmers' domestic training program will fulfill the objectives of-

1. To see hi-tech sugarcane farming systems and the use of improved varieties and farm resources
2. Training on sugarcane cultivation practices, its management and on marketing channels
3. To see tissue culture technology and further cultivation systems
4. To see the marketing systems and exports by farmers and commodity groups

Technical Study Tour visits:

The training and exposure visit would be conducted for the farmers at the following places

1. Indian Institute of Sugarcane Research, Lucknow
2. CISH, Lucknow
3. Technical visit at NBRI, Lucknow
4. Medicinal visit at CIMAP

Expected Outcome of the event:

1. Adoption of hi-tech farming and use of improved varieties and farm resources
2. Improved post-harvest and processing technologies and better packaging, grading, and marketing systems
3. Adoption of improved methods, techniques and practices in production, extension, marketing and value chain in agricultural crops



TENTATIVE ITINERARY:

Day 1 & 2:

- Departure from the state capital to Lucknow.

Day 3 & 4: Lucknow

- Overall Sugarcane and Sugar scenario at National and International level, IISR, Lucknow
- Two days training on Sugarcane varieties for different agro-climatic regions of the country and Techniques of seed cane production and multiplication
- Overnight at Lucknow.

Day 5: Lucknow

- Agro-techniques of sugarcane cultivation in tropical and subtropical regions of the country.
- Overnight at Lucknow.

Day 6: Lucknow

- Water management in sugarcane for economizing the use of irrigation water.
- Overnight at Lucknow.

Day 7: Lucknow

- Visit to high tech farms of Sugarcane in Lucknow
- Solve queries related to Sugarcane production with Scientist
- Visit to National Botanical Research Institute.
- Overnight at Lucknow.

Day 8: Lucknow

- Exposure visit to Central Institute of Subtropical Horticulture (CISH)
- Visit to Central Institute for Medicinal and Aromatic Plants, Lucknow.
- Overnight at Lucknow.

Day 9:

- Departure from Lucknow to their own destination.

Day 10:

- Back journey to respective destinations.



Farmers Training cum Exposure Visit on **ADVANCED TECHNOLOGIES AND FARMING PRACTICES**

G.B.Pantnagar University of Agriculture Technology

GBPUA&T is the first Agricultural University of India. It was inaugurated by the first Prime minister of India, Pt. Jawaharlal Nehru on 17 November 1960 as the Uttar Pradesh Agricultural University (UPAU). Pantnagar University soon became a significant force in the development and transfer of High Yielding Variety (HYV) seeds and related technology which played a major role in the Green revolution. Being an Agriculture and Technology University, the main focus of research is on agriculture and engineering. The engineers of the university developed a 'Zero-till- cum-ferti-seed drill' for No-till farming, which has been immensely popular in Haryana and Punjab. Uttarakhand is privileged with vast aquatic resources and potential for fish production. Fish culture being less labor-intensive has great potential for income generation even on a small scale. Apart from knowledge about the package of practices for the culture of different fish species, the know-how of aspects like farm management, feed, and feeding, health and disease management is also important. Milk production in Uttarakhand has shown a 71 % increase over the last two decades. In Uttarakhand, the average daily milk production of cattle and buffalo has been recorded as 2.30 kg and 3.71 kg respectively. So this holds great potential for the growth of the dairy industry in the state. Farmers can get a useful exposure by this visit to the university campus on advanced Agriculture, precision farming and new technologies and developments.

Highlights of the Study Tour:

1. To learn advanced cultivation practices for Agriculture crops.
2. To identify different location specific and economically viable crops.
3. To learn about precision farming techniques.
4. To learn about seed and Fish production technology
5. To get knowledge regarding crop production of pulses and wheat crops.

Technical Study Tour visits:

1. G B Pant University of Agriculture and Technology
2. Visit to U.S. Seeds and Tarai Development Corporation (TDC)
3. Visit to precision farming project
4. Visit on Bio-fertilizer production
5. Visit to Animal Husbandry and Fishery Institute

Expected outcomes of the event:

1. Adoption of advanced practices and the use of improved varieties suitable for the Farm Mechanization
2. Awareness about crop production, seed production, and precision farming techniques
3. Adoption of various techniques for bio-fertilizer production
4. Awareness about dairy and fish production



TENTATIVE ITINERARY:

Day 1 &2:

- Depart from state to Pantnagar.

Day 2: G B Pant University of A & T

- Visit to GBPUAT campus.
- Visit to different departments of campus for knowing research and development activities.
- Interaction with Scientists and technical staff for solving farmers' queries on technical issues.

Day 3: G B Pant University of A & T

- Visit to various departments of Agriculture.
- Training on the latest technologies and varieties developed at the campus for major agriculture crops.

Day 4: US Seed and Tarai Development Corporation, Haldwani

- Visit to US Seed and Tarai Development Corporation.
- Training on the latest technologies and varieties developed at the campus for major agriculture and horticulture crops.

Day 5: Pantnagar

- Daylong visit at local farmers farmhouses.

Day 6:

- Daylong sightseeing at Nainital.

Day 7: G B Pantnagar University of A & T

- Visit to nearby progressive farmers to know about various techniques of precision farming.
- Interaction with local farmers and exposure to different crops grown in the area.

Day 8: Bio-fertilizer production center, G B Pant University of A & T

- Visit to Bio-fertilizer production centre
- Interaction with scientists and exposure to techniques in bio-fertilizer production.

Day 9: G B Pant University of A & T.

- Visit to various fields of progressive farmers
- Training on the cultivation of various agricultural crops and its commercial aspect for the near future.
- Visit to farms of progressive farmers.

Day 10: Back Journey

- Back journey to respective destinations.





TRAINING CUM EXPOSURE VISIT PROGRAMS ON **HORTICULTURE**



Farmers Training cum Exposure Visit on

HIMACHAL PRADESH

Himachal Pradesh has been endowed with a wide range of agro-climatic conditions due to which a large number of horticulture commodities like fruit crops (from temperate to sub-tropical), flowers, vegetables, mushrooms, tea, medicinal & aromatic plants, etc. are successfully grown. HP could play as a role model for the horticulture farmers to learn from its experience in high-tech horticulture and its well-developed market linkage systems. Since most horticultural produce is perishable, they need careful handling, marketing and value addition. In this respect, HP has much to offer for the farmers to learn. Farmer - market linkages, procurement, and marketing system and value chain through the HPMC model can be a good learning experience for the farmers, besides the study of various crops and crop management systems. The State Department of Horticulture functions with the objective of building a prosperous Himachal through scientific development of horticulture by harnessing the natural resources for the development of a sustainable system of agriculture in the hilly areas. Integrated Farming System is the strength of hill farming. Agriculture-Animal Husbandry is a complementary and supplementary enterprise which provides a livelihood to the agrarian population in one hand and reduce dependence on synthetic

Highlights of the Study Tour:

This initiative of farmers' inter-state technology exposure visit program will fulfill the following objectives:

1. To identify location specific and economically viable different crops.
2. Showing advanced practices in horticulture farming and the use of improved varieties and farm resources.
3. Training on Floriculture and landscape management.
4. Training Post Harvest Physiology of Fruit Crops.
5. Training on Nursery Management and its application.
6. Training on Cultivation of Mushroom by organic farming and exposure visit to NRC, Chamba ghat.

Technical Study Tour visits:

1. Central Potato Research Institute, Shimla
2. Himachal Pradesh Horticultural Produce Marketing and Processing Corporation Ltd. (HPMC) Shimla
3. National Research Centre for Mushroom, Chamba ghat, Solan
4. Dr. Y.S. Parmar University of Horticulture and forestry, Solan
5. Regional Horticultural Research Station, Mashobra
6. HPMC unit Parwanoo
7. RHRS, Kandaghat

Expected outcomes of the event:

1. Adoption of protected cultivation by use of a low cost greenhouse and poly house technologies
2. Adoption of micro-irrigation techniques, including drip and sprinkler irrigation along with resource conservation technologies such as water harvesting
3. Adoption of the advanced practices in horticulture farming and use of improved varieties and farm resources
4. Adoption of the improved methods, techniques used in horticulture in production, extension, marketing, and value chain



TENTATIVE ITINERARY:

Day 1 & 2: Delhi/Chandigarh

- Depart from State to Delhi.
- Visit to Indo-Israel project at Pusa.
- Overnight at IARI, Pusa, New Delhi.

Day 3: Delhi to Chandigarh via Karnal

- Depart Delhi.
- Visit to KVK and NDRI facilities in Karnal.
- Overnight at Chandigarh.

Day 4: Departure to Solan

- Arrival at Dr. Y. S. Parmar University of Horticulture & Forestry.
- Overnight at Farmers guest house

Day 5: Solan

- Visit to Y.S. Parmar University of Horticulture & Forestry.
- Visit to different departments of the university.
- Overnight in Solan.

Day 6: Solan

- Training on Cultivation of Mushroom by organic farming and exposure visit to NRC, Chamba ghat and other private mushroom growing units (Shimla).
- Overnight at Shimla.

Day 7: Shimla/Mashobra (40 km)

- Visit to Horticulture Research Station, Mashobra
- Training on Nutrient management for apple cultivation in hilly Regions.
- Dinner overnight in Mashobra.

Day 8: Shimla

- Visit to Potato Research Institute, Shimla.
- Training on Post-harvest management of potato.

Day 9:

- Arrival at Delhi.
- Overnight at IARI, Pusa.
- Return from Delhi to the State Capital.

Day 10:

- Return from Delhi to State capital.



Farmers Training cum Exposure Visit on

KARNATAKA

Karnataka is India's 8th largest state in a geographical area covering 1.92 lakh sq. Km and accounting for 6.3 percent of the geographical area of the country. Karnataka occupies a prominent place in the field of modern horticulture in the country. The diverse agro-ecological conditions prevailing in Karnataka has made it possible to grow different types of horticultural crops such as fruits, vegetables, flowers, spices, plantation crops, root and tuber crops, medicinal and aromatic crops, etc. Horticulture provides excellent opportunities in raising the income of the farmers even in the dry tracts. A significant shift towards horticulture is evident in the state with an increase in area and production under horticulture crops. The best of flowers are produced in the state, which is now exported and have already established name in the international market. Around 250 established regulated markets in the state also offer opportunities to the fruit growers for marketing. Thus, farmers from different parts of the country can get quality exposure and learning by an exposure visit to Karnataka and seeing high-tech farming systems, integrated cropping, resource management, drip irrigation systems, tissue culture labs, research, and marketing systems. Karnataka grows a number of seasonal cash crops and horticultural crops, which could be very useful for farmers as they can adopt this kind of cultivation and practice in their own fields.



Highlights of the Study Tour:

The farmers' domestic learning program will fulfill the objectives of-

1. To identify different location-specific and economically viable crops
2. To see hi-tech farming and the use of improved varieties and farm resources
3. To see tissue culture-based flower cropping and use of drip systems
4. To see the marketing systems and export by farmers and commodity groups
5. Training on management of grape at field sites
6. Training on Food Processing technology and visit to the food processing unit

Technical Study Tour visits:

The farmers would be visiting the following places and get training cum exposure through technical demonstration at:

1. Central Coffee Research Institute (CCRI), Chikmagalur, Karnataka
2. Central Food Technological Research Institute, Mysore, Karnataka
3. IIHR, Hesaraghatta, Bangalore, Karnataka
4. Karnataka State Horticulture Mission Lalbagh, Bangalore, Karnataka
5. National Research Centre for Grapes, Hesaraghatta Lake, Bangalore
6. National Research Centre for Cashew, Puttur, Karnataka

Expected Outcome of the event:

1. Adoption of protected cultivation by use of a low cost greenhouse and poly house technologies
2. Adoption of micro-irrigation techniques, including drip and sprinkler irrigation along with resource conservation technologies such as water harvesting
3. Adoption of advanced practices in horticulture farming and the use of improved varieties and farm resources
4. Adoption of integrated farming systems and improved post-harvest and processing technologies and better packaging, grading, and marketing systems
5. Adoption of improved methods, techniques and practices in production, extension, marketing, and value chain in horticulture produces

TENTATIVE ITINERARY:

Day 1 & 2:

- State capital to Bangalore.
- Arrival Bangalore.

Day 3 & 4: Bangalore

- Visit to Indian Institute of Horticultural Research, Hesaraghatta, Bangalore.
- Two days of training on Postharvest Management of Horticultural Crops.
- Visit to horticulture fields to study cultivation practices.

Day 5: Bangalore

- Visit to National Research Centre for Grapes, Hesaraghatta Lake, Bangalore.
- Training on management of grape at field sites.
- Visit to Karnataka State Horticulture Mission Lalbagh, Bangalore Karnataka.

Day 6: Mysore

- Training on Food Processing technology and visit to the food processing unit.
- Visit to Central Food Technological Research Institute, Mysore.
- Exposure visit to nearby Rubber Plantations.

Day 7: IFAB & UAS

- Visit to International Flower Auction Bangalore (IFAB) Limited.
- Visit to the University of Agriculture Science.
- Training on Nursery management and its application.

Day 8 & 9:

- Return from Bangalore to State Capital.



