

KF Bioplants Pvt. Ltd.

Sr. No 129/1 to 3C, Manjari (Bk) Tal. Haveli. Dist Pune

Model

**Entrepreneurship and Leadership
Development Programme for Horticulture Entrepreneurs
Desirous of applying to Schemes of
National Horticulture Board**

Crop / Activity	Protected cultivation of Flowers
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2019-20

<i>Become Entrepreneur</i>	
	<i>Lead Change and Innovation</i>
<i>Be creative</i>	
	<i>Lead Profits</i>

KF Bioplants Pvt. Ltd.

Sr. No 129/1 to 3C, Manjari (Bk) Tal. Haveli. Dist Pune

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Training Programme Name	High-Tech Cultivation of Floriculture Crops
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Introduction: India is the second largest producer of Fruits and Vegetables globally. During 2017-18 the production of Fruits is 97 Million MT and that of Vegetables is 184 million MT and that of flowers is 2.4 Million MT. The salient features of commercial Horticulture are Perishability, intense Technology, High Profitability accompanied with high investment and High Risks including vulnerability to post-harvest losses. Overall it demands very good entrepreneurship and leadership.

National Horticulture Board, an autonomous organisation under the Department of Agriculture, Cooperation and Farmers Welfare, Ministry of Agriculture and Farmers Welfare, Government of India has been promoting and developing commercial horticulture in the country since 1984. Appreciating both the challenges and prospects of commercial horticulture, so as to mitigate constraints and risks and maximise benefits and net income, NHB has taken a number of initiatives viz., Model Detail Project Reports, conducting both awareness and technical workshops and simplification of scheme implementation process. One another measure taken up is encouraging farmers, entrepreneurs and applicants desirous of availing benefit under its schemes to have requisite entrepreneurship and leadership by undergoing a 06 days training programme at one of the best training institutes recognised by it.

Rationale: NHB projects are credit linked and back ended and is capital intensive running from several lakhs to several crores. In addition these involve good documentation and time bound activities on the part of promoter, banker and other stakeholders. So endeavour should be to ensure that the project is successful by all means be addressing all possible risks. Over the years it has been observed by NHB that most of the promoters of NHB projects are not having the required understanding of scheme documentation, time bound activities and lack knowledge and skills of handling the project themselves and thus become subjected to vagaries of others ignorance and omissions and commissions. The result is a number of projects have failed or became ineligible for subsidy consideration. Thus so as to rule out any these omissions and commissions and risks, NHB has made it mandatory for every applicant to undergo a 06 days training programme at one of the NHB recognised /approved institution, with a goal of zero rejection of a project for which IPA is issued.

**Importance of Project: Crop / Activity:
Global/National/State and role in horticulture development**

Name of Activity

**“Protected cultivation of Flowers”
Roses, Carnation, Gerbera, Anthurium, Lilium,
Chrysanthemum, Orchids (Dendrobium/ Cymbidium)**

Profile of the Institute:

KF Bioplants Pvt. Ltd.

Sr. No 129/1 to 3C, Manjari (Bk) Tal. Haveli. Dist Pune

KF Bioplants Pvt. Ltd. is India's largest plant biotech company. A Joint venture of Kumar Properties and Florist Holland B.V., Holland, it is a global provider of quality plants of various ornamental flowering species along with fruit plant and supplying 80 million plants annually for commercial cultivation all over India and to 30 countries around the world. Backed by 27 years of experience, it is associated with leading global companies under joint venture and licensee arrangements. The company facilities are spread over 20 hectares at three locations in Pune; 150 km towards south from Mumbai (the economic capital of the country).

KF Bioplants provides complete on-line technical assistance at every stage of the project, which includes field visits of technical experts for guidance on site selection, bed preparation, greenhouse design, soil sterilization, planting, fertigation programme, pest-disease management and harvest as well as Post-harvest management'

Mission Statement:

Continuously exploring new frontiers for meeting rapidly changing needs, building relationships through value creation for all, rigorously maintaining adherence to well-defined internal processes and norms, KF Bioplants is a service organisation delivering long lasting products that transform people's lives.

Quality Policy:

We at KF Bioplants Pvt. Ltd. are committed to:

Explore new frontiers in product and process improvement to meet rapidly changing customer needs.

Build relationship and enhance satisfaction level with all partners through

- Transparent systems
- Strict adherence to QMS (Quality Management System)
- Continuous improvement in effectiveness of QMS

Infrastructure and Facilities:

KF Bioplants represents a perfect blend of smooth functioning and sophistication it has:

1,65,000 sq.ft. state-of-the-art Laboratory with separate initiation rooms to safeguard the quarantine status of the main facility.

32 fully-monitored Growth Rooms to hold 20 million plants at one time.

Completely controlled Greenhouses over 6.5 ha, manned by highly qualified and experienced personnel to produce quality plants post in-vitro production.

Cold storage units and world class logistic facilities to meet domestic and global demand on-time, with highest quality.

Tech Tie-Ups:

Hilverda Florist Holland B.V. and KF Bioplants are collaborated for production, propagation and marketing of Gerbera and Carnation in India. The company is associated with numerous Dutch plant breeders and laboratories like Floricultura B.V., Holland for Phalaenopsis, Kapiteyn B.V., Holland for Calla Lily, Royal van Zanten B.V., Holland for Limonium, Biancheri Creations, Italy for Ranunculus and Danziger -'Dan' Flower Farm, Israel for Gypsophila. Recently, KF Bioplants has introduced promising varieties of Rose for Indian climate in collaboration with world class breeder Rosen Tantau. Germany.

Products:

KF Bioplants offers plants in-vitro or hardened young plants of the following commercially successful crops:

Roses	Carnation	Gerbera
Anturium	Lilium	Chrysanthemum
Orchid (Dendrobium/ Cynbidium)		

Reach:

KF Bioplants produces 80 million plants per annum, of which 55% plants are exported to over 30 countries around the world, mainly Holland, Australia, Japan, South Korea, Israel, Malaysia, Philippines, Indonesia, Pakistan, Kenya, Sri Lanka, Mauritius, Nepal and U.S.A.

