

TRAINING MANUAL



GOVERNMENT OF HIMACHAL PRADESH
DEPARTMENT OF HORTICULTURE

TABLE OF CONTENTS

Chapter	Subject	Page
CHAPTER I	INTRODUCTION AND TRAINING OBJECTIVES	
1.1	Introduction	1
1.2	Training objectives	1
CHAPTER II	TRAINING POLICY	
2.1	Main features of training policy	2
CHAPTER III	FUNCTIONS, OBJECTIVES AND RESPONSIBILITY OF THE DEPARTMENT	
3.1	Functions, objectives and responsibility of the department	7
CHAPTER- IV	ORGANISATIONAL SET UP OF THE DEPARTMENT	
4.1	The Secretariat	8
4.2	The Directorate	8
4.3	The District and field level offices	8
4.4	The organisational chart of the department	8
CHAPTER V	DUTIES AND RESPONSIBILITIES OF FUNCTIONAL POSTS	
5.1	Technical posts	10
5.2	Non-Technical ministerial posts	16
5.3	Class-IV Technical posts	17
CHAPTER VI	TRAINING NEEDS OF THE DEPTMENT	
6.1	Introduction	18
6.2	Training needs of technical staff	18
6.3	Training needs of non-technical/ministerial staff	18
CHAPTER VII	DEPARTMENTAL SCHEMES AND PROGRAMMES	
7.1	Introduction	22
7.2	State plan schemes	22
7.3	Central sector schemes	29
CHAPTER VIII	TRAINING PLAN	
8.1	Introduction	31
8.2	Approval of training plan	31
8.3	Orientation cum induction training plan	31
8.4	Training plan for technical staff	31
8.5	Training plan for non technical staff	32
8.6	Training plan for class-IV staff	32
8.7	Training cum exposure visits outside the state	32
8.8	Number of training to be attended at different level	32
8.9	Cost estimate of annual training plan	33

CHAPTER IX	TRAINING MODULE	
9.1	Training module for newly recruited HEOS and HDOS	38
9.2	Training of trainers	38
9.3	Training module for training of technical staff	39
9.4	Training module for training of non- technical staff	41
9.5	Training module of sponsored training programme for technical & ministerial staff organised by HIPA	41
9.6	Module for training cum exposure visit of the technical officers outside the state	43
9.7	Assessment of trainees	43
CHAPTER X	TRAINING INSTITUTE	
10.1	Training Institute for training within state	65
10.2	Training Institute for training outside the state	65
10.3	Officers to be deputed on training outside the state	65
10.4	Approval for attending training outside the state	65
CHAPTER XI	TRAINING OF FARMERS	
11.1	Introduction	69
11.2	Objectives	69
11.3	Venue, Duration and number of camps	69
11.4	Training of women farmers	70
11.5	Trainers for farmers training	70
11.6	Feed back from the farmers and trainers	70

ABBREVIATIONS

DHHP	Director of Horticulture, Himachal Pradesh
ADH	Additional Director of Horticulture
JDH	Joint Director of Horticulture
PDM	Project Director (Mushroom)
DDH	Deputy Director of Horticulture
SPPO	Senior Plant Protection Officer
SMO	Senior Marketing Officer
SAO	Senior Analytical Officer
HE	Horticulture Economist
FT	Fruit Technologist
DHO	District Horticulture Officer
SMS	Subject Matter Specialist
SMS (O&N)	Subject Matter Specialist (Orchards & Nurseries)
SMS (BCL)	Subject Matter Specialist (Bio- Control Lab)
SMS (MFC)	Subject Matter Specialist (Model Floriculture Centre)
APO	Assistant Project Officer
BKDO	Bee Keeping Development Officer
NICO	Nursery Inspection & Certification Officer
MDO	Mushroom Development Officer
QCO	Quality Control Officer
PSO	Procurement & Sales Officer
PPO	Plant Protection Officer
AF	Assistant Floriculturist
MCC	Manager cum Chemist
AAO	Assistant Analytical Officer
AMO	Assistant Marketing Officer
FM	Food Microbiologist
APHP	Assistant Post Harvest Physiologist
AO	Administrative Officer
RO	Research Officer
ARO	Assistant Research Officer
PO	Photo officer
AC (F&A)	Assistant Controller (Finance & Accounts)
SO	Section Officer
HDO	Horticulture Development Officer
HEO	Horticulture Extension Officer
MNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
IPM	Integrated Pest Management
PUC	Paper under Consideration
UHF	University of Horticulture & Forestry
HIPA	Himachal Institute of Public Administration
PCDO	Progeny cum Demonstration Orchards
MTC	Model Training Course
RKVVY	Rashtriya Krishi Vikas Yojna
HMNH	Horticulture Mission for North East and Himalayan states

CHAPTER-I

INTRODUCTION AND OBJECTIVES

1.1 Introduction

The need for training of government employees hardly requires any emphasis. It is pertinent to mention here that the competence, skills and attitude of the Govt. employees have a great bearing on the quality of their output. Training is valuable to both employee and employer. Increased knowledge makes the employees more productive in their workplace and thus more valuable to the organisation. It helps to keep motivated and break up normal routine. Some people sit in the same office for years doing the same things in a similar fashion over and over. Training can help one to get beyond the daily routine and perhaps energize one to do better work. Part of the emerging process of training is found in the relationships formed during training sessions. Training offers a time to network with and connect with other professionals. Training is one of the effective and tested tools for performance enhancement, as well as up gradation of knowledge and skills of the personnel. Organisational motivation and morale, as reflected in the attitudes and administrative culture, are rendered relevant and sharply focussed through effective training programmes.

The fast development of horticultural industry in the past four decades has opened vast opportunities for skilled manpower on various aspects of horticultural operations. Implementation of suitable human resources development programme for skill improvement in various horticultural techniques is the need of horticultural industry. Training is an important tool for the transfer of technology. The importance of training is realized more in an avocation like horticulture whose specialized practices like Fruit preservation, beekeeping, mushroom production, floriculture, hops production, medicinal and aromatic plant cultivation etc. can be effectively learnt only through continuous training process. It is important that all employees are updated on their knowledge periodically and are acquainted with the ever changing environment of governance. The Govt machinery would have to be continuously attuned to the changing needs.

1.2 Training objectives

- To update and enhance professional knowledge and skills needed for better performance of individuals and department as a whole.
- To bring about efficiency in delivery of better services to the masses.
- To bring about the right attitudinal orientation in every trained employees.

CHAPTER -II

TRAINING POLICY

2.1 Main features of Training policy

As per Himachal Pradesh training policy, 2009 of the State Government, every personnel from Class-I to Class –IV is required to undergo training for his skill development at the time of induction and at least once in five years or before promotion. The training policy has following important features.

2.1.1 Training for All

The objective of the policy is to provide training to all Govt servants at regular intervals during their career. Department of horticulture has the mandate to educate and provide advisory services to the farming community for the development of horticulture industry in the state. Technical works of the department are carried out by the technical officers and supported by the non technical ministerial staff. Hence training shall be provided to all technical and non- technical staff of horticulture department irrespective of their grade or level in the department. For the purpose of appropriate training design, the target groups have been divided into different levels according to their training needs. There is a total sanctioned strength of 2421 numbers of various categories of posts in Department of Horticulture. The strength of technical posts is 1922, which include class-I, class-III and class-IV level posts and non technical posts are 499. The detail is given below.