Farmers Training cum Exposure Visit on

KERALA

Kerala is an essentially agrarian State and its agriculture is marked by a series of agricultural microenvironments suited to different kinds of mixed farming, and by a large proportion of perennial crops in its total agricultural output. More than 80% of the agricultural products of the state are dependent on the home and international markets. Coconut and Rubber together account for one half of the cultivated land and two-third of the value of gross income generated by the crop sub-sector. The main crops grown in the State are paddy, coconut, pepper, ginger, cardamom, turmeric, cinnamon, tea, coffee cashew, tapioca, and arecanut and plantation crops like rubber. The Indian Institute of Spices Research (IISR) has contributed significantly by releasing around 25 different varieties of spices to the country. The Central Tuber Crop Research Institute (CTCRI) is also significantly contributing to horticultural R&D. Spices Board, Department of Spices, Department of Arecanut, Institute of Plantation Management and much private Horticulture and Plantation R&D centers are located in Kerala. Kerala is a leading State in horticulture and is endowed with tropical and temperate agro-climatic conditions suitable for the cultivation of a wide range of horticulture crops. The predominance of cash crops in irrigated areas and market linkages systems have helped the State to emerge as the largest producer of rubber, tea, coffee, and other spices. Thus, farmers from different parts of the country can get quality exposure and learning by a visit to this State and seeing horticulture farming systems, integrated cropping, resource management and a number of seasonal cash crops, which could be very useful for farmers as they can adopt this kind of cultivation practices in their respective States.

Highlights of the Study Tour:

1. To understand integrated farming systems and resource management.
2. To see the process of spices farming, use of improved varieties and farm resources.
3. To see various horticultural crops being grown scientifically.
4. Training on recent innovation in Horticulture.
5. Two days training to the farmer on new technological adoption in Spices cultivation.
6. Training on Harvest and Postharvest technologies of tuber crops.
7. Training on management of coconut marketing.

Technical Study Tour visits:

The farmers would be visiting the following places and will get exposure through technical demonstrations at:

1. Kerala State Horticultural Product Development Corporation (KSHPDC), Poojappura, Thiruvananthapuram.
2. Indian Institute of Species Research, (IISR) Marikunnu, Kozhikode.
3. Centre for Water Resource Development and Management (CWRDM), Kunnamangalam, Kozhikode.
4. Central Plantation Crop Research Institute (CPCRI), Kasargod.
5. Central Tuber Crop Research Institute (CTCRI), Sreekariyam, Thiruvananthapuram.
6. Centre for Water Resource Development and Management (CWRDM) Kunnamangalam, Kozhikode.
7. Visit to Kerala Agriculture University, Thrissur.

Expected outcomes of the event:

1. Water and land resource management.
2. Adoption of new spices farming and the use of improved varieties and farm resources.
3. Awareness about the use of improved quality seeds/ planting material and crop diversification and their impact on income levels.
4. Adoption of the improved methods, techniques and practices in production, extension, marketing, and value chain in horticulture produces.



TENTATIVE ITINERARY:

Day 1&2:

- State capital to Thiruvananthapuram.
- Arrival Thiruvananthapuram.

Day 3:

- Visiting KSHPDC, Poojappura, Thiruvananthapuram.
- Training on recent innovation in Horticulture.

Day 4&5:

- Indian Institute of Spices Research, (IISR) Calicut, Kozhikode.
- Visit to Agricultural Technology Information Centre of IISR and exposure to new major Spices production and processes.

Day 6:

- Central Tuber Crop Research Institute (CTCRI), Sreekariyam, Thiruvananthapuram.
- Training on Harvest and Postharvest technologies of tuber crops.

Day 7&8:

- Visit to Centre for Water Resource Development and Management (CWRDM), Kozhikode.
- Visit to local sightseeing at Vineyard.

Day 9 and 10:

- Return from Thiruvananthapuram to State Capital.



Farmers Training cum Exposure Visit on

MANGO

Central Institute of Subtropical Horticulture, Lucknow

Mango (*Mangifera indica*) is the leading fruit crop of India and considered as the King of fruits. Besides the delicious taste, excellent flavor and attractive fragrance, it is rich in vitamin A&C. The tree is hardy in nature and has comparatively low maintenance costs. Mango occupies 22% of the total fruits comprising of 1.2 million hectares, with a total production of 11 million tonnes. Uttar Pradesh and Andhra Pradesh are having the largest area under mango each with around 25% of the total area followed by Bihar, Karnataka, Kerala, and Tamil Nadu. Mango fruit is utilized at all stages of its development both in its immature and mature state. Raw fruits are used for making chutney, pickles, and Juices. The ripe fruits besides being used for dessert are also utilized for preparing several products like squashes, syrups, nectars, jams, and jellies. The Central Institute for Subtropical Horticulture (CISH) was initially set up as Central Mango Research Station in the homeland of the world-famous Dushehari variety of mango on 4th September 1972 under the aegis of the Indian Institute of Horticultural Research, Bangalore. On 1st June 1984, it was upgraded to the level of a full-fledged Institute and named as Central Institute of Horticulture for Northern Plains. Farmers can be benefited from a training program at CISTH, Lucknow.



Highlights of the Study Tour:

1. To learn advanced cultivation practices for Mango as a commercial crop
2. To identify location specific and economically viable varieties and cultivars of Mango
3. To get well versed with the new varieties and technologies for an increase in production per acre

Technical Study Tour visits:

1. Central Institute of Subtropical Horticulture (CISTH) Lucknow
2. Visits to adjoining farmer's fields and interaction with local farmers
3. Visit to CDRI, NBRI and CIMAP Lucknow

Expected Outcome of the event:

1. Adoption of advanced practices and the use of improved varieties
2. Awareness about post-harvest management and Integrated Pest Management for impact on income levels
3. Adoption of improved methods, techniques and practices in production, extension, marketing, and value chain



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Lucknow.
- Overnight at Lucknow.

Day 3: Lucknow

- Visit to Central Institute of Subtropical Horticulture, Lucknow.
- Training on common packages and practices followed for quality mango cultivation.
- Interaction with Scientists and technical staff for solving farmers queries on technical issues.
- Overnight in Lucknow.

Day 4: Lucknow

- Visit to Central Institute of Subtropical Horticulture (CISH).
- Training on the latest technologies released by CISH for mango and other subtropical fruits.
- Training on IPM practices to be followed for mango cultivation.

Day 5: Lucknow

- Visit to Central Institute of Subtropical Horticulture (CISH).
- Imparting knowledge to the farmers on training and pruning of mango crop.
- To introduce them with the regular bearing varieties of mango.
- Overnight in Lucknow.

Day 6: Lucknow

- Visit to National Botanical Research Institute, Lucknow.
- Interaction with scientists on the latest R & D projects running in NBRI.
- Overnight in Lucknow.

Day 7: Lucknow

- Visit to Central Drug Research Institute, Lucknow.
- Training on post-harvest management practices followed for medicinal and aromatic plants.
- Overnight Kanpur.

Day 8: Lucknow

- Visit to adjoining mango farms in the area.
- Interaction with local farmers on technical issues.

Day 9 & 10: Return Journey

- Return to the state capital.



Farmers Training cum Exposure Visit on

BANANA

Jalgaon, Maharashtra

Banana (*Musa Sp.*) is a large perennial herb with leaf sheaths that form trunk-like pseudostem with global 86 million tonnes of production. Banana has its origin in the tropical region of South East Asia. Banana is a nutritious gold mine. They are high in Vitamin B6, which helps fight infection and is essential for the synthesis of heme, the iron-containing part of Haemoglobin. In India, it supports the livelihood of millions of people in production, logistics and retailing. It accounts for 13% of the total area and 33% of the production of fruits. Production is highest in Maharashtra (3924.1 thousand tonnes) followed by Tamil Nadu (3543.8 thousand tonnes). Within India, Maharashtra has the highest productivity of 65.70 metric tonnes / ha. against national average of 30.5 tonnes / ha. The other major banana producing states are Karnataka, Gujarat, Andhra Pradesh, and Assam. Jalgaon is the major Banana growing district in Maharashtra which occupies 50,000 hectares area under this crop. But most of Banana is grown by planting suckers. The technology development in agriculture is very fast, and the latest method of banana cultivation is through Tissue Culture Technique. Farmers can get exposure to modern banana cultivation at Jalgaon. Tissue culture has proven revolutionary for banana farming in India.



Highlights of the Study Tour:

1. To see hi-tech farming and the use of improved varieties and farm resources
2. Training tissue culture-based cropping and use of drip systems
3. Training on micro-irrigation systems

Technical Study Tour visits:

1. Visit to Jain Irrigation Systems Ltd. Jalgaon, Maharashtra
2. Visit to Jain hills Jalgaon for tissue culture excellence in Banana
3. Visits to MPKV, Banana Research Station, Jalgaon
4. Visit to adjoining banana model farms

Expected outcomes of the event:

1. Adoption of advanced practices and high tech farming
2. Awareness about tissue culture in banana at Jain, Jalgaon
3. Adoption of improved methods, techniques and practices in production, extension, marketing, and value chain



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Jalgaon.
- Overnight in Jalgaon.

Day 3: JISL, Jalgaon

- Visit to JISL, Plastic Park, Jalgaon.
- Communication session with experts on Jains Products and Services.
- Training on micro-irrigation systems and their role in the booming agricultural economy in India.
- Overnight in Jalgaon.

Day 5: Jalgaon.

- Visit to JISL Food Park, Jalgaon.
- Training on the processing of banana and fruits at Jain Food Park.
- Overnight in Jalgaon.

Day 6: Jain Hills, Jalgaon.

- Visit to Jain Agri Park Jalgaon.
- Training on tissue culture technology in India.
- Interaction with the biotech experts on tissue culture in Banana.
- Overnight in Jalgaon.

Day 7: MPKV, Banana Research Station.

- Visit MPKV, Banana research Station.
- Training on high tech farming and tissue culture in Banana.
- Training on IPM practices to be followed in Banana.
- Overnight in Jalgaon.

Day 8: MPKV, Banana Research Station.

- Training on nutrition and intercropping in banana.
- Training on ongoing projects at the research station.
- Training on natural resource management.
- Overnight in Jalgaon.

Day 9 & 10: Jalgaon to the state capital.

- Back Journey to the state capital.



Farmers Training cum Exposure Visit on

CITRUS

National Research Centre for Citrus, Nagpur

Mandarin orange (*Citrus reticulata*) grows successfully in all tropical and subtropical parts of the country. It tolerates more humidity in summer and winter than the sweet orange. One of the well-known specialties of Nagpur is the world-famous Nagpur orange, the cultivation of which in the Vidarbha Region of Maharashtra has brought indispensable glory to the region. The orange is cultivated in 80000 hectares of area in Vidarbha with a total production of nearly 5 lakh tonnes. Nagpur orange in Nagpur district is cultivated in 20,965 hectares area. Moreover the National Research Centre for Citrus, Nagpur is continuously updating farmers with the latest technologies through quality research programs. Thus farmers from different parts of the country can get quality exposure and learn by an exposure visit to Nagpur, which could be very useful for farmers from economic point of view.

Highlights of the Study Tour:

1. To see high tech farming and use of improved varieties for Nagpur oranges
2. Training on citriculture
3. Training on tissue culture and germ plasm for developing disease-resistant varieties of mandarins

Technical Study Tour visits:

1. National Research Centre for Citrus, Shankar Nagar Amravati Road, Nagpur
2. Visits to adjoining farmer's fields and interaction with local farmers for cultural practices followed
3. Shri. Shivaji College of Horticulture, Amravati

Expected Outcome of the event:

1. Adoption of advanced practices and the use of improved varieties
2. Awareness about post-harvest management and crop diversification in citrus and their impact on income levels
3. Adoption of improved methods, techniques and practices in production, extension, marketing, and value chain



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Nagpur.

Day 3 and 4: Delhi to Nagpur

- Arrival at Nagpur.
- Overnight at Nagpur.

Day 5: Nagpur

- Visit to National Research Centre for Citrus.
- Training on citriculture.
- Overnight in Nagpur.

Day 6: Nagpur

- Visit to nearby farmers fields to study their cultivation practices for citrus.
- Interaction with farmers of adjoining areas for better crop production.
- Evening travel to historical places in Nagpur.
- Overnight in Nagpur.

Day 7: Nagpur

- Training on citriculture marketing tips.
- Discourse with scientists & Experts.
- Visit local sightseeing at Nagpur.
- Overnight in Nagpur.

Day 8: Nagpur

- Exposure visit to the National Bureau of Soil Survey and Land Use Planning (NBSS & LUP).
- Visit to CICR, Nagpur.
- Overnight in Nagpur.

Day 9 & 10: Amravati to Delhi

- Return to state capital.



Farmers Training cum Exposure Visit on

LITCHI

Tirhut College of Agriculture, Dholi, Muzaffarpur

India and China account for 91% of the world's litchi production but it is mainly marketed locally. In India, it occupies an area of 71.9 thousand hectares in India with an annual production of 423.4 thousand million tonnes. Bihar is the largest producer of litchi followed by West Bengal, Western U.P. and by Punjab. About 70 % of all Litchi produced in India is grown in Bihar. The number of farmers in the state growing litchis has increased in the last decade, especially the Muzaffarpur district. The famous Shahi Litchi of Muzaffarpur is an exclusive brand of Bihar. The state is moving to claim the brand name under IPR laws. Studies have shown that litchi can become a very good cash crop for farmers from other states with similar climatic conditions. Litchi is a rich source of sugars and minerals like Calcium, Phosphorus and vitamins particularly riboflavin (Vit B2).