90% of the domestic floriculture market is provided with quality planting material by the company.

Basic infrastructure and collaboration to be in place

1. Competent Faculty.

Sr. No	Name of Faculty	Designation	Qualification	Expertise	Experience in Years
1	Mr. Hemant Phadtare	Vice President	M. Sc Agri (Soil Science)	Greenhouse, Shade house , Net house cultivation Hardening of TC plants Crop protection, irrigation and nutrient management for floriculture and horticultural crops	24 Years
2	Mr. Jaywant Patil	Sr. Manager	M. Sc (Microbiology)	Plant Tissue Culture of various crops	16 years
3	Mr. Ajit Jadhav	Manager-Marketing	M. Sc.(Plant Protection)	Greenhouse, Shade house , Net house cultivation Crop protection, irrigation and nutrient management for floriculture crops	15 Years
4	Mr. Ashish Phadke	Sr. Manager	M. Sc (Biotech), MBA	Greenhouse, Shade house , Net house cultivation Marketing and supply chain management in floriculture crops	24 Years
5	Mr. Santosh Ranjane	Manager – Strawberry & Carnation	B. Sc(Agri.)\ M. Sc(Horti)	Greenhouse, Shade house , Net house cultivation Crop protection, irrigation and nutrient management for floriculture crops Post Harvest Management for fruit and floriculture crops	25 Years
6	Mr. Javed Haider	Manager - Roses	Msc Agronomy	Greenhouse, Shadehouse,Crop protection,work experience of 20 years in Rose cultivation	20 years
7	Mr. Sharad Pawar	Technical Manager	B. Sc (Agri.) MBA	Greenhouse, Shade house, Net house cultivation Crop protection, irrigation and nutrient management for floriculture crops Bank proposals	16 Years

8	Mrs. Deepali Veer	Technical Executive	M. Sc (Agri) (Entomology)	Crop protection, irrigation and nutrient management for floriculture crops	10 Years
9	Mr. Rajan Niphadkar	Technical Executive	B. Sc(Horti) PGDM(ABM)	Crop protection, irrigation and nutrient management for floriculture crops	7 Years
10	Mr. Rohan Jadhav	Marketing Executive	B. Sc(Horti) MBA (Agri Business)	Greenhouse, Shade house , Net house cultivation	3years
11	Mr. Ganesh Gore	Marketing Executive	B. Sc (Agri biotech)	Greenhouse, Shade house , Net house cultivation Marketing and supply chain management in floriculture crops	5 years
12	Mr. Swapnil Phatak	Technical Executive	M. Sc (Ento)	Crop protection, irrigation and nutrient management for floriculture crops	4 years

2. Research expertise and experience in Tissue Culture lab, Hardening unit in Greenhouses and Protected Area plantation of various floriculture crops in Demo farm
3. Excellent classrooms for batch size from 5 to 100 students with all Audio-visual equipment and aids including PPT facility.
4. We will avail excellent living/ residential accommodation via service apartments near to office. We avail these facilities for all or guest and executive who come for training and quarterly meetings to our office. Bus facilities will be provided to bring and leave the students every day.
5. Has good networking with experts across India and best of the faculty in a particular area of expertise are available in-house.
6. Has collaboration with entrepreneurs and Industry. In India and abroad.
7. Willing to provide internships with FPOs/ FPCs/entrepreneurs.

Previous experience:

KF Bioplants is working with farmers for last 27 years. We are providing trainings to farmer on different aspects of cultivation of flower crops.

Objectives of training Programme :

1. Knowledge: Ensure every trainee acquires adequate knowledge and understanding of NHB Scheme Operational guidelines, Annual design and procedure viz.
 - a. Eligibility of applicant including definition of family, and project, the process and steps involved in the scheme implementation, timelines Scheme cost norms, pattern of assistance etc. iv. Calculation of Eligible Project cost, Eligible components for subsidy, NHB standards, Basic Data Sheet & Protocols to be complied for availing subsidy etc., Crop / Project specific Model DPR Template, Terms and conditions of IPA, Do's and Don'ts for Applicants /Banks/NHB officials for IPA ,
 - b. List of documents to be submitted.
 - c. To acquaint with NHB website including registration and modes of online application, operation of online account and contact persons, helpdesk and grievance redressal.
 - d. Subsidy claim process through bank/FI and list of documents to be submitted along with claim, JIT process, JIT Format, Documentation, Circumstances to request for and consider Re-JIT& Post-JIT process.
 - e. Formats of Agenda and check list used for processing subsidy claim.
 - f. How to expand understanding based on the minutes of meetings of previous IC and PAC available on website. It helps the applicant to understand how decision on subsidy is being made.
 - g. To know and appreciate specific Horticultural commodity / crop economic importance and potential of fresh commodity and processed / value addition commodity; Country and Global scenario and State/UT Scenario.
 - h. To learn / visit success stories / best practices including cluster development / FPOs; interact with successful entrepreneurs; and recognise key factors responsible for success and failure.
2. Personal leadership and skills development
 - a. To explore leadership roles required in horticulture business and realign and recalibrate self with new knowledge, concepts and tools.
 - b. Managing change and innovation and Taking charge and leading strategy.
 - c. To learn/ improve IT/ social media and know how to benefit from Internet and newspapers/media.
 - d. To improve leadership / social skills especially common informed vision, communication, team work, negotiation skills; with an exercise and success story.
3. Selection of cultivar, Technology to be adopted and Production practices for crop intensification and high productivity and ecological sustainability.
 - a. How to select suitable variety/hybrid/cultivar and source quality planting material/ seed based on market demand and sustainability.