Table 2.1 Category wise strength of various Posts in Department of Horticulture

S.N.	Type of post	Level of post	Total Strength	Gender wise number of employees in position out of total as on 31-12-2010.	
				Men	Women
1	Technical posts	Class-I	366	241	27
		Class-III	641	445	26
		Class-IV	915	703	180
	Total		1922	1389	233
2	Non – Technical/ministerial posts	Class-I	6	3	--
		Class-II	36	30	2
		Class-III	246	156	32
		Class-IV	211	197	10
	Total		499	386	44
	G.Total		2421	1775	277

The category wise detail is given at **Annexure-I**.

2.1.2 Training coverage:-

- Training for the lowest level class-IV staff i.e. technical staff comprising of Beldars, Skilled Grafter posted at the Horticulture Extension Centres, Block level, PCDOS/Fruit Nurseries and non- technical staff like Peon and Chowkidars in the offices.

- Training for class-III, posted at the Development Blocks, Horticulture Extension centres, Plant Protection Centres, Fruit Canning units, Mushroom Units, Bee Keeping stations, PCDOS, Fruit Nurseries, Flower Nurseries at the grass root level namely Horticulture Extension Officers, Bee Keepers, Laboratory Assistant etc. Training of class-III ministerial staff posted at the directorate, district & other field offices of the Department of Horticulture.
- Training of block level technical officers i.e. Horticulture Development Officers for the better delivery of public services & dissemination of technical knowhow to the framers and orchardist of the state.
- Training of the middle supervisory, technical officers comprising of District Horticulture Officers at the District level, Subject Matter Specialist and other equivalent posts at the district and in potential fruit growing areas, directorate level, Fruit Technologist in fruit canning units, Bee Keeping Development Officer, Mushroom Development Officer, Assistant Floriculturist. The training shall focus on professional excellence, leadership, deep perception of interrelated issues.
- Training of top management level technical officers like Deputy Director of Horticulture at the district and directorate level. The training shall focus on strategic planning, lateral thinking, project management and monitoring.

All the departmental employees shall be trained over a period of five year as per the H.P. state training policy, 2009. The detail is given in **Table 2.2** below.

Table 2.2 Year wise number of employees to be trained during five year period under the H.P. state Training policy, 2009

S.N.	Category	Total strength	Year wise number of employees to be trained					Remarks
			1 st year	2 nd year	3 rd year	4 th year	5 th year	
1	Dy. Director, SMS, DHO and equivalent posts	80	20	20	20	20	-	1. The actual strength of staff shall vary keeping in view retirement of old staff and recruitment of new. 2. The four numbers of top management supervisory officers at the level of DHHP, ADH, JDH and PDM shall get adequate training at the DDH, DHO, SMS level
2	Horticulture Dev. Officer and equivalent posts	282	60	60	60	60	42	
4	Horticulture Extension Officers and equivalent posts	641	125	125	125	125	141	
3	Other technical staff	68	15	15	15	15	8	
5	Ministerial staff	220	40	40	40	40	60	
6	Beldars and Skilled grafter	915	180	180	180	180	195	
7	Chowkidars and Peons	211	40	40	40	40	51	
	Total	2417	480	480	480	480	497	

2.1.3 Training plan

Department shall prepare training plan for providing training to its employees during the year. The detailed features of the training plan are given in **chapter-VIII**.

2.1.4 Training Manager

Department shall designate a Nodal Officer or training manager to monitor and coordinate the human resource development issues. He will act as 'Training Manager' to be responsible for monitoring and implementation of the Training Plan in the Department as per the state training policy, 2009.

2.1.5 Training Methodology

All available modern methods of training like lecture, group discussions, project work, audio visual materials, printed materials case studies/action learning, brain storming etc shall be used for training of departmental employees in training institute.

2.1.6 Training budget

The state Govt shall provide adequate funds under the state plan scheme for providing training to the employees of the state Department of Horticulture. The H.P. state training policy 2009 aims at earmarking approximately 1% of the salaries head of annual budget for incurring expenditure on training of employees in the department of horticulture under "SOE" Training. The funds allotment under the "Training of trainers" component of Horticulture Mission shall also be utilised for training of departmental officers within and outside the state.

2.1.7 Training review committees

The state level Empowered Committee headed by the Chief Secretary will review Annual Action Plan for training of employees. The training review committee of the department under the chairmanship of the Secretary shall meet at least once in every quarter and shall monitor and review the work of training of employees of horticulture department.

Category wise sanctioned strength in Department of Horticulture

S.N.	Level of post	Designation of post	Post wise Sanctioned strength
1	Class-I	Director of Horticulture	1
2		Addl. Director of Horticulture	1
3		Joint Director of Horticulture	1
4		Project Director (Mushroom)	1
5		Administrative Officer	1
6		Horticulture Economist	1
7		Sr. Marketing Officer	1
8		Sr. Plant Protection Officer	1
9		Sr. Analytical Officer	1
10		Fruit Technologist	1
11		Dy. Director of Horticulture (Inf.)	1
12		Dy. Director of Horticulture	13
13		Distt. Horticulture Officer	11
14		Assistant Project Officer	2
15		Mushroom Development Officer	1
16		Subject Matter Specialist	31
17		Plant Protection Officer	1
18		Nursery Ins. & Certification Officer	1
19		Bee Keeping Development Officer	2
20		Asstt. Post-Harvest Physiologist	1
21		Asstt. Marketing Officer	1
22		Asstt. Analytical Officer	1
23		Quality Control Officer	1
24		Procurement & Sales Officer	1
25		Food Microbiologist	1
26		Asstt. Floriculturist	1
27		Land Scape Architect	1
28		Private Secretary	1
29		Research Officer	1
30		Superintendent Grade-I	2
31		Asstt. Controller(F&A)	1
32		Hort. Dev. Officer	263
33		Research Assistants	2
34		Sr. Chemical Assistant	3
35		Manager-Cum-Chemist	7
36		Sr. Technical Assistant(F/T)	1
37		Sr. Technical Assistant(F/M)	1
38		Quality Control Inspector	1
39		Fruit Preservation Asstt.	4
		Total	372

40	Class -II	Photo Officer	1
41		Section Officer	2
42		Superintendent Grade-II	23
43		Personal Asstt.	1
44		Law Officer	1
45		Asstt. Research Officer	7
46		Architectural Asstt.	1
		TOTAL	36
47	Class-III	Investigator	9
48		Junior Engineer	1
49		Screen Painter	1
50		Statistical Asstt.	2
51		Sr. Asstt.	58
52		Clerks	98
53		Sr. Scale Stenographer	6
54		Foreman	1
55		Photographer	1
56		Librarian	1
57		Jr. Scale Stenographer	7
58		Horticulture Extension Officer	510
59		Field Investigator	5
60		Surveyor	1
61		Draughtsman-cum-Tracer	1
62		Demonstrator	9
63		Sr. Boiler Attendant	1
64		Drivers	55
65		Steno Typist	19
66		Computer	1
67		Boiler Attendant	1
68		Machine Operator	1
69		Compositor	1
70		Binder	1
71		Laboratory Asstt.	32
72		Jr. Technician	17
73		Operator/Project Operator	6
74		Bee-Keeper	38
75		Glass Blower	1
76		Machine Man	1
77		Asstt. Mistry	1
		Total	887
78	Class-IV	Gestetner Operator	1
79		Head Mali/Skilled Graphter	76
80		Cleaner	6
81		Beldar	839
82		Peon	85
83		Chowkidar	115
84		Sweeper	4
			1126
		Grand Total	2421

CHAPTER-III

FUNCTIONS AND RESPONSIBILITY OF THE DEPARTMENT

3.1 Functions, Objective and responsibility of the department:-

Department of Horticulture has to perform the following functions to develop horticulture industry in the state.