TENTATIVE ITINERARY:

Day 1:

- Depart from state to Delhi.
- Visit to IARI facilities at Pusa.
- Overnight at IARI Pusa.

Day 2 & 3: Delhi to Muzaffarpur.

- Arrival at Muzaffarpur.
- Overnight at Muzaffarpur.

Day 4: Muzaffarpur

- Visit to Tirhut College of Agriculture Dholi, Muzaffarpur.
- Training on Litchi cultivation and interaction with concerned faculty.

Day 5: Muzaffarpur

- Visit to nearby farmers fields to study their cultivation practices for Litchi.
- Interaction with farmers of adjoining areas for better crop production.

Day 6: Muzaffarpur to RAU, Samastipur

- Visit to Litchi farms on the way to Samastipur.
- Overnight in Samastipur.

Day 7: Samastipur

- Visit to Rajendra Agriculture University, Pusa Samastipur.
- Training on High-Tech horticulture for Litchi.
- Interaction with scientists and technical staff for cultivation practices in litchi.
- Overnight in Samastipur.

Day 8: Samastipur to Birauli

- Visit to Horticulture Research Station, Birauli.
- Training on ongoing research projects and interaction with Horticulture specialties.

Day 9 & 10: Samastipur to Delhi

- Arrival in Delhi.
- Overnight at IARI Pusa.
- Return to respective destinations.

Highlights of the Study Tour:

1. To see High-Tech Farming and use of improved varieties for Litchi.
2. Training on Litchi cultivation.
3. Training on the latest projects and research activities taking place in RAU and allied institutes.

Technical Study Tour visits:

1. Tirhut College of Agriculture Dholi, Muzaffarpur.
2. Visits to adjoining farmers' fields and interaction with local farmers for cultural practices followed.
3. Visit to RAU, Pusa Samastipur and Horticulture Research Station, Birauli, Samastipur.

Expected outcomes of the event:

1. Adoption of advanced practices and the use of improved varieties.
2. Awareness about post-harvest management and crop diversification in Litchi and their impact on income levels.
3. Awareness about the ongoing projects and research activities on litchi.



Farmers Training cum Exposure Visit on

POTATO

Central Potato Research Institute, Kufri, Shimla

Potato is considered as the 'King' in food staples and hardly any domestic kitchen is available where it is not used routinely in one form or the other. It contains starch, sugar, cellulose, crude fiber, pectic substances, Protein, amino acids, organic acids, lipids, Vitamin C, enzymes, minerals (P, Ca, Mg, K, Fe, S, Cl), etc. considered useful for human health. Potatoes being a fast-growing crop fit well in different multiple and intercropping systems. On account of its short duration and high yield potential character, potato is called a cash crop. Potato is the most widely grown vegetable crop in the country with a share of 25.7 percent. The area under potato cultivation is 1.4 million ha with a total production of 25mt. The main varieties of potato grown in the country are Kufri Chandramukhi, Kufri Jyoti, Kufri Badshah, Kufri Himalani, Kufri Sindhuri, Kufri Lalima, etc. Central Potato Research Institute, Kufri, Shimla is a premier research institute working with a mandate of research activities in potato cultivation. Till now, the institute has come up with a number of varieties which bring revolution in potato cultivation. Adjoining areas of Shimla district are very famous for quality potato cultivation. Potato is grown here fetch more prices in the market and usually known as 'Pahari Alloo'. Farmers can learn about quality potato production techniques along with the multiple cropping systems which can be adopted.

Highlights of the Study Tour:

1. To identify location specific and economically viable potato crops
2. To familiarize with the disease and pest resistant varieties of Potatoes
3. Imparting training to the farmers on the latest practices and cultivation techniques for Potato

Technical Study Tour visits:

1. Central Potato Research Institute, Kufri, Shimla
2. Department of Vegetable crops, Dr. Y S Parmar University of Horticulture and Forestry, Solan
3. Field visit to see vegetables grown in the area and interaction with farmers
4. Horticulture Research Station, Mashobra

Expected Outcome of the event:

1. Adoption of advanced practices in Potato farming and the use of improved varieties and farm resources
2. Awareness about the benefits of Potato production as a cash crop
3. To learn about the multiple and inter cropping systems in Potato



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Shimla - Overnight at Shimla.

Day 3: CPRI, Shimla

- Visit to CPRI, Kufri, Shimla.
- Training on common packages and practices followed for potato cultivation in CPRI.
- Interaction with a scientist for farmer's queries.
- Overnight at Shimla

Day 4: CPRI, Shimla

- Visit to CPRI, Kufri, Shimla.
- Training on high tech farming followed for Potatoes.
- Training on disease/pest management activities followed and make farmers aware of the disease-resistant varieties developed in CPRI.

Day 5: Shimla to Theog.

- Visit to adjoining farmer's field at Theog area for practical exposure to farm practices adopted in the area.
- Interaction with local farmers to know the technical issues and care to be taken during Potato cultivation.

Day 6: Shimla to Solan.

- Visit to Dr. Y S Parmar UHF, Nauni Solan.
- Training on nursery management and package practices for Potato cultivation.
- Visit to farmers fields in the Solan region.
- Overnight in Solan.

Day 7: Solan to HRS, Mashobra, Shimla

- Visit to Horticulture research Station Mashobra.
- Visit to horticulture farm to see major crops grown in the area.
- Interaction with scientists and technical staff for imparting knowledge on-farm practices.
- Overnight in Shimla

Day 8: Shimla

- Recreational tour to the queen of hills town Shimla to seeworld - famous mall road, Jakhu temple and other places of utmost importance.
- Overnight at Shimla.

Day 9 & 10: Shimla to State

- The return journey to their own destination.



OFF SEASON VEGETABLES

Dr. Y S Parmar University of Horticulture and Forestry, Solan

Himachal Pradesh is also known as the basket of fruits and vegetables. Due to its wide range of agro-climatic conditions, a number of fruits and vegetables can be grown in the region. In the last few years, farmers from the mid-hill region of Solan and Shimla district are fetching very good prices of their off-season vegetable production. Government institutions such as Dr. Y S Parmar University of horticulture and Forestry, Nauni Solan is providing every possible help to the farmers for developing new technologies. Major commercial vegetable crops that are grown in the region are Capsicum, Potato, Peas, Cabbage, Cauliflower, Tomato, Radish and Carrot, etc. Farmers can be benefited from the new ideas of farming systems and practices undergoing off-season production and learn the pesticide risk if crops are more affected by pests and diseases and farmers do not handle pesticides correctly.



Highlights of the Study Tour:

1. To identify location specific and economically viable off-season vegetable crops
2. To familiarize with the disease and pest resistant varieties of off-season vegetables
3. Imparting training to the farmers on the latest practices and cultivation techniques for vegetables

Technical Study Tour visits:

1. Department of Vegetable crops, Dr. Y S Parmar University of Horticulture and Forestry, Solan
2. Field visit to see vegetables grown in the area and interaction with farmers
3. Krishi Vigyan Kendra, Kandaghat to see vegetable farm and nursery of off-season vegetables

Expected outcomes of the event:

1. Adoption of advanced practices in off-season vegetable farming and the use of improved varieties and farm resources
2. Awareness about the benefits of off-season vegetable production
3. Adaptation to better land and resource utilization



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Delhi.
- Visit to IARI facilities at Pusa.
- Overnight at IARI Pusa.

Day 3: Delhi to Solan

- Arrival at Y S Parmar.
- Overnight at the university campus.

Day 4: Solan

- Visit to vegetable crops department of Y S Parmar University.
- Training on common packages and practices followed for off-season vegetables.
- Interaction with Scientists and technical staff of the vegetable department for solving farmers queries on technical issues.
- Overnight in Solan.

Day 5: Solan

- Visit to adjoining farmer's field for practical exposure to farm practices adopted in the area.
- Interaction with local farmers to get acquainted with the technical issues and care to be taken during off-season vegetable production.
- Overnight in Solan.

Day 6: Solan

- Visit to KVK Kandaghat.
- Training on nursery management for off-season vegetables.
- Visit to farmers fields in the Kandaghat region.
- Overnight in Shimla.

Day 7: Shimla

- Visit to off-season vegetable farms in the shogi area.
- Interaction with the farmers for management practices to be followed.

Day 8: Shimla

- Day for local travel in Shimla and Jakhu Temple.
- Overnight in Shimla

Day 9: Shimla to Delhi

- Arrival in Delhi
- Overnight at IARI Pusa.

Day 10: Delhi to State

- Visit to Indo-Israel Project at IARI Pusa.
- Overnight at IARI Pusa.
- Return to the state capital.

Farmers Training cum Exposure Visit on

MUSHROOM

Directorate of Mushroom Research, Chambaghat, Solan

At present, 3 mushrooms are being cultivated in India. These are the white mushroom (*Agaricus bisporus*), the paddy-straw mushroom (*Volvariella volvacea*) and the oyster mushroom (*Pleurotus sajor-caju*). Of these, *A. bisporus* is the most popular and economically sound to grow and is extensively cultivated throughout the world. However, due to its low-temperature requirement, its cultivation is restricted to the cool climatic areas and to the winter in the plains of Northern India. In summer, the tropical paddy-straw mushroom is suitable for growing in most parts of India. Even then, it is less attractive commercially, owing to very low yield per unit weight of the substrate and for extremely short shelf life. Solan is famous for mushroom cultivation; it is also known as the mushroom city of India. Directorate of Mushroom Research previously known as National Centre for Mushroom Research and Training, NCMRT Chambaghat, Solan is working with a mandate of carrying out research, training, and extension on all aspects of mushrooms in the country. The Centre besides conservation and maintenance of the germplasm of edible fungi has strengthened its activities on improving the strains and the crop husbandry practices of the button mushrooms accelerated the programs on diversification of species and have generated valuable information on oyster, shiitake, black ear, and giant mushroom. The Centre is also regularly conducting training and extension activities.

Highlights of the Study Tour:

1. To identify location specific and economically viable mushroom species
2. To familiarize with the disease and pest resistant varieties of Potatoes
3. Imparting training to the farmers on the latest practices, spawn production and market awareness

Technical Study Tour visits:

1. Directorate of Mushroom Research, Chambaghat, Solan
2. Department of Mycology and Plant Pathology, Dr. Y S P Univ. of Horticulture and Forestry, Solan
3. Visit to spawn production lab in bypass road, Solan

Expected Outcome of the event:

1. Adoption of advanced practices in mushroom farming and the use of improved strains/spawn and farm resources
2. Awareness about the benefits of mushroom as a cash crop
3. To learn about the entrepreneurship development by adopting mushroom cultivation



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Solan.
- Overnight at Solan.

Day 3: DOMR, Chambaghat, Solan

- Visit to Directorate of Mushroom Research, Chambaghat, Solan.
- Training on common packages and practices followed for mushroom cultivation.
- Interaction with a scientist for farmer's queries.

Day 4: DOMR, Chambaghat, Solan

- Training on spawn production technique.
- Training on disease/pest management activities followed and make farmers aware of the disease-resistant cultivars for a different region.

Day 5: Solan

- Visit to adjoining the mushroom industry for practical exposure to farm practices adopted in the area.
- Interaction with local farmers to become well versed with the technical issues and care to be taken during mushroom cultivation.

Day 6: Solan to Nauni.

- Visit to Dr. Y S Parmar UHF, Nauni Solan.
- Training on spawn production and package practices for mushroom cultivation.
- Interaction with a mushroom expert in the department of mycology and plant pathology.

Day 7: Solan

- Visit to spawn production lab.
- Training on spawn production techniques and common practices.
- Interaction with technical staff for imparting knowledge on-farm practices.

Day 8: Kandaghat

- Visit to KVK Kandaghat.
- Training on nursery management for vegetables and fruit crops.
- Visit to farmers' fields in the Kandaghat region.

Day 9: Solan

- Recreational tour of mushroom city Solan to see Shoolini temple, Jawahar park, Bon Monastery.

Day 10: Solan to State

- The return journey to the state capital.



MEDICINAL PLANTS

Central Institute of Medicinal and Aromatic Plants, Lucknow & Kanpur

India is endowed with a rich wealth of medicinal plants. These plants have made a good contribution to the development of ancient Indian materia medica. One of the earliest treatises on Indian medicine, the Charka Samhita (1000 B.C), records the use of over 340 drugs of vegetable origin. Most of these continue to be gathered from wild plants to meet the demand of the medical profession. Thus, despite the rich heritage of knowledge on the use of plant drugs, little attention had been paid to grow them as field crops in the country until the latter part of the nineteenth century. Thus efforts were made to introduce many of these drug plants into Indian agriculture, and studies on the cultivation practices were undertaken for those plants which were found suitable and remunerative for commercial cultivation. In general, agronomic practices for growing poppy, Isabgol, Senna, cinchona, ipecac, belladonna, ergot, ashwagandha, and a few others have been developed and there is now localized cultivation of these medicinal plants commercially. Central Institute of Medicinal and Aromatic Plants (CIMAP) is a multidisciplinary multi-location R & D institute dedicated to the cause of medicinal and aromatic plant research, cultivation and business. The techniques developed here can bring huge benefits to the farmers in other states for large scale adoption of medicinal and aromatic plants.