- b. Technology: Protection cultivation Technology-various kinds, customisation based on Agro-climatic condition, crop and pest and diseases profile; familiarisation of components and Mechanisation and Automation.
 - c. To know scientific production, harvesting and post-harvesting practices, technology and management and Analyse gap analysis with that of the current practices, technology and management of trainees.
- 4. Harvesting, Post-Harvest Management practices, technologies and Infrastructure
 - a. Time of Harvesting, Moisture level of the produce, post-harvest practices, cleaning, sorting, grading, packing, labelling, pre-cooling, storage and transportation.
 - b. To be aware of Post-harvest and storage practices, protocols and technologies.
 - c. To know required infrastructure- Supply Chain/ Cold Chain and Marketing infrastructure and Gap analysis to the context of trainees.
- 5. Processing and value addition
- 6. Marketing and value chain development
 - a. To know value chain and document current value chain of trainees context.
 - b. To know how to source inputs from reliable and quality sources economically and explore best way / place to sell.
 - c. To know market based production concept; crop planning and preparing crop calendar.
 - d. Analyse market prices of various markets and causes of instability. Document market efficiency and share of grower in consumer price realisation and possible way to minimise price spread.
 - e. To know importance of branding and promotion.
 - f. How to become an Exporter and know the roles of APEDA.
- 7. Supply/ Cold-chain development both for fresh and processed produce
- 8. Producing quality produce: Healthy, Food Safety / Traceability and Standards
 - a. To know Global /national norms of Food Safety & traceability- Good Agricultural Practices, and standards, MRL, IPM, logistics, GMP, Organic certification, etc. Encourage trainees to document a roadmap for availing certification in 1 year time.
- 9. DPR and Project Management including Finance & Credit.
 - a. To empower selection of crop based project based on Agro-climatic/soil/ water suitability, Market, Finance and Technical viability.
 - b. To empower the trainees to prepare Detail Project Report of his/her project. In case it is already prepared with the help of external expert, the trainee is made to understand and critically analyse the same.
 - c. To know about Banks/ Financial Institutions; Loan procedure-how to avail finance/ credit- challenges and prospects. Document difficulties in trainees context and facilitate in possible solutions on expeditious and easy access to credit.
 - d. To know risks viz., including natural calamities in production and business and their management strategies including insurance schemes.
 - e. To learn about Farm record book keeping.

10. Cluster development / Collaborative farming: What is cluster? Essential elements? To know importance of cluster approach,
11. Government organisations and Schemes related to Horticulture and laws to be complied.
12. Horticulture Statistics sources including DAC&FW website and State Horticulture Dept. website.
13. Technology and Entrepreneurship

Pedagogy: Training methods / styles are:

- a. Lectures- with two way communication using Audio-visual aids, videos etc.
- b. Group discussion
- c. Panel discussion
- d. Skill practice
- e. Interactive field visits etc.

Outputs expected: (As on the last date of 6 days training)

1. 100% attendance of all Classes prescribed.
2. Daily studying of reading material provided.
3. Successful and timely completion of assignments.
4. A score a minimum of 75 % in final assessment by each trainee.
5. Knowledge: by each of the trainee
 - a. Essential elements of NHB Scheme guidelines, documentation & processes and Do's and Don'ts, understanding DPR, Bank Appraisal and Sanction, identification of risks and vulnerabilities and measures to address the same, Processes and documentation of NHB scheme implementation for successful subsidy release.
 - b. Essential elements of scientific and commercial Production, harvesting, post-harvest, Marketing, Exports etc. in English/Hindi/trainees' language.
 - c. Food safety (Good Agricultural Practices), traceability, standards etc.
 - d. Documentation of analysis of current scenario of trainees context- production, harvest, post-harvest, supply chain, marketing and gap analysis and possible road map.
6. Skills: by each of the trainee
 - a. Curiosity and continuous learning.
 - b. Crop: Modern scientific Cultivation, harvesting, post-harvest, food safety, traceability certification and standards.
 - c. Project: PHM&CC: Modern scientific operations, technology, safety etc.
 - d. Familiarisation of Technology, Standards, Protocols and hands on experience.
 - e. Good understanding of DPR and Project Management:
 - f. A 3 year Strategic action plan: A Year to Year strategy for 3 years to achieve set goal in 3 years- for improved production & productivity with economy, modern harvest, post-harvest practices, infrastructure, marketing and organisational systems for improved incomes.

- g. Problem solving- to solve existing problem being faced by the trainees.
- 7. Attitude: developing confidence and leadership to successfully complete NHB project timely as per NHB norms, specifications/standards, protocols etc.
- 8. Networking with various Government and Non-Government Agencies and mentors.
- 9. To know various schemes and future useful training programmes across the country.

Outcomes expected (in 18 months)

- 1. Successful completion of the project with right technology and processes complying with all NHB Scheme requirements.
- 2. Reduced cost of production; improved crop health, productivity & Reduced losses.
- 3. Improved food safety, certification, standards compliance- at least process is initiated.
- 4. Improved infrastructure.
- 5. Improved profits/ net income.

Programme in Brief

Training Programme Name	Entrepreneurship and Leadership Development Programme for Horticulture Entrepreneurs Desirous of applying to Schemes of National Horticulture Board			
Duration	Six working days: One Week (7 days programme including arrival, departure and weekend holidays if any)			
Participant Target Group	Individuals desirous to avail NHB benefits under scheme no. 1 and entrepreneurs to gain knowledge in protected cut flower cultivation			
Training Coordinator with Designation and Address Tel, Mobile and email id	Mr. Ashish Phadke Sr. Manager Marketing and Promotions K F Bioplants, Sr. No 129/1 to 3C, Manjari (Bk) Tal. Haveli. Dist Pune-412307 Mo: 9227733911 Mail: info@kfbioplants.com Website: www.kfbioplants.com			
Languages	Marathi/ Hindi/ English			
Training calendar for 2019-20	Month	Last date for Registration	Training reporting dates	Training Dates
	November 2019	19 th November	24 th November	25 th Nov to 30 th Nov.
	December 2019	17 th December	22 nd December	23 rd Dec to 28 th Dec
	January 2020	30 th December	5 th January	6 th Jan to 11 th Jan
	February 2020	3 rd February	9 th February	10 th Feb. to 15 th Feb
	March 2020	9 th March	15 th March	16 th Mar to 21 th Mar
How to Apply	By E Mail			
Next review/ revision of Training Design	February 2020			