- Implementation of Horticulture development schemes under state plan and centrally sponsored sectors, aiming at the integrated development of horticulture, so as to ensure balanced development of horticulture industry in all agro climatic regions of the State to achieve improvement in horticulture production and productivity.
- Maintenance of Progeny Cum Demonstration Orchards (PCDOS) for demonstration of modern horticulture practices to the farmers and production of quality planting material in Fruit Nurseries of the department for distribution to the farmers.
- Strengthening of training and extension programme for the transfer of technology to the farmers for increasing horticultural production by organizing training camps/ workshops/ seminars/ courses/ study tours etc. for the farmers as well as to the technical officers and field functionaries of the Department of Horticulture.
- Improvement of processing infrastructure for horticulture produce. Utilization of unmarketable surplus of fruits and vegetable in the state by converting into various processed fruit products. Providing community canning services to the local population in each district. Organizing training in home scale preservation of fruits and vegetables in rural areas especially for women folk. Providing consultancy and technical advisory services to the entrepreneurs for setting up of their own processing units.
- Preparation of optimum and economic fertilizer schedule for fruit orchards of individual farmers based upon the plant tissue analysis in existing fruit plant nutrition laboratories and providing free advisory services to the fruit growers. Survey of different fruit growing pockets in the state to assess the nutritional status of orchards and in the long run to prepare nutritional map of fruit growing areas.
- Enforcement of various acts relating to nursery registration, inspection, certification, plant quarantine, plant protection and control of obnoxious weeds etc.
- Promotion of Integrated Pest Management (IPM) for fruit crop protection through use of technologies like use of bio-chemicals, biological control of insect pests and diseases etc. that may reduce the use of chemicals, harmful for human health and environment.
- Promotion of ancillary horticulture activities like Floriculture, Bee Keeping, and Mushroom Cultivation.
- Combating/compensating the menace of natural calamities to reduce losses in production
- Strengthening of Horticulture Research, Development and Extension infrastructure and activities
- Improvement of post harvest management infrastructure and marketing of horticulture produce, market intelligence, market intervention scheme (MIS), grading and packing of horticulture produce and standardisation of maturity picking standard.

In order to achieve the above objectives it is imperative to frame a training manual to provide training to all employees of the department at regular interval to improve and upgrade their skills for delivering better services to the orchardist of the state

CHAPTER-IV

ORGANISATIONAL SET UP OF THE DEPARTMENT

In broad terms, the departmental set up is divided into three levels as under:-

- i) The Secretariat
- ii) The Directorate
- iii) The District level and other field offices

There is a clear and distinct division of functions between the Secretariat, the Directorate and the field offices.

4.1 The Secretariat

Department of Horticulture works under the administrative control of the Principal Secretary (Horticulture) to the Govt of Himachal Pradesh, who assists and provides support to the Minister in charge of the Department. All the Govt policies, programmes, plans, rules and instructions are framed, approved and finally issued for implementation by the Secretariat.

4.2 The Directorate

The functions of the Directorate are Planning, Technical and Financial Management, Monitoring of progress under various schemes/programmes/projects and providing necessary feedback to the state Govt. about implementation of various policies and programmes of the state Govt. regarding horticulture development in the state. The Directorate is headed by the Director of Horticulture and supported by the technical and non- technical staff at the Directorate and field level.

4.3 The District level and other field offices

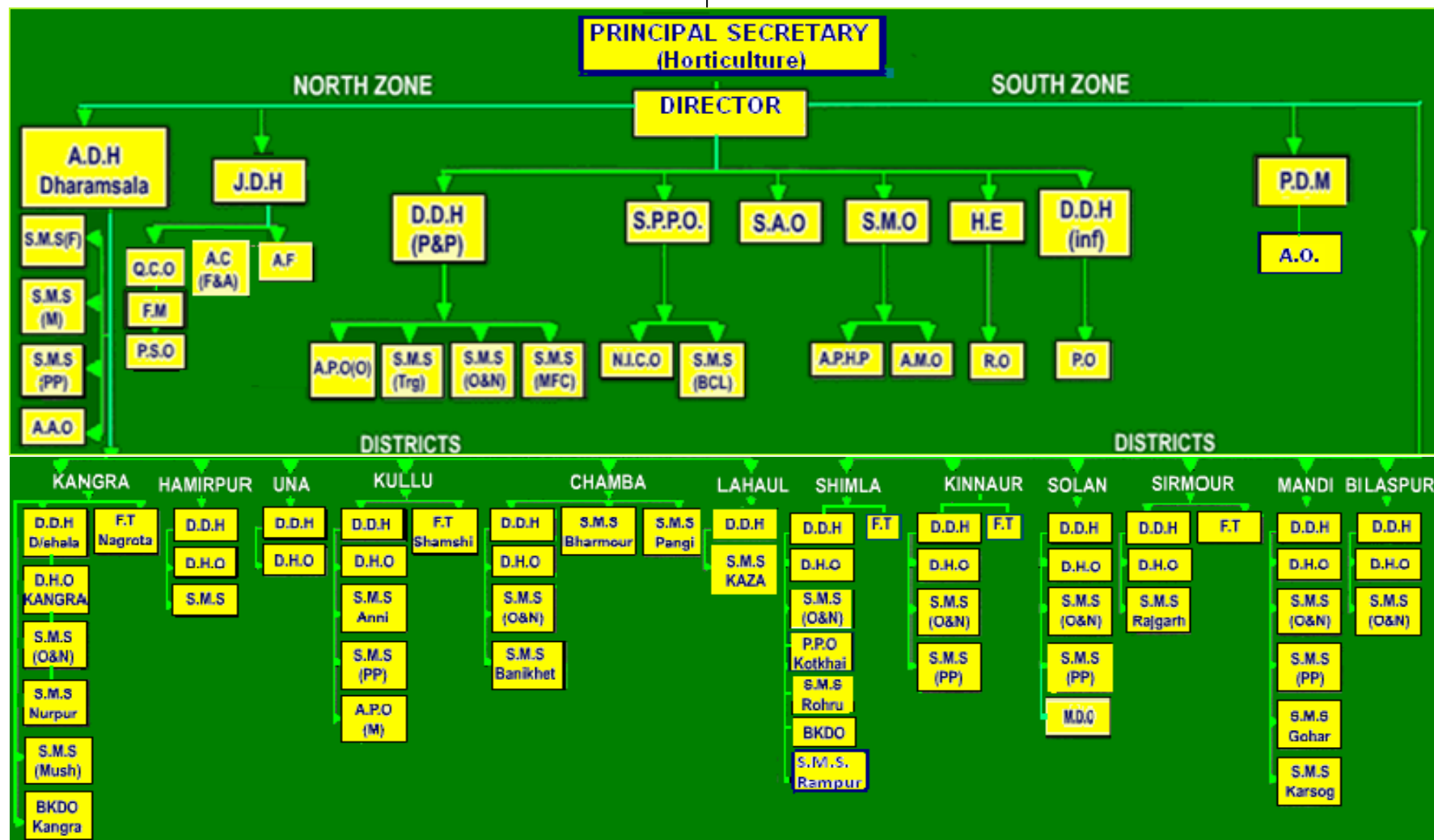
Each District has an office of Deputy Director of Horticulture, who is assisted by other technical officers like District Horticulture Officer, Subject Matter Specialist, and Horticulture Development officers at the District headquarter and block level. The Deputy Director of Horticulture is head of office in respective district and drawing disbursing officer. Actual execution and implementation of the policies / programmes, schemes is done at this level.