Highlights of the Study Tour:

1. To learn advanced cultivation practices for medicinal and aromatic plants
2. To identify location specific and economically viable different crops
3. To learn about the new varieties and technologies for medicinal plants

Technical Study Tour visits:

1. Central Institute of Medicinal and Aromatic Plants, Lucknow
2. Visits to adjoining farmer's fields and interaction with local farmers
3. Visit to CDRI, NBRI and Horticulture Institute(CISH), Lucknow

Expected outcomes of the event:

1. Adoption of advanced practices and the use of improved varieties
2. Awareness about post-harvest management and crop diversification in medicinal plants and their impact on income levels
3. Adoption of improved methods, techniques and practices in production, extension, marketing, and value chain



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Lucknow.
- Overnight at Lucknow.

Day 3: Lucknow

- Visit to CIMAP campus.
- Training on common packages and practices followed for medicinal and aromatic plants.
- Interaction with Scientists and technical staff for solving farmers queries on technical issues.
- Overnight in Lucknow.

Day 4: Lucknow

- Visit to Central Institute of Subtropical Horticulture(CISH).
- Training on the latest technologies released by CISH for subtropical fruits.
- Overnight in Lucknow.

Day 5: Lucknow

- Visit to National Botanical Research Institute, Lucknow.
- Interaction with scientists on the latest R & D projects running in NBRI.
- Overnight in Lucknow.

Day 6: Overnight in Lucknow

- Visit to Biotech Park, Lucknow, learn about Improvement in the quality and yield of crop, horticulture, and forest tree species, biopesticides and biofertilizers, processed food and quality enhancers.
- Overnight Lucknow.

Day 7 & 8: Overnight in Kanpur

- Visit to Central Drug Research Institute, Kanpur.
- Training on post-harvest management practices followed for medicinal and aromatic plants.
- Visit to Phool Bagh Kanpur.
- Overnight Kanpur

Day 9 & 10: Back Journey

- Return to the state capital.

VEGETABLE SEED PRODUCTION

Regional Research Station, Bajaura, Kullu

Vegetable seed production is a major part of Indian Agriculture in terms of providing high-value food and nutritional security. In the recent past, Indian Agriculture has witnessed tremendous progress in vegetable production due to the development of high yielding varieties, new technologies and marginal increase in the area of certain vegetables. Thus, the availability of quality seeds of improved cultivars is considered crucial for realizing the productivity and adoption of cultivars in different agro-climatic conditions. The quality of seed alone is known to account for at least a 10-15% increase in productivity (ICAR 1993). However, the lack of quality seed continues to be one of the greatest impediments to bridging the vast yield gap. Therefore, to approach the potentially realizable yield of a cultivar, the production and distribution of quality seed are essential. The Regional Research Station, Bajaura was established in 1962 as a Research Station of the Punjab Agriculture University Ludhiana. It was later transferred to the Himachal Pradesh Krishi Vishwvidyalaya (Himachal Pradesh Agriculture University) in 1978. The station is working on a mandate of developing improved varieties of important cereals, pulses and oilseed crops with special emphasis on the development of hybrid varieties of maize and vegetable crops. Kullu valley also includes research farms of seed companies like Nun hems, Sun agro, etc. Farmers can get benefited from an exposure visit to Kullu valley while learning new horizons of high-quality seed production.



Highlights of the Study Tour:

1. To identify location specific and economically viable crops
2. To familiarize with the disease and pest resistant varieties of vegetables and other commercial crops
3. Imparting training to the farmers on the latest practices and cultivation techniques for seed production

Technical Study Tour visits:

1. Regional Research Station, Bajaura, Kullu
2. Research Station (ICAR), Katrain, Kullu
3. Nun Hems vegetable seed production farm, Naggar, Manali

Expected Outcome of the event:

1. Adoption of advanced practices in seed production farming and the use of improved farm resources
2. Awareness about the benefits of seed production
3. Adaptation to better land and resource utilization



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Kullu, Himachal Pradesh.
- Overnight at Kullu.

Day 3: Kullu

- Visit to Regional Research Station, Bajaura.
- Training on seed production for vegetables and cereals.
- Interaction session with the breeders and technicians.

Day 4: Kullu to Katrain.

- Visit to Research Station, Katrain.
- Training on common packages and practices followed for seed production in vegetables.
- Interaction with Scientists and technical staff of the seed production department for solving farmers' queries on technical issues.
- Overnight in Kullu.

Day 5: Kullu to Naggar Farm, Manali.

- Visit to Naggar seed production farm (Nun hems) for practical exposure to farm practices adopted by professional breeders.
- Interaction with local farmers to learn technical issues and care to be taken during vegetable seed production.
- Overnight in Manali.

Day 6: Seobagh

- Visit to Regional horticulture Sub Station, Seobagh.
- Training on irrigation practices (micro) and detail of the fruit crops grown in the area.
- Visit to apple farms and awareness about the dwarf varieties and IPM practices followed.
- Overnight in Kullu.

Day 7: Kullu to Patli Kuhl

- Visit to farmer's field in Patli Kuhl for exposure on various crops including vegetables and sub-temperate fruits.
- Interaction with the farmers for management practices to be followed.

Day 8: Kullu and Manikaran

- Day for local travel in Kullu and Manikaran areas, evening in Dhalpur maidan famous for Kullu Dushehra, Shani temple, etc.
- Overnight in Kullu.

Day 9 & 10:

- Return to the state capital.

ADVANCED HORTICULTURE

G B Pant University of Agriculture and Technology, Pantnagar

Uttarakhand has almost all the different agro-geo climatic zones making it particularly conducive to commercial horticulture and floriculture. Floriculture is being developed in a big way in order to meet the demand of both - the domestic as well as foreign markets. The climate is ideal for growing flowers all round the year. Hence, it has been proposed to establish floriculture parks with common infrastructure facilities for sorting, pre-cooling, cold chain, processing, grading, packing and marketing facilities. Horticulture is also being promoted in a big way through adequate incentives and facilities to the industry. The G.B. Pant University is a symbol of successful partnership between India and the United States. The establishment of this university brought about a revolution in agricultural education, research, and extension. It paved the way for setting up of 31 other agricultural universities in the country. Farmers can get useful exposure by training cum exposure visits to the university campuses on advanced horticulture like floriculture, fruit science, and new technologies and developments.



Highlights of the Study Tour:

1. To learn advanced cultivation practices for Horticulture crops
2. To identify location specific and economically viable different crops
3. To learn about the new varieties and technologies for the cultivation of horticulture crops

Technical Study Tour visits:

1. G B Pant University of Agriculture and Technology
2. Horticulture Research and Extension Centre, Ranikhet, Almora
3. Vegetable Research and Extension Centre, Gagar, Nainital

Expected outcomes of the event:

1. Adoption of advanced practices and the use of improved varieties
2. Awareness about post-harvest management and crop diversification in fruits, vegetables and flowers and their impact on income levels
3. Adoption of improved methods, techniques and practices in production, extension, marketing, and value chain



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Pantnagar.
- Overnight at Pantnagar.

Day 2: G B Pant University of A & T.

- Visit to GBPUAT campus.
- Visit to different departments of campus to learn about the research and development activities.
- Interaction with Scientists and technical staff for solving farmers' queries on technical issues.
- Overnight in Pantnagar.

Day 3: G B Pant University of A & T.

- Visit to the Department of Horticulture.
- Training on the latest technologies and varieties developed at the campus for major horticulture crops.
- Overnight in Pantnagar.

Day 4: G B Pant University of A & T.

- Visit to horticulture farm at GBPUAT.
- Interaction with technical staff and field exposure to major crops grown.

Day 5: Horticulture Research and Extension Centre, Ranikhet, Almora.

- Visit to local farmer's field on the way to HREC, Ranikhet.
- Interaction with local farmers and exposure to different crops grown in the area.

Day 6: Overnight in Almora

- Visit to HREC, Ranikhet, Almora.
- Training on flowers and fruits cultivation and their commercial aspects for the near future.
- Visit to HREC farms for practical exposure.
- Overnight in Almora.

Day 7: Vegetable Research and Extension Centre, Gagar, Nainital

- Visit to farmer's field on the way to VREC, Gagar, and Almora.
- Interaction with local farmers and exposure to different crops grown in the area.
- Overnight in Nainital.

Day 8: VREC, Gagar, Nainital

- Visit to VREC, Gagar, Nainital.
- Training on vegetable cultivation and its commercial aspect for the near future.
- Visit to VREC farms for practical exposure.
- Overnight in Nainital.

Day 9: Nainital:

- A day for local travel in Nainital to the places of interest.
- Overnight in Nainital.

Day 10: Back Journey

- Back journey to respective destinations.



NURSERY MANAGEMENT IN HORTICULTURE

Kullu and Manali in Himachal Pradesh

One of the most critical factors in quality management and commercial farming in horticulture is the management of the nursery. The aim of good nursery management is to provide planting material of the highest possible quality for new development areas and replanting. This aim is of the greatest importance as the areas planted are likely to have a productive life span of 25 years or more. Poor planting material will lead to low yield and unnecessary thinning cost top rid off runs in the planted field. So, the selection of good planting materials and strict culling in the nursery are an important step. The importance of the best quality planting material as an initial investment is a well-realized factor for persons engaged in the Horticulture field. Managing a production nursery involves more than just propagating and potting plants. Even the small nursery must be able to not only produce plants but also make it available at a predetermined cost, then sustain those plants before and during marketing. The nursery industry currently has a real need for people with skills and knowledge in managing production plant nurseries. So, nurseries have great demand for the production of plants, bulbs, rhizomes, suckers, and grafts. But in general, good quality and assured planting material at a reasonable price are not available. The nursery exposure and training is a must to those involved in horticulture production for a solid grounding for developing those skills.

Highlights of the Study Tour:

1. To understand how site characteristics influence the establishment and management of wholesale nurseries.
2. To learn management structures and work schedules in wholesale nurseries.
3. To learn about the management of pests and diseases and plant nutrition in production nurseries.
4. To learn the techniques and equipment used to irrigate plants in nurseries.
5. To know the strategies used by production nurseries to increase sales and the economy involved in nursery.

Technical Study Tour visits:

1. RHRS, Bajaura, Kullu.
2. Indo-Italian project under Directorate of horticulture, Bajaur.
3. RHRS, Seobagh, Kullu.
4. Visits to various private nurseries in Kullu and Manali areas.

Expected Outcome of the event:

1. Adoption and management of advanced techniques in the nursery for quality planting material.
2. Adoption of protected cultivation by the use of a low-cost greenhouse and poly house technologies.
3. Adoption of the improved methods, techniques, and practices in nursery management.
4. Adoption of advanced practices and high tech farming.



TENTATIVE ITINERARY:

Day 1 & 2:

- Travel from the state capital to Kullu.
- Overnight in Kullu.

Day 3: RHRS, Kullu

- Visit to Horticulture Research Station, Bajaura.
- Visit to Kesar Nursery, Panarasa, and mandi.
- Training on Floriculture and Landscape Management.
- Visit to some fields on the way.
- Overnight in Kullu.

Day 4: Kullu

- Visit to Indo-Italian Project, Bajaura.
- Visit to Roma and Aroma Nursery at Mohal and Shamshi, Kullu.
- Overnight in Kullu.

Day 5: Seobagh

- Visit to RHRS, Seobagh.
- Visit to Parashar Nursery at Seobagh.
- Visit to Gulab Nursery at Haripur.
- Dinner overnight in Kullu.

Day 6: Katrain

- Visit to Horticulture Research Station, Katrain.
- Meeting with officials and see horticulture farms Horticulture Research Station, Katrain.
- Visit to Renu Nursery at Naggar.
- Overnight in Manali.

Day 7: Manali

- Visit to Thakur Nursery at Dohlu Nala (near Raison).
- Visit to Sharma Nursery at Dhuvi.
- Overnight in Manali.

Day 8: Farm visit to local progressive entrepreneurs.

- Exposure visit to nearby farms near Manali.
- Evening free for leisure and shopping in Manali.

Day 9&10: Kullu

- Summing up of visits, discussions, and distribution of certificates to the trainees.
- Back Journey to the state capital.



Farmers Training cum Exposure Visit on

TISSUE CULTURE AND MICRO IRRIGATION

Jain Irrigation Systems Ltd. Jalgaon, Maharashtra

Jain irrigation systems ltd, Jalgaon is the pioneer of Micro Irrigation Systems in India. They are the only manufacturer of complete drip irrigation systems in the world. Globally second and the largest irrigation company in India, they are also a Total Agri-Service Provider. Jain irrigation systems ltd is a One-Stop high-tech agricultural shop. It hosts a sprawling 2000 acre Hi-Tech Agri Institute. They are also the largest manufacturer of Tissue culture Banana Plants in India. They have the largest pool of Agricultural scientists, Engineers & Technicians in the Private Sector. Farmers can get exposure to tissue culture and micro-irrigation systems at Jalgaon. Micro-irrigation and tissue culture have proven revolutionary for the development of agriculture in India, thus training farmers in Jalgaon would help them understand high-tech agriculture in a better way and increase their income substantially.