Batch size and cost and Payment system	Batch size	Course Fees	Hostel: Accommodation, Boarding: BF+L+D + Morning Tea + Afternoon Snacks	Total cost
	15 and above	Rs. 600per day per participant	1100/- per person/day	10,200/- per person for 6 days
	10-15	Rs. 800per day per participant	1100/- per person/day	11,400/- per person for 6 days
	5-10	Rs. 900per day per participant	1100/- per person/day	12,000/- per person for 6 days
	< 5	Not Viable		
	Payment system and address: By NEFT in name of KF Bioplants Pvt. Ltd. Axis Bank, Hadapsar Branch -Pune, A/c no 404010200000462 IFS/RTGS Code : UTIB0000404			
Enrolment	Is voluntary on the part of trainee and on his/her submission of willingness in writing to undergo training.			
Certificate	Upon successful completion of training with 75% marks in final assessment, the candidates are awarded completion certificate with marks.			
NHB and HTI Role	<ol style="list-style-type: none"> 1. The training programme is voluntary for any individual or trainee. 2. The cost of training is to be borne by trainee him/herself. 3. The training is not sponsored by NHB or by any Government. 4. Upon 100% attendance and upon scoring 75% marks is considered as successful completion and then are eligible for training completion certificate. 5. Successful completion of training programme by applicant and submission of completion certificate is one of the requirement for obtaining In- Principle Approval(IPA) 6. It is compulsory to reside in the hostel/accommodation provided by the institute in the interest of training. 7. The training institute has no say in NHB decision making either in approval or rejection of IPA or sanction or not sanction of Subsidy. 8. Trainees are responsible for their conduct and wellbeing issues. 9. NHB has no liability towards IPA and subsidy release or non release 10. K F Bioplants has no liability towards IPA and subsidy release or non release. 			

Expectations from trainee before the arrival to the Training institute:

Study NHB scheme guidelines of all schemes with emphasis on specific component for which application is being/ is made including General conditions, Basic structure, Applicant eligibility, Technical standards, Basic Data sheet and Protocols, Budgetary allocation for his/her state/UT, Guidelines for submitting application, cost of application, various prescribed formats, FAQs, Dos and Don'ts, Agenda and Checklist, List of documents to be submitted both for Pre-IPA and IPA available in NHB website and as received in their online account.

2. Study one's own Detail Project Report along with Model DPR available in NHB website.
3. Visit NHB website and study various services available- especially Scheme guidelines, Model DPRs, Technical Standards, Statistics, NHB interactive, and Minutes of meetings (past), Public circulars to the extent possible.
4. Should see him/her self whether he/she is satisfying NHB Scheme requirements.
5. To cooperate with Horticulture Training Institute.
6. To share specific problems/ gaps / barriers in horticulture growth and profits in his area.

Material to be brought by each of trainee:

1. Hardcopy of application already submitted to NHB if any.
2. Hardcopy of DPR already submitted to NHB or prepared if any.
3. Hardcopy of Model NHB DPR if possible.
4. Hardcopy of copy of Dos' and Don'ts, Agenda and Checklist, List of documents to be submitted.
5. Hardcopy of applicants' eligibility and General Conditions.

There will be four sections for the day

Day wise schedule
DAY 1

Session	Module	Learning	Expert
DAY 1 S1	Registration	Registration Prior-Assessment of knowledge, attitude and skills	
	Orientation / Inauguration	<ul style="list-style-type: none"> General discipline in class room (Do's and Don'ts) Every trainee to share their introduction with expectations Motivational Talk 	Course coordinator K F Bioplants & Successful entrepreneur
	Economic / Marketing Potential and Specific State/ UTs context: Scope and opportunities and Success stories.	1. Greenhouse Flower Crop Origin, Botany and economic products of Rose, Carnation, Gerbera, Anthurium, Lilium, Chrysanthemum, Orchids (Dendrobium/ Cymbidium), 2. Area, Production, Productivity, Prices & value. In context with India & state 3. Global: Area, Production, Productivity, Prices Export and Import scenario 4. Domestic market : Supply and Demand 5. Case study of success stories-2 6. Concerns for growers / entrepreneurs!	K F Bioplants Faculty & Successful entrepreneur
DAY 1 S2	Personal skills development	1. Lecture on soft skill development & leadership required in horticulture business	Guest Faculty
DAY 1 S2	NHB Scheme Guidelines, Annual Design and Processes of successful implementation and DPR, Bank Appraisal and Sanction of own Project	Group Discussion and Presentation by each group:	DD NHB
		1.Scheme guidelines	
		2. Flow chart	
		3. Dos and Don'ts, List of documents to be submitted and Agenda and Checklist.	
		4. Technology standards/ Specifications etc.	
		5. Issues with Banks.	
		6. Common reasons for rejection of Projects at NHB.	
		7. Q& A on Queries.	