4.4 The organisational chart of the Department of Horticulture

The organisation set up of department of horticulture has been given in the form of chart for better overview at **Annexure-II**

Organizational chart of Department of Horticulture, HP

HON'BLE HORTICULTURE MINISTER



CHAPTER-V

DUTIES AND RESPONSIBILITIES OF KEY/ FUNCTIONAL POSTS

Although there are 84 types of various posts in the department as given at **Annexure-I**, the duties and responsibilities of key, functional and equivalent posts are given below:-

5.1 Technical posts

S. N.	Designation	Duties & responsibilities
1	Director of Horticulture	➤ Being administrative and professional head of the Horticulture Department in the State, he is responsible for the efficient working of the Department and shall exercise all administrative, financial and technical powers as exercised by the Heads of the Department in Himachal Government.
2	Additional Director of Horticulture	➤ The Additional Director of Horticulture whose office is situated at Dharamsala is the overall Controlling Officer of six Districts of the North zone i.e. Kangra, Chamba, Una, Hamirpur, Kullu and Lahaul & Spiti. ➤ To exercise all powers delegated to him or her pertaining to Administrative, Technical and Financial matters. All these matters of the offices under his control shall be routed through him along with proper recommendations.
3	Joint Director of Horticulture	➤ The Joint Director Horticulture (HQ.) assists the Director of Horticulture in the performance of his duties and responsibilities. He is responsible to deal with and finalize the entire Audit and legal matters and whatsoever other related duties entrusted to him. ➤ To act as the controlling Officer of all the departmental Fruit Canning Units of the State.
4	Project Director (Mushroom)	➤ The Project Director (Mushroom) shall assist the Director of Horticulture in performance of his duties and responsibilities. ➤ To be responsible to deal with and finalize all the Establishment matters and whatsoever other related duties entrusted to him. ➤ To act as Controlling Officer for the entire activities relating to Mushroom Development to be assisted by the Mushroom Development Officer, Subject Matter Specialist (Mushroom) and supporting staff provided under the Mushroom Development Scheme

5	Senior Marketing Officer	<ul style="list-style-type: none"> ➤ Senior Marketing Officer is responsible for the entire horticulture marketing activities and development of horticulture marketing infrastructure in the state. ➤ To look after the implementation of Market Intervention Scheme(MIS) and arrangement of packaging material, survey for market intelligence and provides technical expertise to the fruit growers with regard to the maturity standards, scientific harvesting, grading, packing and marketing of horticulture produce
6	Senior Plant Protection Officer	<ul style="list-style-type: none"> ➤ Senior Plant Protection Officer is responsible for the entire plant protection/Beekeeping development activities in the state. ➤ To be responsible for procurement and timely supply of pesticides and Plant Protection equipments to the farmers. ➤ To prepare the Spray Schedule for the control of Pests & Diseases, organize the campaign against any outbreak of diseases and pests in epidemic form, will work on enforcement of Central Insecticide Act and other acts relating to the nursery inspection and certification, plant quarantine and control of obnoxious weeds etc. ➤ To promote the integrated pest management (IPM to reduce the use of chemicals and will act as controlling officer of the Biological Control Laboratory, Rajhana.
7	Senior Analytical Officer	<ul style="list-style-type: none"> ➤ To look after the work of preparation of optimum and economic fertilizer schedule for fruit orchards based upon the plant issue analysis. ➤ To provide advisory services to the fruit growers in the field, conduct survey in the different fruit areas to assess the nutritional status of the orchards, conduct adaptive trials regarding efficiency of various fertilizers and organic manures with the help of Senior Chemical Assistant/Research Assistant/Laboratory Assistants. ➤ To act as overall Controlling Officer of Fruit Nutrition Labs in the Department.
8	Fruit Technologist	<ul style="list-style-type: none"> ➤ The Fruit Technologist is responsible for entire Fruit & Vegetables Processing work in the respective Fruit Canning Unit. ➤ To be responsible for providing community-canning services, organize training in home scale preservation of fruits & vegetable in rural areas especially for women folk, product development and standardization of recipe based upon the raw material available in the State. ➤ To ensures the quality control over the production of fruit products and provides technical advisory services to the entrepreneurs for setting up of their processing units. ➤ Assisted by the Procurement and Sales Officer, Food Microbiologist, Quality Control Officer in discharge of his duties.

9	Deputy Director of Horticulture(Planning & Projects)	<ul style="list-style-type: none"> ➤ The Deputy Director of Horticulture (Project and Planning) is the Incharge of Branch–IV (Technical Branch) and is responsible for all planning process in the department. ➤ To be responsible for preparations of plans, projects and strategies for the development of horticulture in the state, training of officers in the department in Human Resources development and maintenance of progeny orchards, nursery production work and execution of all developmental schemes run by the department. ➤ Assisted by the Assistant Project Officer, Subject Matter Specialists and Horticulture Development Officers posted in the Branch- IV.
10	Horticulture Economist	<ul style="list-style-type: none"> ➤ Horticulture Economist is responsible to regulate, monitor and evaluate the progress under various departmental schemes and forecasting and maintenance of data relating to the horticulture such as production & area under horticultural crops, conducting of crop cutting experiments, cost of production of various fruit crops etc. ➤ To work for establishment of modern communication system for scientific data management and information dissemination in assistance with Research Officer,
11	Deputy Director of Horticulture (Information)	<ul style="list-style-type: none"> ➤ The Deputy Director of Horticulture (Information) looks after the entire publication work viz. farm bulletins, technical pamphlets, booklets, posters, handouts, newsletters etc. ➤ To act as the spokesman for the department in media and all the press notes and publication work relating to departmental activities. ➤ The entire publicity through Radio and Television and organization of farmer's fairs, Horticulture shows, and exhibitions is conducted by him with assistance of Horticulture Development Officers, Photo Officer and other staff provided to him.
12	Deputy Director of Horticulture (in districts)	<ul style="list-style-type: none"> ➤ The Deputy Director of Horticulture is the Head of Office, Drawing and Disbursing officer in his respective District. ➤ To act as the controlling officer of the other independent offices of the department in his districts except the fruit canning units. ➤ The Deputy Director of Horticulture posted in the District level implement and co-ordinate all the horticulture development and extension activities in their respective District. ➤ To be responsible for the supply of horticulture inputs, pesticides, tools and plant protection equipments to the public and execution of all the programmes in his respective District with the help of the supporting staff.

13	District Horticulture Officers	<ul style="list-style-type: none"> ➤ The District Horticulture Officers is under the direct and overall control of the Deputy Director of Horticulture in the respective District. ➤ To plan, coordinate and execute all the horticultural extension work under the guidance of Deputy Director of Horticulture. ➤ To organize the training camps/seminars/workshops/exhibitions and extend latest technology in horticulture amongst the farmers and fruit growers under the guidance of Dy. Director of Horticulture.
14	Assistant Officer(APO) Development PCDO, District Kullu Project Fruit Project Bajaura,	<ul style="list-style-type: none"> ➤ Act as the Incharge, Drawing, and Disbursing officer of the Mushroom Composting unit and Fruit Development Project, Bajaura. ➤ Responsible for promotion of Mushroom Development activities in two Districts of the State (Kullu and Lahaul & Spiti). ➤ To be responsible for the nursery production work, development and maintenance of the Progeny-cum-Demonstration Orchard at Fruit Development Project, Bajaura. ➤ To organize training camps for the mushroom growers of the area under his jurisdiction.
15	Subject Matter Specialist (O&N) at the Directorate.	<ul style="list-style-type: none"> ➤ Looks after the Progeny cum Demonstration Orchards (PCDO'S) and Fruit Nurseries of the Department of Horticulture at the Directorate level. ➤ Keeps record of demand and availability of winter & rainy season fruit plants and makes allotment to various districts for distribution of fruit plants to the farmers of the state. ➤ To act as the nodal officer or training manager for the implementation of training policy for training of departmental employees of the department of Horticulture. ➤ All the files pertaining to Natural calamities, crop insurance, vidhan sabha assurances, parliament's questions, training are routed through him.
16	Assistant Officer (at the directorate) Project (at the directorate)	<ul style="list-style-type: none"> ➤ To be responsible for formulation of the Annual and five year plans of General, SCSP, TSP, BASP under the State Plan Schemes and new projects under Central Assistance Schemes with the guidance of the Dy. Director of Horticulture (Planning and Projects). ➤ All the relevant files pertaining to planning section are routed through him.