Highlights of the Study Tour:

1. To see hi-tech farming and the use of improved varieties and farm resources.
2. Training tissue culture-based cropping and use of drip systems.
3. Training on micro-irrigation systems.

Technical Study Tour visits:

1. Visit to Jain Irrigation Systems Ltd. Jalgaon, Maharashtra
2. Visit to Jain hills Jalgaon for tissue culture excellence in Indian Agriculture
3. Visits to adjoining farmer's fields and interaction with local farmers for cultural practices followed

Expected outcomes of the event:

1. Adoption of advanced practices and high tech farming
2. Awareness about different types of microirrigation systems at Jain, Jalgaon
3. Adoption of improved methods, techniques and practices in production, extension, marketing, and value chain



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Jalgaon.
- Overnight in Jalgaon.

Day 3&4:

- Visit to JISL, Plastic Park, Jalgaon.
- Communication session on Jains Products and Services.
- Overnight in Jalgaon.

Day 5: Jalgaon.

- Visit to JIST Plastic Park, Jalgaon.
- Training on micro-irrigation systems and their role in the booming agricultural economy in India.
- Overnight in Jalgaon.

Day 6: Jain Hills, Jalgaon.

- Visit to Jain Hills Jalgaon.
- Training on tissue culture technology in India.
- Interaction with the biotech experts on tissue culture in banana.
- Overnight in Jalgaon.

Day 7: Jain Hills Jalgaon.

- Farms visit of Jain farms for practical exposure on fruit production.
- Training on high tech farming and micro-irrigation systems at Jains Field.
- Overnight in Jalgaon.

Day 8: Jalgaon

- A day for local travel in Jalgaon and field visits to banana farms.
- Overnight in Jalgaon.

Day 9& 10: Jalgaon to the state capital.

- Back Journey to the state capital.



Farmers Training cum Exposure Visit on

FLORICULTURE

University of Agriculture Sciences, Bangalore

India has a long tradition of floriculture. The social and economic aspects of flower growing were, however, recognized much later. The offering and exchange of flowers on all social occasions, in places of worship and their use for the adornment of hair by women and for home decoration, have become an integral part of Indian living. With changing lifestyles and increased urban affluence, floriculture has assumed a definite commercial status in recent times and during the past 2-3 decades particularly. The commercial activity of production and marketing of floriculture products is also a source of gainful and quality employment to scores of people. The estimated area under flower growing in the country is about 65,000 hectares. The major flower growing states are Karnataka, Tamil Nadu and Andhra Pradesh in the South, West Bengal in the East, Maharashtra in the West and Rajasthan, Delhi, Himachal Pradesh and Haryana in the North. Karnataka is the leading state in terms of area and production. Farmers can learn advanced floriculture by training cum exposure visit to Karnataka.



Highlights of the Study Tour:

1. To see high tech farming and use of improved varieties for major flower crops
2. Training on cut and loose flower cultivation
3. Training on the latest projects and research activities taking place in UAS Bangalore and IIHR, Hesaraghatta, Bangalore

Technical Study Tour visits:

1. University of Agriculture Sciences, Bangalore
2. Visits to adjoining farmer's fields and interaction with local farmers for cultural practices followed
3. Visit the Indian Institute of Horticulture Research, Hesaraghatta, Bangalore

Expected Outcome of the event:

1. Adoption of advanced practices and the use of improved varieties
2. Awareness about post-harvest management and crop diversification for flowers (Cut and Loose) and their impact on income levels
3. Awareness about the ongoing projects and research activities in UAS and IIHR Bangalore



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Bangalore.
- Overnight at Bangalore.

Day 3: Bangalore.

- Visit to UAS, Bangalore.
- Interaction with faculty of the horticulture department at UAS.
- Overnight at Bangalore.

Day 4: Bangalore

- Visit to local floriculture farms and interaction with farmers.
- Training on flower cultivation.
- Overnight in Bangalore

Day 5: Bangalore

- Visit to International Flower Auction Ltd. Bangalore (IFAB).
- Training on online auction and export potential of the floriculture industry.
- Awareness of the development of the cold chain in flowers.

Day 6: Bangalore to IIHR, Hesaraghatta.

- Visit to IIHR Hesaraghatta.
- Interaction with faculty and training on ongoing projects for horticulture crops.
- Training on market intelligence and export of fruits, vegetables, and floriculture crops.
- Overnight in Bangalore

Day 7: Bangalore to Doddaballapur.

- Visit to Karuturi Global Ltd. Doddaballapur, Bangalore.
- Training on modern technologies for more productivity per hectare.
- Interaction with technical staff for cultivation practices of cut flowers.
- Overnight in Bangalore.

Day 8: Bangalore

- Visit to see Lalbagh garden Bangalore.
- Local travel to major historical places in Bangalore.

Day 9 & 10: Bangalore to State.

- Back journey to the state capital.



FLORICULTURE

Sikkim and Kalimpong (WB)

With over 4,000 species of plants and shrubs, around 7,000 varieties of rare orchids, rhododendrons and mountain flowers is not just a paradise for nature lovers, but also a very important center for floriculture. The rich biodiversity and diverse agro climate ranging from subtropical to Alpine type are the two factors that make the state the most preferred destination for floriculture. The flowers commercially grown in the State are Cymbidium Orchid, Rose, Lilium, Anthurium and Alstroemeria. The total area covered under different floriculture programme at present is approximately 2500 hectares consisting mostly of gladiolus, lilium and other traditional flowers. The total production of flowers during 2007-08 is 54,000 nos inclusive of both cut flowers and plant materials (mostly bulbs). The Horticulture and Cash Crop Envelopment Department has adopted a multi-pronged approach to bring about rapid and sustainable development of floriculture in the State. Elite planting materials imported from the Netherlands, Thailand, Korea and New Zealand are provided to farmers with technical know how along with other inputs like fertilizers, compost materials, and poly-greenhouse fitted with drip irrigation systems. Kalimpong is an important destination for those interested in floriculture. Exports from these hills started 5-6 decades back. Cut flower started trade over three decades back, the primary focus being Gladiolus. Today other cut flowers, besides Gladioli are anthuriums, Orchids particularly Cymbidiums, bulbous flowers of lilies, ornithogalum and other flowers like gerberas, carnations and greens like ferns are under production.

Highlights of the Study Tour:

This farmers' domestic training and exposure visit program will fulfill the objectives of-

1. To learn about the promising floriculture crops
2. To identify location specific and economic all able different crops
3. To learn about the appropriate planting material about different crops and their availability
4. To impart training on cultivation aspects of Cymbidium Orchid, Anthurium, Gerbera and Liliums
5. Impart training to the farmers about the latest technology developed by research institutes for the production of different crops

Technical Study Tour visits:

1. National Research Centre, Orchid, Sikkim
2. Tissue culture laboratory, State Department, Horticulture
3. Cymbidium Development centre, Rumtek
4. Integrated Pack House, Rangpo
5. Nagmi Farm Centre declared as Model Floriculture Centre
6. Field visits to see major crops grown in the area
7. To visit hi-tech integrated farms in different districts of Sikkim
8. Kalimpong Horticulture Society
9. Nurseries and Tissue culture laboratory, Kalimpong

Expected outcomes of the event:

1. Adoption of tissue culture technology for planting material production
2. Adoption of high-grade planting material
3. Technology adoption for pre-harvest management
4. Adoption of improved post-harvest management practices
5. Adoption of latest technologies for pack house establishment and management
6. Adoption of the improved methods, techniques, and practices in production, extension, marketing, and value chain



TENTATIVE ITINERARY:

Day 1&2: Sikkim

- Depart State capital New Jalpaiguri (NJP).
- NJP to Gangtok by bus.
- Shifted to NRC, Orchid.

Day 3 & 4: Sikkim

- Visit to various farms, Pack House, Green House Units, Research and Development Centre.
- Exposure visit to the Floriculture market.
- Training on flower management at the commercial level.
- Discussions with experts.
- Depart to Kalimpong.

Day 5 & 6: Kalimpong

- Visit to various nurseries and tissue culture labs.
- Visit to Kalimpong Horticulture Society.
- Training on flower management at the commercial level.
- Discussions with experts.
- Visit to the flower market.

Day 7 & 8: Darjeeling

- Exposure visit to Green Tea Garden.
- Return to State Capital.



Farmers Training Cum Exposure Visit Programs on LIVESTOCK



HONEY BEE FARMING

PAU, Ludhiana

Honey and beekeeping have a long history in India. Honey was the first sweetfood tasted by the ancient Indians inhabiting rock shelters and forests. They hunted bee hives for this gift of God. India has some of the oldest records of beekeeping in the form of paintings by prehistoric men in the rock shelters. With the development of civilization, honey acquired a unique status in the lives of Indians. The recent past has witnessed a revival of the industry in the rich forest regions along with the sub-Himalayan mountain ranges, Northern plains and the Western Ghats, where it has been practiced in its simplest forms. In India, beekeeping has been mainly a forest-based industry, though in certain pockets it is practiced on agricultural belts. Various challenges faced by both current and prospective beekeepers are also highlighted in the study. Lack of protection facilities regarding theft, lack of insurance coverage with respect to bees and bee boxes, indiscriminate use of pesticides, problems during the migration of honey bee colonies, harmful radiations from mobile towers, less awareness about government support, are found to be major limiting factors in pursuing beekeeping. Punjab Agriculture University and Forestry are working on research and activities related to bee farming. Farmers can get wide knowledge of ongoing research activities and exposure to practices for commercial beekeeping.

Highlights of the Study Tour:

1. To see high tech bee farming and use of location-specific bee species
2. Training on new bee flora and fauna for different ecosystems
3. Training on the latest projects and research activities taking place
4. Exposure to advanced practices of beekeeping and its management
5. Exposure to advanced packaging, processing and marketing systems

Technical Study Tour visits:

1. PAU, Ludhiana
2. Visits to adjoining Bee Farms and interaction with local farmers for cultural practices followed
3. Kashmir Apiaries Export
4. The honey processing unit and marketing systems at PAU, Ludhiana

Expected outcomes of the event:

1. Adoption of advanced practices and the use of improved techniques for beekeeping
2. Awareness about Diseases and Insect pest common to bee industry
3. Awareness about bee nutrition and flora for the bee industry
4. Understanding of marketing opportunities and adoption of the latest packaging and marketing systems



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Ludhiana, Punjab.
- Overnight at Punjab.

Day 3: PAU, Ludhiana.

- Training on Apiculture at PAU, Ludhiana.
- Training on ongoing projects on bee farming at Dept. of Entomology.
- Interaction with experts for farmers queries on practices to be followed.

Day 4: PAU, Ludhiana.

- Training on organic honey production.
- Training on flora and fauna suitable for different ecosystems.

Day 5: PAU, Ludhiana.

- Visit to Bee farms at Dept. of Entomology. Communication session with the technicians for updates on the latest practices to be followed.
- Awareness of market scenario and potential for honey as a commercial business.
- Overnight in Ludhiana.

Day 6 PAU, Ludhiana.

- Visit to Bee farm at Dept. of Entomology.
- Training on Apis mellifera and Apis dorsata feeding and rearing practices.
- Training on insects/pests common to bee industry and their management practices.

Day 7 : PAU, Ludhiana.

- Visit to other departments of PAU, Ludhiana.
- Training on modern technologies for more productivity per hectare.
- Imparting knowledge of major crops grown in the area.
- Overnight in Ludhiana.

Day 8: Kashmir Apiaries Export.

- Visit to beekeeping farms.
- Training on using bees as successful pollination in Agri and Horti crops.
- Honey Products at Kashmir Apiaries Export.
- Overnight in Ludhiana.

Day 9 & 10: Ludhiana.

- Departure from Ludhiana to the state capital
- Back journey to the state capital.



HONEY BEE FARMING PUNE

Central Bee Research Institute, Pune

CBRTI, Pune is working with a mandate of research and development activities with respect to beekeeping. This institution plays a major role in the development of the skills in the field of apiculture, as it provides training on the proper methods of rearing of honey bees and it also avoids the overexploitation of the honey bees by taking an equivalent amount of honey from the bees and giving the bees the amount of honey required for them to live and to feed their young ones with. Farmers can get a wide knowledge of ongoing research activities and practices for commercial beekeeping farming. They can also learn about the latest advancements in apiculture from this institute, which is one of its kind in Asia.



Highlights of the Study Tour:

1. To see high tech bee farming and use of location-specific bee species
2. Training on new bee flora and fauna for different ecosystems
3. Training on the latest projects and research activities taking place
4. Exposure to advanced practices of beekeeping and its management
5. Exposure to advanced packaging, processing and marketing systems

Technical Study Tour visits:

1. Central Bee Research Institute, Ganesh khind road, Pune
2. Visits to adjoining Bee Farms and interaction with local farmers for cultural practices followed.
3. Mahatma Phule Krishi Vidyapeeth, Pune. Visit to honey processing and marketing facilities.