Day 1 S3	Selection of Cultivar and media in protected cultivation	<p>1. Cultivation Practices Rose, Carnation, Gerbera, Anthurium, Lilium, Chrysanthemum, Orchids (Dendrobium/ Cymbidium), for soil, Agro climatic requirements, media preparation, soil and soilless culture. Media sterilization , Bed preparation</p> <p>2. Media for Nursery/ seedling preparation</p>	K F Bioplants Faculty
Day 1 S3	Protected Cultivation Technologies	<p>Types of greenhouses , Site selection, Layout & Design & Dimensions</p> <p>Structure Selection based on crop, location, climate, Foundation, Erection, and Selection of cladding material, Quality norms of Greenhouse erection materials</p> <p>Familiarize different components & equipment of GH/ Shade net etc, Climate Control in greenhouse – RH, Temperature, light, as per crop requirement, operation & maintenance, automation in greenhouses</p> <p>Cost and Economics of Protected cultivation, register keeping, Annual Maintenance Contract, insurance etc.</p> <p>Selection of fabricator, Do's and Don'ts</p>	K F Bioplants Faculty + Guest Lecturer A Greenhouse erector
Day 1 S4	Visit to Poly house / Shade net/ Tunnel/ etc.	Familiarize technology and components of protected cultivation, practical on erection/ fabrication, challenges and suitability.	K F Bioplants Faculty
	& Agronomic practices regarding media preparation	<p>Collective erection of Poly house / Shade net /Tunnel.</p> <ul style="list-style-type: none"> • Agronomic practices: • Soil & Water testing- PH & EC Concept, treatment and its importance. • Bed preparation and proper site/ field lay out / design • Fumigation & Mulching • Basal dose preparation 	K F Bioplants Faculty

		<ul style="list-style-type: none"> • Plantation 	
		<ul style="list-style-type: none"> • Soil less Media in Protected cultivation: • Coco peat , Rock wool, Perlite, Vermiculite • Media Bag Selection • Soil and Soil less cultivation & Importance in Flower cultivation 	K F Bioplants Faculty
	Discussion	Evaluation of Assignment and observations	
	Quiz	Learning on yesterday and today	
	Reading for next day	Crop Production technology under protected cultivation of Rose Carnation & Gerbera	
	Assignment for next day	Study difference between different types of greenhouse structures and its material	

• : To be read at night before attending next day class

: Are evaluated/ tested the following day.

Day2 S.1 & 2 Sessions	Crop Technology Production Class room	1.Crop production technology of Gerbera, Carnation & Roses 2. Planting – varietal selection, planting season, Spacing & important intercultural practices as per crops 3. Rose cultural practices – planting , mother shoot bending, initial structure development, pruning, regular bending , disbudding, hygiene and weeding, 4. Carnation important cultural practices – support system , pinching, guiding, disbudding hygiene and weeding, 5. Gerbera important cultural practices – disbudding , Raking of soil, removal of old leaves, opening of Crown	K F Bioplants Faculty
S.3 & 4	Visit to Poly house / Shade net/ Tunnel/ etc.	Practical sessions including mother shoot bending, initial structure development, pruning, regular bending , disbudding, hygiene and weeding pinching, guiding, disbudding hygiene and weeding disbudding , Raking of soil, removal of old leaves, opening of Crown in Rose, Gerbera& carnation	KF Bioplants Faculty
	Discussion	Evaluation of Assignment and observations	
	Quiz	Learning on 3 days	
	Reading for next day	Cultivation of Anthurium, Orchids and Lilium Bed preparation and support system in Anthurium, Orchids and Lilium	
	Assignment	Importance of Cultural practices like disbudding, bending in rose cultivation Significance of disbudding and pinching (1st and 1 ,5 pinching) in carnation Importance of disbudding and removal of old leaves in Gerbera	

Day 3 S1	Crop Production Technology-Class room	1. Crop production technology of Orchid, Anthurium, Lilium, Chrysanthemum 2. Planting – varietal selection, planting season, Spacing & important intercultural practices as per crops 3. Orchids cultural practices – support structure, Media for orchid cultivation, bed preparation, imp cultural practices and hygiene 4. Anthurium important cultural practices – support structure, Media for Anthurium cultivation, bed preparation, imp cultural practices and hygiene 5. Lilium important cultural practices	KF Bioplants& Guest Faculty
Day 3 S.2	Visit to Farm- of Farmer /Field visit to successful entrepreneur	6. Practical sessions including support structure, Media for Anthurium/ Orchid/ Lilium cultivation, bed preparation , imp cultural practices and hygiene	KF Bioplants Faculty
Day 3 S 3	Irrigation Management	Irrigation and fertilizer management in Rose, Carnation, Gerbera, Anthurium, Lilium, Chrysanthemum, Orchids (Dendrobium/ Cymbidium), 1. Water requirement, water quality for irrigation, treatment, critical stages of crop, irrigation schedule 2. Irrigation system (Drip / foggers/ misters), design specifications, maintenance 3. Care to be taken in procuring inputs	KF Bioplants Faculty
Day 3 S 3	Nutrient management	1. Fertigation-meaning, methods equipments.2. Nutrient Management (Macro & Micro) 3. Role of nutrients, deficiency and toxicity symptoms4. Use of organic Manures in protected cultivation including Bio-fertilizer: Vermi compost production- Identify correct species of earthworm, quality production technique, finances and market linkage, food safety issues etc.5. Care to be taken in procuring input	KF Bioplants Faculty

Day 3 S4	Visit to Poly house / Shade net/ Tunnel/ etc.& practical's regarding irrigation & fertigation	Measurement of water discharge from emitter, back flush of Sand filter/ disc filter/ Flush valve, pressure measurement at sand filter and in greenhouse lateral end	KF Bioplants Faculty
		Practical on Fertigation equipments, measurement of PH and EC of fertigation Solution and Drain water, preparation of A,B & C tanks, Fertigation in Soil and soilless culture	KF Bioplants Faculty
	Discussion	Evaluation of Assignment and observations	
	Quiz	Learning on yesterday and today	
	Reading for next day	Crop protection in protected cultivation	
	Assignment for next day	Prepare the list of water soluble fertilizer supplier companies in India	