17	Subject Matter Specialists horticulture (in districts)	<ul style="list-style-type: none"> ➤ To be under the direct control of the Deputy Director of Horticulture in the respective district and perform the additional work entrusted to him from time to time by his controlling Officer. ➤ To be responsible for the maintenance of Government Progeny-cum-Demonstration Orchards in the district. ➤ To look after the nursery production works in the district and will arrange all inputs for maintenances of these orchards and nurseries. ➤ To look after the plant protection, Floriculture and Horticulture Marketing in his respective district
18	Research Officer	<ul style="list-style-type: none"> ➤ Assists the Horticulture Economist in monitoring and evaluation of the various schemes/programmes being implemented by the Department. ➤ Plans, survey and finalize instructions, conduct general supervision of the field works of the schemes being implemented and edit the technical reports. ➤ Prepares the questionnaires, schedules and instructions for conducting surveys also prepares various periodical reports for submission to the Government under the supervision of Horticulture Economist. ➤ To finalize the data related to the production and export of fruits collected from the fruit export barriers. ➤ To be responsible for the implementation of AGRISNET and other IT related schemes, maintenance and updation of the departmental website.
19	Bee-Keeping Development Officer BKDO (in North & South zones)	<ul style="list-style-type: none"> ➤ Bee-keeping Development Officers looks after the entire Bee-Keeping activities in his area of jurisdiction. ➤ To be responsible for the introduction and multiplication of the elite strain of honeybees in his zone, application of modern techniques in Bee-Keeping and organization of training camps/courses other extension activities and demonstration to the Private Bee-Keepers with the help of the supporting staff. ➤ To explore the opportunities for self-employment to the rural youth through development of apiculture in his area of jurisdiction. ➤ To arrange bee colonies for pollination and looks after the work of processing of quality honey under 'Agmark' grading in the Department Labs.
20	Assistant Floriculturist (AF)	<ul style="list-style-type: none"> ➤ The Assistant Floriculturist looks after the entire work of the Floriculture division with the assistance of supporting staff. ➤ To perform the work of introduction and multiplication of the planting material/bulbs/seeds/improved flower varieties etc. to the flower growers. ➤ To organize training camps, National/State level flower shows/Exhibitions and demonstration to the commercial flower growers

21	Assistant Post Harvest Physiologist (APHP)	<ul style="list-style-type: none"> ➤ Assists the Senior Marketing Officer in implementation of the programmes relating to post harvest management of fruits in the State. ➤ To look after the work of Market Intervention Scheme. ➤ Makes arrangements of Packaging, Post Harvest Handling and transportation of fruits. ➤ To provide technical advisory service regarding picking, packing, grading and marketing of fruits to the growers
22	Quality Control Officer (QCO)	<ul style="list-style-type: none"> ➤ To act as the officer in charge of the Composite Quality Control and Product Standardization Laboratory at Shimla. ➤ To ensure the quality of fruit products being processed at the Departmental fruit canning units through analysis of samples and issue the recommendation for maintaining the uniformity of the HIMCU fruit products according to the norms of FPO 1955.
23	Procurement & Sales Officer(PSO)	<ul style="list-style-type: none"> ➤ To be responsible for effecting the general purchases of Store/Stock items in the fruit processing units of the Department. ➤ To look after the job of procurement of raw material, machinery and other accessories for the Departmental Fruit Canning Units and sale of the processed products. ➤ To assist the Joint Director of Horticulture for all technical correspondence with departmental Fruit Canning Units, State Government, Union Government and other Departments/Institutions related to fruit processing activities.
24	Nursery Inspection & Certification Officer (NICO)	<ul style="list-style-type: none"> ➤ To be responsible for registration, inspection & certification of Departmental & private nurseries in the state. ➤ To be responsible for the implementation of HP Fruit Nursery Registration Act, 1973 in its spirit for production of quality plant material in the State.
25	Manager-cum-Chemist (MCC)	<ul style="list-style-type: none"> ➤ To function as Production Incharge of Fruit Canning Unit of the Department. ➤ To be responsible for the overall maintenance and functioning of the Fruit Processing Unit, quality production and supply of fruit products at his unit with the assistance of supporting staff. ➤ To organize and impart training to the farmers of the area related to Home Scale preservation of fruit and vegetable.

26	Horticulture Development Officer (HDO)	<ul style="list-style-type: none"> ➤ To be responsible for the implementation of all Horticulture Development Schemes in his area, preparation of Horticulture Development Plan with the help of the Horticulture Extension Officer, arrangement, stocking and supply of plant material, horticulture inputs, pesticides and plant protection equipments. ➤ To ensure the production of quality plant material in the Departmental/Private registered nurseries in his area and supply thereof to the farmers as per the provisions of the H.P. Fruit Nurseries Registration Act, 1973. ➤ To organize the training camps, seminars, workshops, meetings, exposure visits etc. for the farmers of his area.
27	Horticulture Extension Officer (HEO)	<ul style="list-style-type: none"> ➤ To function as Incharge of Progeny-cum Demonstration Orchards/Nurseries / Horticulture Extension Centre/Plant Protection Sub Centre/Flower Nurseries, where posted independently. ➤ To arrange supply of plant material, pesticides, horticulture inputs & organizes the horticulture training camps for farmers in his circle. ➤ To assist the Horticulture Development Officer of the area in implementation of the schemes of the department and verification of works carried out by the farmers in the field for release of subsidy.
28	Bee-Keeper	<ul style="list-style-type: none"> ➤ To assist the Incharge of the Apiary in maintenance/multiplication of bee colonies and beehives. ➤ To be responsible for the extraction of honey and maintenance of the account of the production and sale of Honey, migration of bee colonies and their upkeep /multiplication at the new station.

5.2. Non –technical /ministerial posts

S. N	Designation	Duties and responsibilities
1	Administrative Officer (AO)	<ul style="list-style-type: none"> ➤ To keep watch over timely submission of returns/information to the quarter concerned. ➤ To maintain liaison with other departments with regard to various activities, schemes, programmes of the department and to attend meetings to represent the department as and when directed by the Head of Department and to present the viewpoint of the department as per direction of the superior. ➤ Allocates subjects to different sections under his charge; allocate work of a section amongst various dealing hands. ➤ To assist the Head of Department in decision-making and formulation of plans, and programmes. ➤ To monitor and evaluate progress of implementation of Government decisions, plans, programmes and suggest changes, if needed.

2	Superintendent grade-I & II	<ul style="list-style-type: none"> ➤ To keep a careful watch on movement of dak and files between the section and higher offices and also to ensure timely submission of retunes to the concerned office. ➤ To be well acquainted with the office procedures ,Acts, Rules, Manuals and instructions of a general nature relating to Finance, Personnel and General Administration Section where posted; ➤ To see that all manuals, Acts, Rules instructions, Guard files and Registers of the section are kept up to- date by inserting correction-slip or getting new editions printed.
3	Senior Assistant/ Junior Assistant/Clerk	<ul style="list-style-type: none"> ➤ Preparation of all types of bills such as pay, travelling allowance, medical reimbursement, contingencies, contractors, suppliers and advances etc. ➤ Handling of cash, maintenance of cash books and connected accounts/bills registers etc. if required, by the Drawing and Disbursing Officer Head of office at field level. ➤ Personnel/service/establishment matters, recruitment and promotion rules, conditions of service, posting, transfers, maintenance of service books, index cards, service records, preparation of leave accounts, pension papers, disciplinary matters. ➤ Budget preparation including appropriation, re-appropriation, supplementary demands for grants, additional grants, contingency fund, all matters relating to Public Accounts Committee, Estimates Committee, Audit Paras, Economy in Expenditure etc. Weeding out/destroy of files/records after the expiry of the period of preservation in accordance with the prescribed guidelines.