Expected Outcome of the event:

1. Adoption of advanced practices and the use of improved techniques for beekeeping.
2. Awareness about Diseases and Insect pest common to bee industry.
3. Awareness about bee nutrition and flora for the bee industry.
4. Understanding of marketing opportunities and adoption of the latest packaging and marketing systems.



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Pune.
- Overnight at Pune.

Day 3: CBRTI, Pune.

- Visit to Central Bee Research Institute, Ganesh Khind Road, Pune.
- Training on ongoing projects on bee farming at CBRTI, Pune.
- Interaction with experts for farmers queries on practices to be followed.
- Overnight at Pune.

Day 4: CBRTI, Pune.

- Training on organic honey production.
- Training on flora and fauna suitable for different ecosystems.

Day 5: CBRTI, Pune.

- Visit to Bee farms at CBRTI, Pune.
- Communication session with the technicians for updating on the latest practices to be followed.
- Awareness of market scenario and potential for honey as a commercial business.

Day 6: CBRTI, Pune.

- Visit to Bee farm at CBRTI, Pune.
- Interaction with faculty and training on ongoing projects at CBRTI.
- Training on insects/pests common to bee industry and their management practices.

Day 7: Mahatma Phule Krishi Vidyapeeth, Pune.

- Visit to MPKV, Pune.
- Training on modern technologies for more productivity per hectare.
- Imparting knowledge of major crops grown in the area.
- Overnight in Pune.

Day 8: Pune.

- Visit to local bee farms adjoining Pune.
- Evening for local travel and sightseeing.
- Overnight in Pune.

Day 9& 10: Pune to state.

- Back journey to the state capital.

Farmers Training cum Exposure Visit on

DAIRY FARMING

Gujarat

The white revolution of the 70's had made spectacular landmarks in the Indian milk production scenario. India is the largest milk producer of the world and milk has been ranked as the number one farm commodity. Rural prosperity by dairy farming is the need of the hour. Livestock production is now turning on commercial lines, given the scope for employment, value addition, and profitability in this business. The higher production potential of the crossbred animals and its strong economics is directly linked to judicious feeding and management. IRMA was established in 1979 at Anand, Gujarat with the support of the Swiss Agency for Development Cooperation (SDC), the Government of India, the Government of Gujarat, erstwhile Indian Dairy Corporation and the National Dairy Development Board to provide management education, training, research, and consultancy support to co-operatives and rural development organizations in India. Farmers can be benefited by a visit to Anand, Gujarat for dairy technologies and dissemination and to IRMA for management support.

Highlights of the Study Tour:

1. To learn advanced practices of dairy management
2. To identify different breeds of milk animals with respect to different agro-climatic zones
3. To learn about the new technologies and practices in dairy management
4. To learn the value chain in dairy business from fodder to consumer

Technical Study Tour visits:

1. Institute of Rural Management, Anand
2. Visits to dairy farms at Anand for practical exposure to the dairy industry
3. Visits to the National Cooperative Dairy Federation of India Ltd., Anand
4. Visit to Amul India Plant, Anand
5. Visit to different farmers dairy farms

Expected outcomes of the event:

1. Adoption of advanced practices and the use of improved dairy cattle breeds
2. Awareness about feeding, diseases and pests and their management
3. Adoption of improved methods, techniques and practices in production, extension, and marketing
4. To take up dairy farming on a profitable basis



TENTATIVE ITINERARY:

Day 1 & 2: State/Anand, Gujarat

- Departure from State capital to Anand, Gujarat.
- Overnight in Anand.

Day 3: IRMA, Anand

- Exposure visit to various departments at IRMA, Anand.
- Training on different milch animals (Buffalo, Cows, and Goats) for the dairy industry.
- Training on genetic improvement of milch animals through identification and dissemination of superior germplasm.

Day 4: IRMA, Anand

- Training on fodder cultivation with respect to dairy Farming.
- Imparting knowledge to the farmers on diseases/pests common to the dairy industry.
- Training on fodder cultivation.

Day 5: NCDFI, Anand

- Visit to National Co-operative Dairy Federation of India, Anand.
- Training on the value chain and marketing with respect to the dairy industry.
- Imparting knowledge on cooperative, networking and marketing of dairy products.

Day 6: GCMMF, Anand

- Visit to Gujarat cooperative Milk Marketing Federation, Anand.
- Training on market potential of the dairy industry.
- Training on working of GCMMF and its advantages to dairy entrepreneurs.

Day 7: Anand Agriculture University, Gujarat

- Visit to different departments of GAU
- Discussions with technical staff on dairy management.
- Training on dairy products and their processing.

Day 8: Amul India Plant, Anand

- Visit to Amul India Plant, Anand.
- Imparting knowledge on dairy products like butter, cheese, paneer, curd, Pasteurized milk, etc.
- Discussion with experts for taking up dairy as a profession for farmers.
- Overnight in Anand.

Day 9&10: Back to State

- Return from Anand to State Capital.



DAIRY MANAGEMENT

National Dairy Research Institute, Karnal

Dairy Management enables experts to relentlessly work towards making dairy products reach almost each and every household of India, effortlessly and like clockwork. Running and managing a dairy needs the immaculate presence of mind, depth of knowledge and exceptional multitasking skills. The higher production potential of the crossbred animals and its strong economics is directly linked to judicious feeding and management. The National Dairy Research Institute as country's premier Dairy Research Institution has developed considerable expertise over the last five decades in different areas of Dairy Production, Processing, Management, and Human Resource Development. The information generated at the institute and the services offered have contributed to the growth of the dairy industry as a whole and well-being of millions of milk producers and consumers of milk and milk products. Realizing the challenging need of global Dairy Trade, the institute is continuously working to develop its R&D and HRD programs to better serve the nation in terms of food security, employment generation, poverty alleviation, and economic prosperity. NDRI, Karnal undertakes research, teaching and extension activities towards dairy development in the country. Being the national institute, it conducts basic and applied research with the objective to enhance animal productivity and also to develop cost-effective technologies. The Institute works in close liaison with the farmers, dairy industry as well as various national and international developmental agencies to assist the country in its dairy development plans.

Highlights of the Study Tour:

1. To learn advanced practices of the dairy industry
2. To identify different breeds of milk animals with respect to different agro-climatic zones of India
3. To get well versed in new technologies and practices
4. To learn the value chain in dairy business from fodder to consumer

Technical Study Tour visits:

1. National Dairy Research Institute, Karnal, Haryana
2. Visits to dairy farms at Kurukshetra for practical exposure to the dairy industry
3. Visits to adjoining farmers' fields and interaction with local farmers
4. Visit to milk processing centres in and around Karnal

Expected Outcome of the event:

1. Adoption of advanced practices and the use of improved dairy cattle breeds
2. Awareness about feeding, diseases and pests and their management
3. Adoption of improved methods, techniques and practices in production, extension, and marketing
4. To take up dairy farming on a profitable basis



TENTATIVE ITINERARY:

Day 1 & 2:

- Travel from the state capital to Karnal.
- Overnight in Karnal.

Day 3: NDRI, Karnal.

- Training on different varieties of milch animals (Buffalo, Cows, and Goats) for the dairy industry.
- Training on genetic improvement of milch animals through identification and dissemination of superior germplasm.

Day 4: NDRI, Karnal:

- Imparting knowledge to farmers on characteristics of different milch animals.
- Training on understanding of economics, marketing and using basic levels in cattle markets.

Day 5: NDRI, Karnal:

- Training on fodder cultivation with respect to dairy.
- Imparting knowledge to the farmers on diseases/pests common to the dairy industry and care to be taken to prevent cattle from these natural causes.

Day 6: NDRI, Karnal:

- Visit to dairy products processing plant
- Training on number of dairy technologies developed at NDRI e.g. Mozzarella cheese, Paneer/chain manufacturing plant, Rasogulla ball making plant, etc.

Day 7: NDRI to Dairy Farm Kurukshetra.

- Visit to dairy farm Kurukshetra for practical exposure to the dairy industry.
- Interaction with technical staff on common practices and care to be taken while running the dairy industry.
- Training on dairy products and their processing.
- Overnight in Karnal.

Day 8: Farm visit to local progressive dairy entrepreneurs.

- Exposure visit to nearby dairy farms in the Karnal area.
- Interaction with local farmers regarding the technical issues in the dairy industry.
- Overnight in Karnal.

Day 9: NDRI, Karnal to New Delhi.

- Summing up of visits, discussions, and distribution of certificates to the trainees.
- Journey to New Delhi.
- Overnight in New Delhi.

Day 10: Back to state Capital.

- Back Journey to the state capital.



Farmers Training cum Exposure Visit on

FISHERIES

Central Institute of Fisheries Education, Rohtak, Haryana

Harnessing the rivers for irrigation and hydro-electric power generation has been the main focus of developmental activities in India after independence. Consequently, a number of small, medium and large rivers valley projects came into existence with the primary objective of storing the river water for irrigation, power generation and a host of other activities. One of the direct results of these projects was the creation of a chain of man-made lakes, dotting the Indian landscape from Kashmir to Kanya kumari and Bengal to Gujarat. The man-made lakes built along traditional village ponds hold tremendous potential for inland fisheries development in India. However, this vital resource is not contributing to the inland fish production of the country to the extent it should. Unlike the rivers, which are under the increasing threat of environmental degradation, the reservoirs offer ample scope for fish yields through the adoption of suitable management practices. Central Institute of fisheries education (CIFE), the only Deemed University for fisheries in India, is the institution of higher learning for fisheries science. CIFE has over four decades of leadership in HRD. Its Rohtak Centre is known for its expertise in research and extension of fisheries production technologies and practices. Fisheries can be a fruitful profession for small landholding farmers in most parts of the country.



Highlights of the Study Tour:

1. To learn advanced practices for fish farming
2. To identify different breeds of fishes with respect to different agro-climatic zones of India
3. To learn entrepreneurship in Fish Processing & Value Addition
4. To successfully and profitably take up fish farming

Technical Study Tour visits:

1. Central Institute of Fisheries Education, Rohtak, Haryana
2. Visits to Sultan Fish Seed Farm at Karnal for practical exposure on quality fish seed production
3. Visits to adjoining fish farms and interaction with local producers

Expected outcomes of the event:

1. Adoption of advanced practices and use of location-specific breeds
2. Awareness about diseases and pests common to fish industry and their impact on income levels
3. Adoption of improved methods, techniques and practices in production, extension, marketing, and fish products



TENTATIVE ITINERARY:

Day 1 & 2:

- Travel from state to Rohtak.
- Overnight in Rohtak.

Day 3: CIFE, Rohtak

- Training on quality enhancement of fish production.
- Training on Fisheries Genetics & Biotechnology through the identification and dissemination of superior germplasm.

Day 4: CIFE, Rohtak

- Imparting knowledge to farmers on characteristics of different fish breeds.
- Training on understanding of economics, marketing and using basic levels in fish markets.

Day 5: CIFE, Rohtak

- Training on harvest and post-harvest technologies with respect to fisheries.
- Imparting knowledge to the farmers on diseases/pests common to fish industry and care to be taken to prevent the crop from these natural causes.
- Overnight in Rohtak.

Day 6: Rohtak

- Exposure visit to nearby fish farms in the Rohtak area.
- Interaction with the progressive growers for technical issues with respect to fisheries.
- Overnight in Rohtak.

Day 7: Sultan Fish Seed Farm, Karnal.

- Visit to Sultan Fish Seed Farm, Karnal for practical exposure on fish seed production.
- Interaction with technical staff on common practices and care to be taken while seed rearing.
- Overnight in Karnal.

Day 8: Sultan Fish Seed Farm, Karnal.

- Training on fish diseases and fish nutrition to the trainees.
- Imparting knowledge on fish culture, breeding and aquaculture systems.
- Overnight in Karnal.

Day 9 & 10: Karnal to New Delhi.

- Back Journey to the state capital.



Farmers Training cum Exposure Visit on

SERICULTURE

Central Sericulture Research and Technology Institute, Mysore

Silk is one of the oldest fibers known to man and remains as the most loved fiber, the world over. With its unparalleled grandeur, the silk fabric has reigned as the undisputed “The Queen of Textiles” over the centuries. Sericulture, the technique of silk production, is an agro-industry, playing an eminent role in the rural economy of India. Silk-fibre is a protein produced from the silk-glands of silkworms. The annual production of silk in the world is estimated at 45,000 tonnes of which Japan and China contribute 18,936 and 13,200 tonnes respectively. South Korea, USSR, and India are the other leading Sericultural countries in the world. Five varieties of silkworms are reared in India for producing this natural fiber. *Bombyx mori*, the silkworm, feeds on the leaves of *Morus* to produce the best quality of fiber among the different varieties of silk produced in the country. Central Sericulture Research & Training Institute (CSRTI), Mysore, the pioneering research institution in the field of sericulture, was established at Chennapattana in 1961, under the administrative control of Central Silk Board, Ministry of Textiles, Government of India for the overall development of silk industry in the country. During the course of development, the Institute has shifted to Mysore the princely city in the year 1963. CSRTI, Mysore can provide a golden opportunity for small landholding farmers to adopt sericulture as a profession.