Day 4 S1	Crop protection / IPM-Class Pest management / IPM-Class Room	Crop protection in Rose, Carnation, Gerbera, Anthurium, Lilium, Chrysanthemum, Orchids (Dendrobium/ Cymbidium) 1. Introduction to major pest in protected cultivation 2. Identification knowing of pests symptoms, stages of attack , precautions and control measures- mechanical, cultural , Biological & chemical 3. Integrated Pest Management- Bio-pesticides, promotion of natural enemies. 4. Availing extension services at regular intervals with the visit of experts to fields.	
Day 4 S1	Disease Management	1. Introduction to major Disease in protected cultivation 2. Identification knowing of disease symptoms, stages of attack , precautions and control measures- mechanical, cultural , Biological & chemical 3. Integrated Pest Management- Bio-pesticides, promotion of natural enemies. 4. Availing extension services at regular intervals with the visit of experts to fields.	KF Bioplants Faculty
Day 4 S2	Visit to Poly house / Shade net/ Tunnel/ etc. & practical's regarding pest and disease control protected technology	Identification of major pest, scouting, ETL level, spraying technique and safety measures Identification of major disease , scouting, ETL level, spraying technique and safety measures	
Day 4 S3	Harvesting, Post-Harvest Management / Infrastructure-to enhance holding life and to reduce post-harvest losses	Post-Harvest Management Rose, Carnation, Gerbera, Anthurium, Lilium, Chrysanthemum, Orchids (Dendrobium/ Cymbidium) Pre harvest care 2. Harvesting – time stage & method 3. Post harvest handling practices like deleafing , pre cooling sorting grading bunching , packaging, storage and transport 4. Quality standards for export and domestic market 5. Post harvest solution and value addition in flowers 6. Packaging material and standards 7. Proper technique & do's and don'ts of Harvesting;	PHM Expert & Traders
	Value Addition	1. Fresh product: Minimal processing. 2. Value Addition By product utilization-	

Day 4 S4	Visit to Protected structure- KF Bioplants	Skill /Hands on training on Harvesting techniques + Post-harvest practices	Demo house Expert
	Visit to Modern Pack house, cold storage etc.	Skill /Hands on training on Harvesting techniques + Post-harvest practices	
	Discussion	Evaluation of Assignment and observations	
	Quiz	Learning on 7 days	
	Reading for next day		
	Assignment for next day	Difference between Applicants DPR and NHB's Model DPR- What are the learning.	

Day5 S1 &2	Marketing and value chain development	Marketing Basics: 1. Value Chain Analysis of product / commodity in State / UT- Current scenario and the best possible solutions 2. Identification of markets- Export, Distant Market, Local markets- Mandis/ Traders, Processing units. 3. Demand – seasons / days etc. 4. Market Driven Production- Concept: What? How? Challenges? Solutions 5. Promotion strategy: Branding; Differentiation of product 6. e-marketing	Marketing Expert & Traders
	Market Intelligence / Transparency in Market prices/ Assimilation of Market Information /	1. Knowing end market prices- Local market and distance market; from reliable sources, Mandis, competitors through Media-print, AIR, TV, internet, commission agents etc.2. Analyze market information season wise.3. Use market information to decide on crop (type flower), area to be grown, appropriate post -harvest decision to decide where to sell, when to sell, whom to sell, and what quantity to sell etc to be profitable.4. Arranging cost effective transportation. Also use market information for growing next crop, area and release of produce into market etc.	
		Demand assessment and management: 1. Need to consolidate demand from all sources- retail outlets, chain, hawkers etc. 2. Assured quantum can be vertically integrated with producers. 3. Variable demand is linked with indirect or Mandi based procurement.	Marketing Expert

		Causes of market instability and measures to address1. Causes: Low cost supplies from new production areas, Fluctuating demand in Transport availability, Market manipulation, weather vagaries, local disruptions (Bandhs etc.) etc.2. Measures: Building brand loyalty, Efficient supply chain with dedicated transport on pre-determined schedules, Complementary storage option for buffers for 2 weeks; For perishables- back end sources and reefer transport, modern pack houses; Food processing capacity, Export markets.Measures to check gluts.	
		Marketing models / Measures to minimize price spread / enhance price realization. 1.Direct- 1.Bulk sale- fast tracked without any pre-cooling with daily dispatches. 2.Bulk or retail outlets- owned/ franchisee. 3.Through wholesale trader / Retail chain/ Exporter/Importer/ Street vendors/ vegetable sellers. 2. Marketing with /without legal contract with buyers, supply chain agents etc. 3. Models: Direct Market Whole seller Auction Market	Marketing Expert
		Private partnership- Success stories	Entrepreneur
		Potential niche Export markets 1. Global Scenario- product wise; Success story, 2. State/UT s potential, Challenges for Export markets- sea based; 3. Interaction with Exporters and Importers. 4. Linkage with Distribution hubs (Netherland)	Exporter

		Potential niche Export markets for flowers5. Global Scenario- product wise; Success story,6. State/UT s potential, Challenges for Export markets- sea based;7.. Interaction with Exporters and Importers.8. Linkage with Distribution hubs (Netherland)	Exporter
		Potential niche Domestic markets: for flowers 1. Indian Scenario- product wise; Challenges for Domestic – road based	
		Exposure / Networking visits/Trade Fairs/ Exhibitions_ India & Abroad-CDB support	
Day5 S 3 &4	One day internship at one of the successful entrepreneur:	Trainee specific Crop Production Technology in Flowers + Post-Harvest Practices, Technology and Infrastructure + Producing Quality produce + Finance, Credit & Farm/ Project & Risk Management	Mentored by Successful entrepreneur
	Assignment	Identification of Risks and Measures to overcome these risks for successful and timely completion of project as per NHB scheme guidelines, standards and making profits.	