5.3. Class- IV technical posts

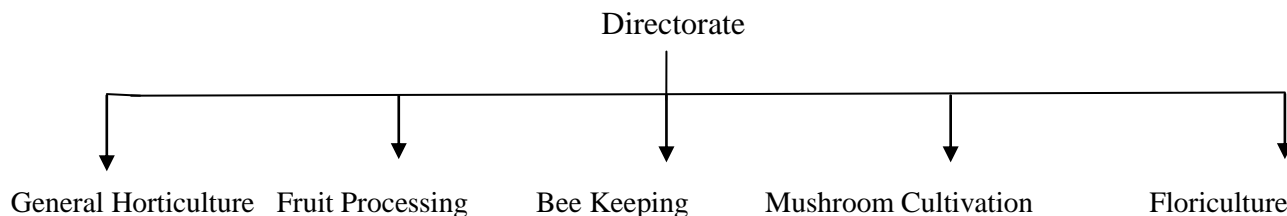
S.N	Designation	Duties and responsibilities
1	Head Mali /Skilled Grafter	<ul style="list-style-type: none"> ➤ To perform physical orchard operations viz. maintenance of orchards, grafting pruning, digging of pits, growing nursery plants of fruits and flowers, watering etc under the directions of the in charges. ➤ To perform the duties of a Mali such as preparation and maintenance of flower beds and flower pots for beautifying office compound and corridors etc. ➤ Any other duty/work in addition to the above as may be considered necessary by the Incharge
2	Beldar	<ul style="list-style-type: none"> ➤ To perform physical orchard operations viz. maintenance of orchards, grafting pruning, lay out, digging of pits, growing of nursery plants of fruits and flowers, watering etc under the directions of the Incharge. ➤ Loading, unloading of stock and store received at the different centres/PCDOs. ➤ To perform any other duty/job assigned to him by his superiors from time to time. He will report for duty half an hour before the working hours of the office/centre/PCDO

CHAPTER-VI

TRAINING NEEDS OF THE DEPARTMENT

6.1 Introduction

The department of Horticulture (H.P.) shall keep the knowledge and skill of the departmental employees updated by organizing refresher training courses for them on regular interval so that they remain well conversant with the latest techniques introduced in the field of horticulture and deliver their best services to the farmers of the state. It is important to disseminate information about new technologies so that the farmer is able to make use of the latest agricultural developments. There also exists a gap between research findings and the needs of farmers. For the transfer of technology, it is essential to expose the technical staff of the Department to various developments in this field in the university and research stations by organizing training courses at regular intervals, so that the end user is ultimately benefitted. Department of Horticulture has following specialized wings that cater to the various needs of the farmers/ orchardist of the state.



It is therefore, essential to upgrade the technical skills of the staff posted in these wings by providing training once in five years as per the training policy.

6.2 Training needs of technical staff

The department of Horticulture has the mandate to provide technical knowhow on various aspect of the horticulture to the farming community to develop horticulture industry in the state. The technical staff posted in various wings and dealing with various types of schemes shall be trained to cater to the needs of the farmers to undertake horticultural activities on commercial scale in order to increase maximum benefit from the small land holdings. The technical staff working in the field at grass root level should have the knowledge of modalities of various state plan and central sponsored schemes in order to percolate the benefit to the maximum numbers of farmers for the development of horticulture sector in the state. The training needs of the technical staff are given at **Annexure 6-A**.

6.3 Training needs of non -technical staff /ministerial staff

The ministerial staff keeps record of service matters of each employee of the department in the form of service books, hence they require training in day to day office routine works, conduct rules, various service rules, office manuals. Training on computer application, RTI Act 2005, Good Governance, e-governance, office procedures, financial administration and formulation of budget and fiscal responsibilities is also required to be given at regular interval. With the advancement in information technology, the training in computer application is of paramount importance. The detail of training needs for different category of non technical staff is given at **Annexure 6-B**.

Training needs of technical staff:-

S N	Category	Designation of different posts	Strength	Training needs
1	Senior level officers at the Directorate and District level	1) Deputy Director of Horticulture (DDH), Senior Plant Protection Officers (SPPO), Senior analytical Officers (SAO), Horticulture Economist(HE), Senior Marketing Officers(SMO), Fruit Technologist (FT) District Horticulture Officers (DHO), Subject Matter specialist (SMS), Assistant Project Officers(APO), Assistant post Harvest Physiologist (APHP) Plant Protection Officers (PPO), Nursery Inspection & Certification officers (NICO), Mushroom development Officers (MDO), Bee-keeping Dev. Officers (BKDO), Assistant Floriculturist(AF), Assistant Marketing Officers(AMO), Assistant Analytical Officers (AAO),Quality Control Officers(QCO), Food Microbiologist (FM) , Landscape Architect	79	<ul style="list-style-type: none"> ➤ Knowledge of orchard management practices for growing temperate & sub tropical fruit crops. ➤ Knowledge of nursery management practices for growing of quality nursery fruit plants of temperate & subtropical region. ➤ Integrated pest & disease management ➤ Efficient Water management practices. ➤ Knowledge of commercial beekeeping for improving crop productivity & generating employment and enhancing honey production. ➤ Production of compost & expansion of mushroom cultivation in the state. ➤ Knowledge of commercial cut flower cultivation through green house technology & growing of other traditional flowers. ➤ Knowledge of financial and administrative rules. ➤ Knowledge of computer application, internet, e-mail etc. ➤ Knowledge of state and central sector schemes.

2	Middle level officers	1) Horticulture Development Officers (HDO),	263	<ul style="list-style-type: none"> ➤ Knowledge of orchard management practices for growing of temperate & sub tropical fruit crops, nursery production techniques, flower cultivation, beekeeping & mushroom cultivation.
		2) Manger-Cum- Chemist (MCC), Sr. Chemical Assistant (SCA), Procurement & sales Officer(PSO),	10	<ul style="list-style-type: none"> ➤ Production of processed fruit products by utilising unmarketable surplus fruits & vegetables. ➤ Knowledge of financial and administrative rules. ➤ Knowledge of computer application
		3) Sr. Technical Assistant, Quality Control Inspector, Fruit Preservation assistant	11	<ul style="list-style-type: none"> ➤ Knowledge of processing techniques for developing various fruit products. ➤ Knowledge of computer application
3	Technical officers up to HEO level	1. Horticulture Extension officers (HEO),	510	<ul style="list-style-type: none"> ➤ Knowledge of orchard management practices for growing of temperate & sub tropical fruit crops, nursery production techniques, flower cultivation, beekeeping & mushroom cultivation.
		2. Bee-Keepers	38	<ul style="list-style-type: none"> ➤ Knowledge of computer application ➤ Knowledge of bee flora, rearing of honey bees & extraction of honey.
		3. Demonstrator/Lab.Asstt./ Jr. Technician	58	<ul style="list-style-type: none"> ➤ Knowledge of processing techniques for producing various fruit products. ➤ Knowledge of computer application.
4	Class-IV technical staff	Beldars, Skilled grafters	915	<ul style="list-style-type: none"> ➤ Knowledge of Budding and Grafting techniques in nursery fruit plants, training & pruning of fruit trees,
	Total		1879	