Highlights of the Study Tour:

1. Training on scientific, technical, economic and social research with respect to silk production
2. To learn the latest technologies pertaining to all aspects of mulberry sericulture suitable for different agro-climatic conditions/ zones of India
3. Training on the latest projects and research activities taking place in CSRTI, Mysore

Technical Study Tour visits:

1. Central Sericulture Research and Technology Institute, Mysore
2. Visits to adjoining sericulture farm and interaction with local farmers for cultural practices followed
3. Visit to Central Food and Technology Research Institute, Mysore

Expected Outcome of the event:

1. Adoption of advanced practices and use available resources for sericulture
2. Awareness about cultivation practices for different types of silkworms and their impact on income levels
3. Awareness about the ongoing projects and research activities in CSRTI and CFTRI, Mysore



TENTATIVE ITINERARY:

Day 1 & 2:

- Depart from state to Mysore.
- Overnight at Mysore.

Day 3: Mysore

- Visit to CSRTI, Mysore.
- Training on major practices to be followed in Seri business.
- Interaction with technicians for farmer's queries.
- Overnight in Mysore.

Day 4: CSRTI, Mysore

- Training on how to diversify and commercialize the sericulture sector into agribusiness.
- Training on IPM practices to be followed for sericulture.

Day 5: CSRTI, Mysore

- To learn about testing and certification center for all mulberry sericulture industry-related technologies, machineries, equipments, and appliances, etc.
- Training on feeding habits and nutrition of sericulture.
- Overnight in Mysore.

Day 6: Mysore.

- Visit to local sericulture farms in nearby areas.
- Interaction with local entrepreneurs on technical issues.
- Training on market intelligence and export potential of the silk industry.
- Overnight in Mysore.

Day 7: CFTRI, Mysore.

- Visit to Central Food Technology Research Institute, Mysore.
- Training on the latest post-harvest technologies for major crops.
- Interaction with technical staff for reducing post-harvest losses.
- Overnight in Mysore.

Day 8: CFTRI, Mysore.

- Training on the latest achievements in CFTRI.
- Local travel to the places of interest in Mysore.

Day 9 & 10: Back Journey

- Back journey to the state capital.



POULTRY MANAGEMENT

Venkateshwara Hatcheries Ltd., Pune

Poultry is one of the fastest-growing segments of the livestock sector in India today. While the production of agricultural crops has been rising at a rate of 1.5 - 2 percent per annum, the eggs and broilers have been rising at a rate of 8 -10 percent per annum. As a result, India is now the world's fifth-largest egg producer and the eighteenth largest producer of broilers. Today poultry farming has transformed itself into an organized industry and playing a major role in the fight against malnutrition and poverty among the 'rural masses of our country. The importance of the poultry sector in solving the problems of unemployment and under-employment is well-conceived by planners in the developmental programmes. Among the livestock businesses, poultry farming requires less capital investment and at the same time, it ensures quick returns. Poultry farming can be taken up at all three levels - backyard, entrepreneurship units, and large farms. Venkateshwara Hatcheries Limited (VHL) began poultry farming as first-timers under integration as subsidiary to marginal cropping. VHL is a pioneer company that has given a definite shape in the development of the Indian poultry industry to its present status on scientific lines. It pioneered the concept of parent franchisee operations, popularized cage farming. The VHL group was established by Padmashree Dr. B.V. Rao in 1971 as a franchise of Babcock Poultry Farm Inc., USA. In 1974, it established 'Balaji Foods and Feeds Limited' for the processing of eggs into egg powder. Later, the firm expanded its business and opened retail chains in major metro areas where fresh and frozen chicken and ready-to-cook frozen chicken were sold directly to consumers.

Highlights of the Study Tour:

1. To learn advanced poultry management and economics in poultry farming.
2. To learn about common diseases and the management in poultry.
3. To learn about the production performance of layers/broilers and profitability.
4. To learn about the feed and nutrition in poultry production.
5. To get exposure to marketing and processing in the poultry business.

Technical Study Tour visits:

1. Visit to Venkateshwara Hatcheries Ltd. and poultry units around Pune.
2. Training on advanced practices on poultry management and contract farming.
3. Visit to Dr. BV Rao Institute of Poultry Management & Technology, Pune.

Expected outcomes of the event:

1. Adoption of advanced practices in poultry management.
2. Awareness about poultry vaccines, livestock management, and health care.
3. Adoption of large scale poultry farming as backyard poultry and small units.
4. Starting off small profitable village level poultry farms by farmers and unemployed youths.



TENTATIVE ITINERARY:

Day 1 & 2

- Depart from State capital to Hyderabad.
- Overnight at Hyderabad.

Day 3 DPR, Hyderabad :

- Exposure visit to DPR, Hyderabad.
- To know about different breeds of broilers and layers.
- Training on-farm management and marketing.
- Training on methods of processing and packaging.

Day 4: DPR, Hyderabad

- Learning on avian nutrition
- Prevention and control of diseases in broilers.
- Exposure of avian medicine, experimental hatchery, etc.
- To learn about the processing and marketing of different poultry and poultry products.

Day 5: DPR, Hyderabad

- To learn about various avian diseases and their causative factors.
- Learning of their remedial measures.
- Interaction with Scientists and technical staff for solving queries on technical issues.

Day 6: DPR, Hyderabad

- Training on livestock products and technology in different divisions of the institute.
- Interaction with experts on poultry rearing.
- Understanding of economic factors, cost, and profit for starting small poultry units

Day 7: Hyderabad

- Visit to Directorate of Rice Research, Hyderabad.
- Visit to ICRISAT, Hyderabad.
- To observe and learn about their latest farming technologies.

Day8: Hyderabad

- Full day visit at ANGRAU, University of latest technology of Agriculture.
- Local visit at Hyderabad.

Day 9 & 10: Journey

- Return from Bareilly to State Capital



POULTRY FARMING

Directorate of Poultry Research (DPR), Hyderabad

India is the third largest egg producer in the world after China and USA and the fourth largest chicken producer in the world after China, Brazil, and USA. India is the third largest egg producer in the world after China, Brazil and USA. Poultry is the most organized sector in animal agriculture in India, worth Euro 14,500 million. The Directorate of Poultry Research (DPR) formerly Project Directorate on Poultry (PDP) is one of the constituent research institutes of the Indian Council of Agricultural Research (ICAR), an autonomous multidisciplinary Research & Development Organization financially supported by Govt. of India. The Directorate was set up as a coordinating unit of All India Coordinated Research Project (AICRP) on Poultry in 1970 at Izatnagar, Uttar Pradesh. Subsequently the unit was elevated as a full-fledged Project Directorate during 1988 and shifted to Hyderabad, the capital city of the southern state of Andhra Pradesh. The objectives of the Directorate are to coordinate research at AICRP centers located across the country and conduct research on the development and improvement of chicken lines for commercial and rural poultry production.

Highlights of the Study Tour:

1. To learn advanced poultry management and economics in poultry farming
2. To learn about common diseases and their management in poultry
3. To learn about production performance of layers/broilers and profitability
4. To learn about the feed and nutrition in poultry production
5. To get exposure to marketing and processing in poultry business

Technical Study Tour visits:

1. Visit to local Poultry farms to learn advanced poultry farming at Hyderabad
2. Visit to DRR, Hyderabad
3. Visit to ANGRAU, Hyderabad
4. Visit to ICRISAT, Hyderabad

Expected Outcome of the event:

1. Adoption of advanced practices in poultry management
2. Awareness about the poultry vaccines, livestock management and health care
3. Adoption of large scale poultry farming as backyard poultry and small units
4. Starting of small profitable village level poultry farms by farmers and un-employed youths



TENTATIVE ITINERARY:

Day 1 & 2

- Depart from State capital to Hyderabad.
- Overnight at Hyderabad.

Day 3 DPR, Hyderabad :

- Exposure visit to DPR, Hyderabad.
- To know about different breeds of broilers and layers.
- Training on farm management and marketing.
- Training on methods of processing and packaging.

Day 4: DPR, Hyderabad

- Learning on avian nutrition
- Prevention and control of diseases in broilers.
- Exposure of avian medicine, experimental hatchery etc
- To learn about processing and marketing of different poultry and poultry products.

Day 5: DPR, Hyderabad

- To learn about various avian diseases and their causative factors.
- Learning of their remedial measures.
- Interaction with Scientists and technical staff for solving queries on technical issues.

Day 6: DPR, Hyderabad

- Training on livestock products and technology in different divisions of the institute.
- Interaction with experts on poultry rearing.
- Understanding of economic factors, cost and profit for starting small poultry units

Day 7: Hyderabad

- Visit to Directorate of Rice Research, Hyderabad.
- Visit to ICRISAT, Hyderabad.
- To observe and learn their latest farming technologies.

Day8: Hyderabad

- Full day visit at ANGRAU, University of latest technology of Agriculture.
- Local visit at Hyderabad.

Day 9 & 10: Journey

- Return from Bareilly to State Capital



Farmers Training cum Exposure Visit on

GOATRY

Central Institute for Research on Goat (CIRG), Mathura

Goat is known as 'Poor man's cow' in India and is a very important component in the dryland farming system. Marginal or undulating lands unsuitable for other types of animals like cow or buffalo, goat is the best alternative. With very low investments goat rearing can be made into a profitable venture for small and marginal farmers. Goat is a multifunctional animal and plays a significant role in the economy and nutrition of landless, small and marginal farmers of the country. Goats can efficiently survive on available shrubs and trees in adverse harsh environment in low fertility lands where no other crop can be grown. In pastoral and agricultural subsistence societies in India, goats are kept as a source of additional income and as an insurance against disaster. The CIRG is a research institute under the Indian Council of Agricultural Research (ICAR) which is an autonomous body under the Department of Agriculture Research and Education, Govt. of India. Makhdoom was a Bull Rearing farm of the Department of Animal Husbandry Govt. of UP. The Indian Veterinary Research Institute, Izatnagar, Bareilly, established a research centre after taking charge of "Bull Rearing Farm" in the month of Dec. 1975. Subsequently, it was awarded the status of 'National Goat Research Centre'. On 12th July 1979, it was upgraded to the level of Central Institute by ICAR, New Delhi.



Highlights of the Study Tour:

1. To learn advanced practices of the goat industry
2. To identify different breeds of goats for milk and meat production with respect to different agro-climatic zones of India
3. To learn about new technologies and practices
4. To learn the value chain in goatry business from fodder to consumer

Technical Study Tour visits:

1. Central Institute for Research on Goat (CIRG), Mathura, Uttar Pradesh
2. Visits to goat farms for practical exposure on the industry
3. Visits to adjoining entrepreneurs and interaction with local farmers

Expected Outcome of the event:

1. Adoption of advanced practices and the use of improved goat breeds
2. Awareness about feeding, diseases and pests and their management
3. Adoption of improved methods, techniques and practices in production, extension, and marketing
4. To take up goat farming on a profitable basis



TENTATIVE ITINERARY:

Day 1 & 2:

- Travel from the state capital to Mathura.
- Overnight in Mathura.

Day 3: CIRG, Mathura.

- Training on different breeds of goats for goatry.
- Training on genetic improvement of goats through identification and dissemination of superior germplasm.

Day 4: CIRG, Mathura:

- Imparting knowledge to farmers on characteristics of different breeds.
- Training on understanding of economics, marketing and using basic levels in cattle markets.

Day 5: CIRG, Mathura:

- Training on fodder cultivation with respect to the goat industry.
- Imparting knowledge to the farmers on diseases/pests common to goat industry and care to be taken to prevent the animal from these natural causes.

Day 6: CIRG, Mathura:

- Visit to Nutrition, feed resources and products technology division at CIRG, Mathura.
- Training on number of technologies developed at CIRG.

Day 7: CIRG, Mathura.

- Visit to goat health division at CIRG.
- Interaction with technical staff on common practices and care to be taken while running the goat industry.
- Training on physiology and reproduction management system.

Day 8: Farm visit to local progressive entrepreneurs.

- Exposure visit to nearby goat farms in the Mathura area.
- Interaction with local farmers regarding technical issues in the goatry industry.

Day 9: Mathura.

- Summing up of visits, discussions, and distribution of certificates to the trainees.
- A day for local travel to the places of interest.

Day 10: Back to state Capital.

- Back Journey to the state capital.



INTERSTATE FARMERS TRAINING AND EXPOSURE VISIT

PROPOSAL FORM

Sr. No.	Particulars	Details
1.	Name of Organization	
2.	Address and Contact Details	
3.	Name, Designation & Address of the Coordinator	
4.	Scheme under which Applying	
5.	Interested Areas for Training and Exposure visit	
6.	Objectives of the visit	
7.	Expected Outcomes from the visit	
8.	Tentative dates for the visit	
9.	Number of days for the visit	
10	Total number of participants: a) Farmers b) Officials	

(Please email the scanned copy of application form on **ed@card.org.in** or **deepak@card.org.in** at least 60 days in advance of the Training and Exposure Visit).