Day S1	6	Government organizations and Schemes and applicable laws	List of Institutions for promotion of Horticulture: State/ UT Govt., DAC&FW- CDB, NHB, CPCRI, UT Government, Central Schemes – SFAC, NCDC, MoFPI, APEDA, NABARD etc. NHM	State Dept. of NHB State/UT official APEDA, NCDC NABARD
S2		Technology Entrepreneurship & innovation	Technology areas & Providers Quality Planting Material, Package of practices, IPM, Soil and Crop health, Aerial spraying, Crop monitoring, Pest and Disease Surveillance, Weather Forecasting · Advisory services · Use of IT, Automation- Drones etc. · Crop wise Experts across India and State. · Contacts at CDB/ CPCRI/NHB/ UT Agri. Dept./ KAU/ ATMA/NHM Entrepreneurship: · What it is? Essential elements? · Entrepreneurship in Horti-business- salient features. · Steps involved in setting up an enterprise and laws to be complied. · Business avenues in trainees' context. · How to minimize cost of production and maximize profits. Innovation · What is innovation? Innovation in Horti-business?	Expert
		Knowledge and Statistics	· Maintain statistics- Growers, Area, Production, Productivity, Pest and Diseases, Age of plantation · What's app group; ICAR/SAU/SHU Newsletters · Advisories · Online news · Market information- State/UT , Domestic and Export Radio e-learning Kisan call center	
S 3		Evaluation 1hour	Training evaluation /Test on 1. Knowledge 2. Skill 3. Attitude Marks in the test are	Course Coordinator
		Total Marks Final Assessment	Classroom Participation	25%
			Timely Submission of assignment	25%
			Final Evaluation	50%

		Total Marks (are recorded in completion certificate)		
	Feedback 30 min.			Course Coordinator
	Discussion on feedback			
S4	Valediction			

Trainers' Material: to be used for preparing Participants Handbook first in English and then in local language as far as possible:-

The following web links are illustrative. Training Institute is requested to explore more and the best fit material for the trainees socio-economic condition, crop and enterprise.

S.No	Module	Reading Material	
		For the Trainer	For the trainee
1	Economic Potential and Specific State/ UTs context and Success stories.	<p>Horticulture Statistics at a glance: http://agricoop.gov.in/statistics/publication-reports</p> <p>World fruit and vegetable map: 2018: Robo Bank https://research.rabobank.com/far/en/sectors/regional-foodagri/world_fruit_map_2018.html</p> <p>APEDA AGRIEXCHANGE: http://agriexchange.apeda.gov.in/</p> <p>ICAR institutions publications on specific crop CII / FICCI/ASSOCHAM/ PHDCC reports</p> <p>http://www.fao.org/docs/eims/upload/210971/global_issues_paper.pdf</p> <p>Success stories: http://agritech.tnau.ac.in/success_stories/sstories_horti_2015.html</p>	
2	Personal skills development	Internet and YouTube	
3	Selection of cultivar and Production practices for high productivity	<p>ICAR institutions publications on specific crop Package of practices of specific crop (s). e-learning: videos from authentic sources- ICAR/ SAU/SHU/Global Institutions. ICAR e-courses: https://ecourses.icar.gov.in</p>	
4	Harvesting, PostHarvest Management / Infrastructure	<p>Analysis of FPO model for Vegetables https://nccd.gov.in/PDF/Analysis_FPO_model.pdf</p> <p>Doubling of Farmers Income Report: Vol.III and IV http://agricoop.gov.in/doubling-farmers</p>	
5	Processing / Value Addition	<p>ICAR / Any reputed R&D Institution publications e-learning: videos from authentic sources- ICAR/ SAU/SHU/Global Institutions.</p>	
6.	Supply/ Cold-chain development both for fresh and processed produce	<p>Cold Chain Awareness program https://nccd.gov.in/PDF/Cold-chain%20Awareness%20Booklet.pdf</p> <p>Analysis of NDDDB Model for Vegetables https://nccd.gov.in/PDF/Analysis_NDDDB_veg_model.pdf</p> <p>All India Cold Chain Infrastructure Capacity : Gap Analysis</p>	

		https://nccd.gov.in/PDF/CCSG_Final%20Report_Web.pdf	
7	Marketing and value chain development	<p>Directorate of Marketing and Inspection website: http://agmarknet.gov.in/</p> <p>Crop specific market information sources</p>	
8	Maintain quality of produce: Health & Food Safety / Traceability and Standards	<p>TNAU AgriTech portal on Food Safety: http://agritech.tnau.ac.in/gap_gmp_glp/gap_fresh%20%20fruits%20&%20veg.html http://agritech.tnau.ac.in/food_safetyindex.html</p> <p>Global Gap: https://www.globalgap.org/uk_en/</p> <p>INDGAP: http://www.qcin.org/CAS/INDGAP/</p> <p>Global gap India facilities: http://agriexchange.apeda.gov.in/Market%20Profile/Market_Intelligence/Annexure_III.pdf</p> <p>Food Traceability in India: http://facecii.in/sites/default/files/final_report-version_2.pdf</p> <p>FAO International Code of Conduct on Pesticide Management http://www.fao.org/agriculture/crops/thematicsitemap/theme/pests/code/en/</p> <p>TRACEABILITY IN FOOD AND AGRICULTURAL PRODUCTS: ITC, Switzerland publication at http://www.intracen.org/</p> <p>GRASP: Global GAP Risk Assessment on Social Practice The Global Social Compliance Programme GSCP https://www.gscpequivalenceprocess.com/</p>	
9	Finance, Credit & Farm/ Project & Risk Management	<p>Model DPR Templates for NHB Schemes www.nhb.gov.in</p>	
10	Cluster development : Collaborative farming/ FPOs/ FPC	<p>NHB Website: Proposed scheme: Horticulture Business Cluster and Supply chain development Programme</p> <p>FAO (2010) Agro-based clusters in developing countries: staying competitive in a globalized economy http://www.fao.org/docrep/012/i1560e/i1560e.pdf</p> <p>World Bank: Agriculture Clusters https://www.innovationpolicyplatform.org/sites/default/files/rdf_imported_documents/Agricultural_Clusters.pdf</p> <p>How Can the Poor Benefit from the Growing Markets for High Value Agricultural Products? FAO / UN Paper https://papers.ssrn.com/sol3/papers.cfm?abstract_id=944027</p> <p>Crop specific Producers Society and company online authentic sources</p>	