Training needs of non- technical staff:-

S N	Category	Designation of different posts	Strength	Training needs
1	Senior level Officers	1. Administrative Officers, Superintendent Grade-I and II, Asstt. Controller(F&A), Private secretary (PS), Section Officers (SO), Personal Assistant (PA), Senior assistant,	87	➤ Knowledge of office procedure, establishment matters, budget, cash and accounts, stores, CCS(CCA) rules, conduct rules, HPFR , CCS (pension rules, leave rules) and computer application.
		2. Assistant research Officer, Statistical Assistant, Field Investigator, Investigator,	23	➤ Knowledge of statistical tools and techniques for analysis of horticulture related data and computer application.
2	Middle level class-III staff	Sr. Scale Stenographer, Jr. Scale Stenographer, Clerks, Steno typist	130	➤ Knowledge of taking dictation in Hindi and English stenography, typing, computer basics, office procedure, establishment etc.
3	Class-IV staff	Peon & Chowkidars	200	➤ Knowledge of keeping watch and ward of office premises, movement of files ,office discipline etc.
	Total		440	

CHAPTER VII

DEPARTMENTAL SCHEMES AND PROGRAMMES

7.1 Introduction

Department of Horticulture is implementing various types of schemes under the state plan and central sponsored sectors for the welfare of the farmer and orchardist of the state. These schemes are being implemented by departmental employees working at the directorate, district and block level. The knowledge of these schemes is essential for each departmental employee to transmit the benefit to the masses in a time bound manner. A topic on departmental schemes shall be included in the induction cum orientation training for newly recruited technical and non technical staff. The detail of such schemes is given below.

7.2 State Plan Schemes

7.2.1 Plant Protection scheme:-

The pest and disease infestations in the orchards result in the loss of the fruit produce, thereby causing serious economic losses to the fruit growers. The extent of damage to fruit crops both in quantity and value due to pests and diseases has been estimated at 15% to 20% even in the normal years, which is gross national wastage especially when our country is facing nutritional problems. Therefore, it is a matter of prime importance to adopt modern plant protection measures at all stages of development of horticultural crops so that they do not act as limiting factor in fruit production programme. The objectives of the scheme are here under:

- To make timely arrangement for the supply of various pesticides, insecticides and plant protection equipments etc. to the fruit growers for the control of pests and diseases in their orchards at reasonable rates.
- To prepare spray schedule for the control of pests and diseases for guidance of fruit growers.
- To organize campaigns for conducting spray operations for the control of pests and diseases of economic importance in important fruit crops like apple, mango, citrus peach, plum etc. and to provide fungicides/insecticides on subsidized rates to the fruit growers.
- To introduce modern technology for the surveillance and development of computer based pest and disease warning system in the fruit growing areas.
- Enforcement of various acts relating to nursery inspection and certification plant quarantine, plant protection and control of obnoxious weeds etc.
- To promote Integrated Pest Management for fruit crop protection through use of technologies like use of bio-chemicals, biological control of insect pests and diseases etc. that may reduce the use of chemicals harmful for human health and environment.

7.2.2 Horticulture Development scheme

This scheme is the major programme of horticultural development aiming at the creation and maintenance of infrastructural facilities in the rural areas for ensuring equitable access to the resources and inputs required for the promotion of all fruit crops, hops and medicinal and aromatic

plants. The horticulture development scheme is partly having subsidized nature and inputs and other related material under this scheme are provided on subsidy to the fruit growers to implement all the programmes effectively. The scheme has following programmes:

- Development of fruit production, area expansion programme, demonstration of new technologies and improved package of practices on the orchards of fruit growers, Major works for the development of infrastructures.
- Development of Walnut/Hazelnut/Pecan nut, development of Olive, development of Mango/Litchi in lower hill areas, development of Strawberry and other small fruits, development of Medicinal and aromatic plants, Horticulture information services, development of Hops scheme, Micro irrigation for private orchards, short term research projects for solving the field problems of emergent nature and externally aided projects will be carried out under this scheme.

7.2.3 Development of Fruit Production:

The scheme provides infrastructural and mobility facilities at Regional/ District/Block/Field level for the distribution of inputs required for the maintenance of existing orchards and for the expansion of area under fruit crops in rural areas. The objectives of the scheme are here under:

- Bringing more and more area under all fruit crops in the potential areas of different agro climatic regions.
- Introduction of new improved varieties of different fruit crops for increasing the quality production of fruits and productivity per unit area.
- To replace the old and uneconomic fruit plant with new improved varieties.
- To ensure the availability of certified planting material of standard quality to the fruit growers.
- Strengthening and maintenance of input supply services in the fruit going areas for easy and timely availability of production inputs.
- Identification of fruit trees of outstanding merit for the selection of state mother trees for the supply of bud wood to the nursery growers.
- Introduction of new improved varieties and rootstocks of different fruits from advanced countries.
- Demonstration of recommended package of practices and new technologies on the farmers' field.

7.2.4 Plant Nutrition scheme:

Application of nutrients to the fruit plants is one of the most important aspects in commercial fruit production. It is also a well established fact that indiscriminate application of fertilizers to the fruit plants creates nutritional imbalance in the plants which may seriously reduce the crop yield and the quality of fruits even in the absence of any noticeable reduction in the tree growth and vigour. Diagnosis of such conditions can be done with desired accuracy, rapidity and economically by chemical analysis of plant tissues. Leaf analysis has been found to be the most suitable technique in assessing the nutritional status of perennial and deep rooted crops. Therefore, three plant nutrition laboratories viz. Shimla, Bajaura (Kullu) and Dharamshala (Kangra) have been established for providing free advisory services to the fruit growers for determination of nutritional status of their orchards. Besides these, two small laboratories for the collection and drying of plant leaf samples have also been set up in tribal areas viz. Reckong Peo(Kinnaur) and Bharmour

(Chamba). The leaf samples collected and prepared by these small units are sent for analysis in the three state laboratories. The main objectives of this scheme are given hereunder:-

- Strengthening and maintenance of existing fruit plant nutrition laboratories by providing additional staff and equipments.
- Preparation of optimum and economic fertilizer schedule for fruit orchards based upon the plant tissue analysis and to provide free advisory services to the fruit growers in the field.
- Survey of different fruit growing pockets in the state to assess the nutritional status of orchards and in the long run to prepare nutritional map of fruit growing areas. Conducting adaptive trials regarding efficiency of various fertilizers and organic manures etc. as available in the market.

7.2.5 Development of Apiculture:-

Himachal Pradesh offers very rich potential for the development of bee keeping because of larger area under horticulture, agriculture and forest. Honey produced by the honeybees, has big demand in the country as well as good export potential. As a cottage industry, it is possible to adopt bee keeping on commercial lines by the farming community for getting additional income to improve their economic conditions.

The objectives of the scheme are as under:-

- Application of modern techniques for harnessing of honeybees for pollination in the orchards and increasing the production of honey and other bee products in the state.
- Creating opportunities of self-employment to the unemployed rural youths by setting up of beekeeping units by them.
- Establishing big regional nucleus apiaries in the potential areas for breeding of honeybees and large-scale multiplication of honey with honey processing and grading facilities.
- Maintenance of present small beekeeping stations in the state.
- Arrangement of bee keeping equipments/tools/modern beehives etc. to the beekeepers.
- Preparation floral calendar and floral maps of different regions/ areas.
- Supply of bee colonies on rental basis to the orchardists for pollination in their orchards during flowering season.
- Providing mobility for the migration of bee colonies during flowering and winter season.
- Honey processing and grading under Agmark.
- To arrange for the marketing of honey produced by private bee keepers.