TERMS AND CONDITIONS

1. Intimation for Training and Exposure Visit should be done 60 days in advance.
2. Charges for the Training and Exposure visit :
 - a) For farmers: Rs.1500 per farmer per day
 - b) For Officials:Rs. 2500 per official per day.
3. 100 % payment to be made in advance in favor of CARD, New Delhi (bank details are enclosed).
4. Statutory GST (18%) extra to be paid with the payment of tour cost.
5. All decisions during the Training and Exposure Visit made by Program Coordinator will be final.
6. CARD shall not be held responsible in case of an accident, mishap during the Training and exposure visit. Concerned Dept. will be solely responsible for the same.
7. CARD shall not be held responsible if any participant is caught in any legal case due to violation of legal terms and conditions of the state.
8. CARD shall not be held responsible if any of the scheduled programs, as per the itinerary, get canceled due to circumstances beyond its control like natural calamities/terrorist attacks/accidents/missed flights, etc.
9. The terms shall be governed by and construed in accordance with Indian law. Disputes arising in connection with these shall be subject to the exclusive jurisdiction of the courts of New Delhi (India). All dealings, correspondence, and contacts between us shall be made or conducted in the English language.
10. Package inclusions:
 - Travel by train or by bus as per the availability.
 - All surface transportation.
 - Food, Boarding, and lodging during Exposure Visit.
 - Sight-seeing and technical visits, including all entry tickets.
11. Package Exclusions:
 - Items of personal nature as laundry, phone calls, minibar, drinks, etc.
 - All extra and optional sightseeing.
 - Anything not specially mentioned in the package inclusions.

Recommendation by the Head of Institution

Signature of the head of the Institution:

Name of the head of the Institution:

Place:

Date:

Seal of the institution :

BENEFICIARY NAME	Centre for Agriculture and Rural Development
BENEFICIARY A/C NO	50200028473500
BENEFICIARY BANK	HDFC BANK
BENEFICIARY BRANCH	KAILASH BUILDING, KG MARG, NEW DELHI-110001
ACCOUNTS STATUS	CURRENT ACCOUNT
IFSC Code	HDFC0000003



ANNEXURE

CARD Technical Partners for Training and Visit Programs

- ☐ Indian Institute of Rice Research (IIRR), Hyderabad
- ☐ National Research Centre for Citrus, Nagpur
- ☐ Punjab Agriculture University, Ludhiana, Punjab
- ☐ National Plant Protection Training Institute, Hyderabad
- ☐ Indian Agriculture Research Institute (IARI), New Delhi
- ☐ Maharashtra State Agricultural Marketing Board, Pune
- ☐ Indian Veterinary Research Institute (IVRI), Bareilly, Uttar Pradesh
- ☐ Karnataka State Horticulture Mission, Lalbagh, Bangalore
- ☐ Jain Irrigation System Pvt. Limited, Jalgaon, Maharashtra
- ☐ National Dairy Research Institute (NDRI), Karnal, Haryana
- ☐ Haryana Veterinary Training Institute, Hisar, Haryana
- ☐ Central Institute of Agricultural Engineering (CIAE), Bhopal, Madhya Pradesh
- ☐ Central Food Technological Research Institute (CFTRI), Mysore
- ☐ Central Coffee Research Institute (CCRI), Chikmagalur, Karnataka
- ☐ Central Farm Machinery Training and Testing (CFMTT), Budni, Madhya Pradesh
- ☐ State Institute of Agriculture Management (SIAM), Jaipur, Rajasthan
- ☐ M.R. Morarka GDC Rural Research Foundation, Jaipur, Rajasthan
- ☐ National Institute of Agriculture Marketing (NIAM), Jaipur, Rajasthan
- ☐ National Research Centre for Onion & Garlic, Rajguru Nagar, Pune
- ☐ Directorate of Mushroom Research (DMR), Chambaghat, Himachal Pradesh
- ☐ National Research Centre for Grapes, Manjari Farm, Solapur Road, Pune
- ☐ National Institute of Rural Development/Panchayati Raj (NIRD), Rajendra Nagar, Hyderabad
- ☐ National Institute of Agricultural Extension Management (MANAGE), Hyderabad
- ☐ Chaudhary Charan Singh (CCS) Haryana Agricultural University, Hissar, Haryana
- ☐ Central Institute of Post Harvest Engineering and Technology (CIPHET), Ludhiana
- ☐ Centre for Water Resource Development and Management (CWRDM), Kozhikode, Kerala
- ☐ International Crop Research Institute for Semi-Arid Tropics (ICRISAT), Patancheru, Hyderabad
- ☐ Dr. Y S Parmar University of Horticulture & Forestry, Nauni, Solan, Himachal Pradesh
- ☐ Central Tuber Crop Research Institute (CTCRI), Sreekariyam, Trivandrum, Kerala
- ☐ Chandra Shekhar Azad University of Agriculture and Technology, Kanpur, Uttar Pradesh
- ☐ Central Potato Research Institute (CPRI), Kufri, Shimla, Himachal Pradesh
- ☐ Indian Institute of Spices Research (IISR), Calicut, Kozhikode, Kerala
- ☐ Central Plantation Crop Research Institute (CPCRI), Kasargod, Kerala
- ☐ Indian Institute of Horticultural Research, Hesaraghatta, Bangalore
- ☐ Directorate of Rapeseed-Mustard Research, Bharatpur, Rajasthan
- ☐ Central Institute for Cotton Research (CICR), Nagpur, Maharashtra
- ☐ Indian Institute of Oilseed Research, Ranjendranagar, Hyderabad
- ☐ National Research Centre for Groundnut, Junagadh, Gujarat
- ☐ Anand Agricultural University (AAU), Gujarat
- ☐ Indian Institute of Wheat & Barley Research (IIWBR), Karnal, Haryana
- ☐ Central Soil Salinity Research Institute, Karnal, Haryana
- ☐ Indian Institute of Pulses Research Institute, Kanpur, Uttar Pradesh
- ☐ Indian Institute of Soil Science (IISS), Bhopal Madhya Pradesh
- ☐ Central Institute for Research on Goats (CIRG), Mathura Uttar Pradesh
- ☐ Indian Institute of Maize Research (IIMR), New Delhi
- ☐ Directorate of Poultry Research (DPR), Hyderabad

PAST INTERSTATE TRAINING AND EXPOSURE VISIT PROGRAMS

2018

Training Program	Date
Farmers Exposure Visit cum Training program for Farmers of Ferozepur Dist. To Solan and Shimla	25th Feb to 1st Mar 2018
Farmers Exposure Visit cum Training program for Farmers of Faridkot to Solan and Shimla	25th Feb to 1st Mar 2018
Farmers Exposure Visit cum Training program for Farmers of Ferozepur to Anand (Gujarat)	12th Mar to 16th Mar 2018
Farmers Exposure Visit cum Training program for Farmers of Hoshiarpur to Anand (Gujrat)	12th Feb to 18th Feb 2018
Farmers Exposure Visit cum Training program for Farmers of Palghar Dist (Maharastra) to IARI, New Delhi & Jaipur	14th Jan to 20th Jan 2018
Farmers Exposure Visit cum Training program for Farmers of Faridkot to Anand	12th Mar to 16th Mar 2018

2017

Training Program	Date
Farmers Exposure Visit cum Training program for Farmers of Solapur to Bangalore & Coimbatore	12th Dec to 19th Dec 2017
Farmers Exposure Visit cum Training program for Farmers of Akola to KVK, CRIDA, Hyderabad	24th Oct to 28th Oct 2017
Farmers Exposure Visit cum Training program for Farmers of Solapur to New Delhi & CIPHET, Ludhiana	03 Nov. to 10th Nov 2017
Farmers Exposure Visit cum Training program for Farmers of Thane to New Delhi & Rajasthan	17th Dec to 23rd Dec 2017
Farmers Exposure Visit cum Training program for Farmers of Karnal to Kanyakumari, Coimbatore & Ooty	20th Nov to 26th Nov 2017
Farmers Exposure Visit cum Training program for Farmers of Thane to New Delhi & Greater Noida	8th Nov to 13th Nov 2017
Farmers Exposure Visit cum Training program for Farmers of Solapur to Anand on Dairy Farming	11th Sept to 17th Sept 2017
Gumla dist to Cuttack (Odisha)	20th Aug to 27th Aug. 2017
Nainital to New Delhi & HTI, Karnal on Drip Irrigation & Micron Irrigation	29th May to 31st May 2017
Interstate Farmer Exposure visit in Krishi Unnati Mela, IARI, New Delhi	14th Mar to 19th Mar 2017
Dharamshala of Kangra Distt. To New Delhi & Hissar	5th Mar to 11th Mar 2017
Dhera Block of Kangra Distt. To New Delhi & HTI, Karnal	13th Feb to 19th Feb 2017

2016

Training Program	Date
Farmers Exposure Visit cum Training program for Farmers of Kinnaur Distt. To New Delhi & Karnal	15th Dec to 19th Dec. 2016
Hamirpur to New Delhi	3rd Oct to 6th Oct. 2016
Manipur to Solan on Mushroom Cultivation	12th Dec to 19th Dec 2017
Horticulture Dept Haryana Farmer to Nagpur	12th Nov. to 18th Nov. 2016
Dang Distt. (Gujrat) to New Delhi & Shimla on Mushroom Cultivation	12th Oct. to 18th Oct 2016
NPOP from IFPRI at New Delhi & NIPHM, Hyderabad	15th Jan to 22nd Jan. 2016
Vadodra Distt. To Bhopal on Farm Mechanization and Drip Irrigation	23rd May to 28th May. , 2016
Farmers Exposure Visit cum Training program for Farmers to CIPHET on Post Harvest Management	2nd Feb. to 7th Feb. 2016



Glimpses of Card's Exposure & Training Programs



Glimpses of Card's Exposure & Training Programs

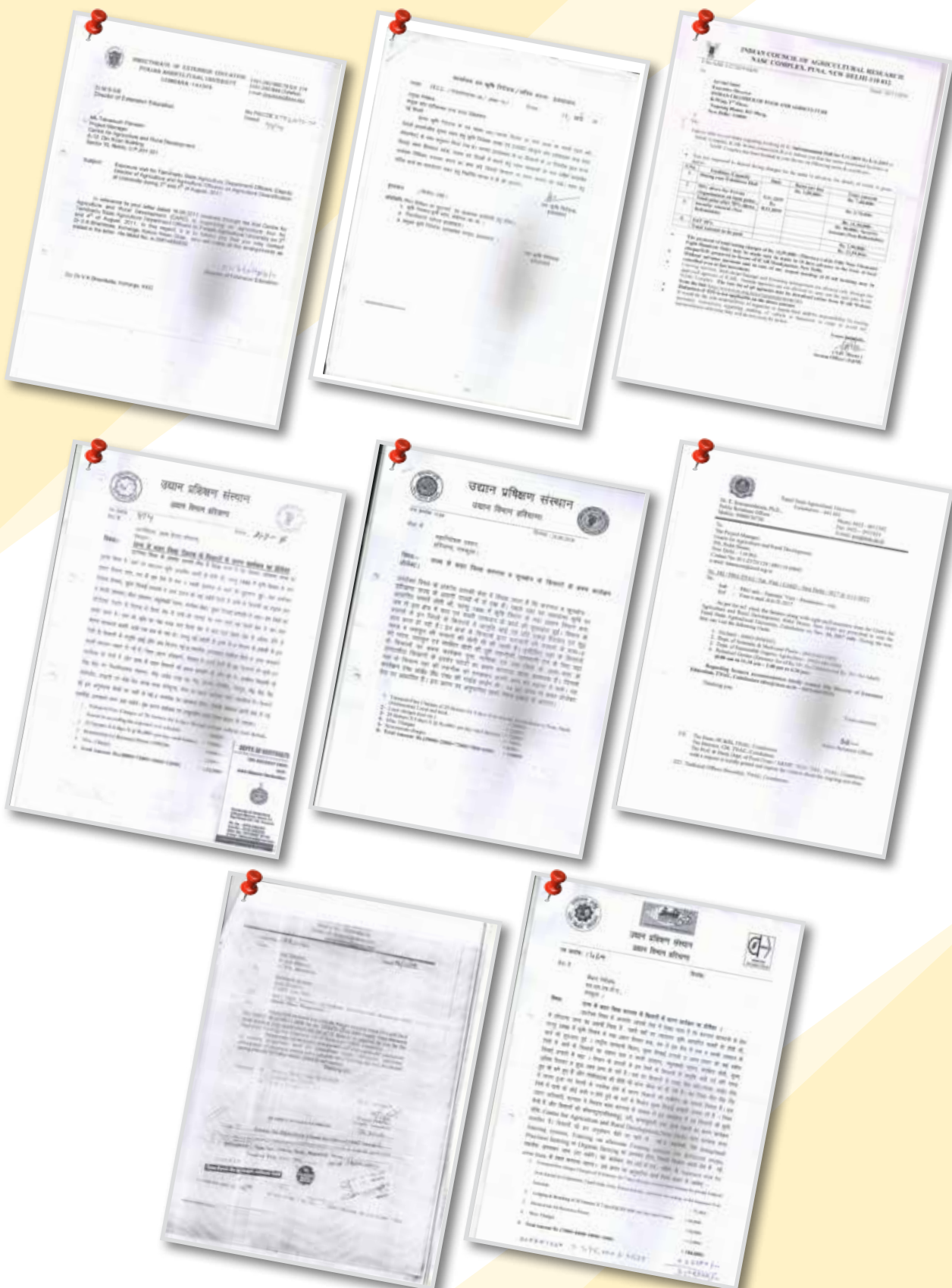


Testimonial





Testimonial





Contact Us:



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