11	Government organisations and Schemes	http://agricoop.gov.in/ http://mofpi.nic.in/ http://apeda.gov.in/ http://nhb.gov.in/ http://coconutboard.nic.in/Scheme.aspx	
12	Knowledge and Statistics	ICAR Indian Horticulture Magazine: https://icar.org.in/node/9420 IIHR: https://iihr.res.in/documentary-video-clips-for-farmers FAO: http://www.fao.org/e-agriculture/stub-28	
13	Technology and Entrepreneurship	Visit ICAR – Institutions / Directorates/ Bureaux/ NRCs: https://icar.org.in/ Innovation in Agriculture: http://www.fao.org/3/CA2460EN/ca2460en.PDF Specific technologies: https://icar.org.in/content/agriculturaltechnologies e-learning: https://ecourses.icar.gov.in/ ICAR Publications: https://krishi.icar.gov.in/jspui/ Local University publications Local University success stories	
14	Protected (/Greenhouse / Shade net / Walk in Tunnel) cultivation	National Committee on plasticulture Agriculture with the Horticulture https://www.ncpahindia.com/ Agriculture Skill Council of India: Curriculum and Occupational / Qualification standards: http://asci-india.com/National%20Occupation%20Standards.php	
15	Cold Storage / Cold Chain Development		

Reading material for the trainee is to be prepared by the Training Institute based on trainers' reading material in local language either in brief or in detail based on the module and need. May share booklets or print out of detailed scientific package of practices recommended locally.

Success Stories: Illustrative

IARI	http://iari.res.in/index.php?option=com_content&view=article&id=539&Itemid=1516 http://www.iari.res.in/files/Pusa_Hydrogel.pdf
IIHR	https://iihr.res.in/success-stories
CISH	http://www.cish.res.in/success_story.php
CCRI Nagpur	https://www.youtube.com/watch?v=QwE6oFkq3F8
NRC Banana	http://nrcb.res.in/success-stories.php
CITH Srinagar	http://www.cith.org.in/index.php?option=com_content&view=article&id=83&Itemid=11&lang=en
IIVR	https://iivr.org.in/success-stories
Grapes	https://rkvy.nic.in/Uploads/SucessStory/TAMILNADU/2018/20180440133.%20GRS%20Success%20story.pdf

https://www.innovationpolicyplatform.org/sites/default/files/rdf_imported_documents/Agricultural_Clusters.pdf

Activities prior to training by KF Bioplants:

The training institute shall undertake

1. Desk Analysis:

- About specific commodity: State/ UT and District's Area, Production, Productivity, cost of cultivation, production, postharvest and marketing problems etc.
- Road map formulated by State/UT government to develop the area/crop / farmers income of the area including State/UT Economic Survey, Annual Report of Agriculture/Horticulture Dept., District website etc.
- Explore various research articles on crop production, marketing etc. of the State/ Area.
- Examine various study reports of Government agencies- State/ DAC&FW/ APEDA/ SFAC/MoFPI and private agencies- CII/FICCI/ASSOCHAM/ Others for the horticulture Development of the State, Specific location, India etc.

2. Preparation of training design and teaching-learning material.

- Preparation of training schedule with good mix of theory, practical's (both in class room and field visits) and home work (After class hours) and also physical fitness and site seeing.
- Participants Handbook: A brief note on each of teaching module in local language for circulation to each trainee, with the help of local technical expert.
- Preparation of case studies/ exercises for class room discussion / brain storming / homework.
- Access to internet and computers to explore the potential of technology.
- Identification of the best experts for each of the session and invitation of successful FPOs/ entrepreneurs/ experts for interaction session with the trainees.
- Identification of FPOs/Entrepreneurs/Firms/ Organisations for internship with clear Do's and Don'ts.
- Every trainee to come with 2 problems with respect to each of the session.
- Use of Audio-visual aids for teaching-learning& Good logistics for field visits

3. Identification of fields, FPOs, enterprises and operations etc. for the visit of trainees.

4. Good preparation of trainee's accommodation, food (of trainees cultural context as far as possible), primary health care etc.

Services by the KF Bioplants Pvt. Ltd

1. Facilities to Participants during training

- a. Safe and joyful learning environment.
- b. Classrooms are at: Sr. No 129/1 to 3C, Manjari (Bk) Tal. Haveli. Dist Pune

2. Hostel facilities are not in-house hostel in the campus.

We will avail service apartment for accommodation of participants

These service apartments are @ 5-7 km from company

3. Material to be made available to Participants by KF Bioplants Pvt. Ltd

- a. Training Brochure before training
- b. Reading Material during training

Post-training activities:

1. Take written feedback on each of session with respect to content, clarity and delivery style, opportunity for Q&A, accommodation, food, other facilities, suggestions for improvement etc. and share action proposed in future trainings, during valedictory session.
2. Submission of training report to be submitted within 15 days of completion.
 - a. Objectives, outputs and outcomes of training.
 - b. Training schedule
 - c. Trainee's / participant list with postal address and contact numbers.
 - d. Photographs and Video (Also to be hosted by training institute and NHB)
 - e. Analysis of feedback and action taken report.
 - f. Action taken on networking with trainees local R&D Institution / experts for regular extension and entrepreneurship development activities.
 - g. Utilisation Certificate.

Photographs of Campus/ Class rooms / Hostel / Technology / Infrastructure



KF BIOPLANTS PVT. LTD.



KF Bioplants - CAMPUS



SEMINAR ROOM for up to 10 candidates



Seminar Hall for above 10 participants



PLANT GROWTH ROOM



PLANT INOCULATION ROOM



Demonstration House –Gerbera



Demonstration House - Roses



PLANT HARDENING UNIT



Note: Hostel facilities are not in-house hostel in the campus.

We always avail service apartment for accommodation for our guest and executives who visit the head office for quarterly meetings.

The same service apartments will be provided to participants

These service apartments are @ 5-7 km from company, bus service available for pickup and drop..