7.2.6 Development of Floriculture scheme

Commercial flower cultivation has been one of the main thrust areas in the state. The commercial cultivation of the flowers is of recent origin in the State of Himachal Pradesh. The potential existing in the form of diverse agro-climatic conditions in various regions of the state is being exploited for the cultivation of wide range of flowers, ornamental plants and production of flower seeds/bulbs etc. for year round supplies to the domestic as well as export market. The Department of Horticulture has established seven floriculture nurseries in various Districts, viz,

Navbahar and Chharabra in Shimla District, Mahog Bag and Parwanoo in Solan district, Bajaura in Kullu District and Dharamshala and Bhatoon in Kangra district.

The objectives of the scheme are here under:-

- Introduction and multiplication of planting material/bulbs/seeds of improved flower varieties for supply to the flower growers at reasonable rates.
- Identification of potential pockets for the development of commercial flower cultivation.
- Introduction of modern technology in the flower production and post harvest management of flowers.
- Strengthening of extension services in commercial flower cultivation in the state by updating the knowledge of existing extension staff in flower cultivation through special training to extension officers.
- Creation of infrastructural facilities for the establishment of commercial floriculture model centre.
- Demonstration of commercial flower production at identified progeny-cum-demonstration orchards of the Department of horticulture.
- To organize apex body of flower growers cooperative societies to facilities the marketing of flower produce in a collective way.
- Strengthening and maintenance of existing flower bulbs and seeds in tribal areas.
- To explore the possibility of collaboration with some advanced countries for commercial flower production for export markets

7.2.7 Establishment/maintenance of government orchards /nurseries (PCDOS)

Fruit plants as a basic input has vital importance in the development of fruit industry. Due to long gestation period of fruit crops, the fruit growers have to take utmost care while selecting the planting material for planting in their orchards, because any mistake made in the beginning in selecting the right type of plant material may result in huge economic losses at later stages. Therefore, keeping this fact in view the concept of progeny-cum-demonstration orchards and nurseries as growth centres was developed right from the first Five Year Plan (1951-55). The Department of Horticulture is maintaining 94 Progeny-cum-Demonstration Orchards and nurseries in the state occupying about 1394 acres of land on which about 1.22 lakh progeny trees of different species have been planted as a source of bud wood for the propagation of planting material for supply to the fruit growers. These Progeny cum Demonstration orchards (PCDOs), apart from serving as models of demonstration to the orchardists are also sources of preservation, production and multiplication of quality plant material for commercial plantations in the state. The main objectives of the scheme are given here under :-

- To stock progeny trees of outstanding merit for the supply of bud wood.
- To multiply and supply pedigree and disease free plants at reasonable rates and to make supply available from the nearest possible source.
- To conduct adaptive trials regarding the suitability of various varieties/ fruits/ new introductions and also the university recommendations on various package of practices on micro area basis.
- To serve as model demonstration orchard and nucleus for the proliferation of the orchards in the surroundings areas.
- To serve as an extension centre with a zone of impact in a radius of 8 kilometer.

7.2.8 Development of Mushroom Scheme:

Mushrooms are popular for their delicacy, flavour as well as food value. The agro climatic conditions prevailing in many parts of the state provide ample scope for the cultivation of mushroom, both for domestic consumption as well as for export purpose. Two bulk pasteurization units for compost have been established with total production capacity of 1350 MT of pasteurized compost (Chambaghat 350 MT and Palampur 1000 MT). Two more units one at Dharbaggi in Kangra and another at Bajura in Kullu District have been established. The pasteurized compost from these units is being made available to the registered mushroom growers of Shimla, Solan, Sirmour, Kinnaur, Kangra, Chamba, Hamirpur, Una and Bilaspur, Kullu and Mandi districts. The small and marginal farmers and unemployed graduates are being given preference under these projects. The main objectives of the scheme are as under:

- To provide facilities for training in mushroom cultivation on the prospective mushroom growers.
- To provide extension services to the mushroom growers.
- To demonstrate the techniques of mushroom cultivation in the production chamber of the projects.
- To provide consultancy services to cooperative and private sector for setting up of mushroom production and processing units.
- To develop suitable marketing and processing channels for this industry.

7.2.9 Horticulture Training and Extension:

Training and extension is an important programme for the transfer of technology to the farmers for increasing horticultural production. This programme is also very important for human resource development to meet the skilled manpower need of the horticulture industry. This scheme aims at organizing training camps/ workshops/ seminars/ courses/ study tours etc. for the farmers as well as to the technical officers and field functionaries of the Department of Horticulture. Therefore, this scheme has the following two aspects:-

- To organize special short term and long term training courses for the rural educated youths, so as to enable them to find self employment or part time employment in the horticulture industry.
- To organize training camps for farmers at State, District, Block & Village level for creating awareness amongst the farmers about the various schemes and programmes of the state Govt. and to acquaint them with the latest development in horticulture.
- To organize seminars for interaction between the farmers, technical personnel and scientists for solving the problems of horticulture industry.
- To organize study tours for the farmers to horticulturally developed areas/projects/research stations etc. to create awareness amongst them about the latest development in horticulture.

7.2.10 Fruit Processing and Utilization

The fruit and vegetable preservation is a basic necessity for the horticultural industry, 20-25 percent of the fruit production goes waste unless it is utilized in the manufacture of processed fruit product. Moreover, the processing grade and substandard fruits not only receive very low prices from the market but also affects the rates of good quality fruit adversely, thereby causing economic

losses to the fruit growers. The only solution to solve this problem is to utilize such fruits in the manufacture of value added processed products like juices/juice concentrate jam, jelly, squashes,

alcoholic beverages etc. Moreover there are certain fruits which are highly perishable like strawberry, cherry etc. which require processing facilities nearer to the growing areas. Fruits like galgal, mango, peach, stand pear have major utilization in the processing industry. The department of horticulture is therefore, implementing a scheme for the utilization of unmarketable surplus of fruits and vegetables. Two type of approach is being taken in this regard.

- Setting up of fruit processing units in the fruit growing areas.
- Organizing community canning service and training in home scale preservation of fruits and vegetables in rural areas.

At present, department of horticulture, H.P. is running 8 small fruit processing units in different districts with total installed capacity of processing 500 MT fruit products. Besides these, one micro biological laboratory for product development and standardization of recipe of different fruit products and other laboratory for testing the quality of fruit product being manufactured in departmental units, have also been set up.

The objectives of the scheme are as follows:-

- Utilization of unmarketable surplus of fruits and vegetable in the state.
- Creation of infrastructural facilities for providing community canning services to the local population in each district.
- Organizing training in home scale preservation of fruits and vegetables in rural areas especially for women folk.
- Standardization of recipe of the fruit products based upon the raw material available in the state.
- Ensuring quality control over the production of fruit products for making the same available to the consumer on the reasonable rates through departmental units.
- Providing consultancy and technical advisory services to the entrepreneurs for setting up of Of their own processing units.

7.2.11 General Marketing Scheme

This scheme has the following sub-schemes:

A. (i) Scheme for conducting marketing survey for the collection of market intelligence:

The main objectives to be undertaken under this scheme are here under:-

- Collection of data on expected production, marketable surplus, well before the market season.
- Assessment of requirement of packing material and transport, well before the market season.
- Collection of data on daily market prices, arrival and dispatches of stocks etc. in important distributing and consuming markets.
- Dissemination of daily market information to the producers through all India Radio and other mass media.
- Publication of month/seasonal bulletins on market intelligence of different fruits.
- Collection of export date on fruits of Himachal Origin at different exit points of the state.

(ii) Grading, packing and quality control:

The objectives under this sub scheme are as under:-

- To devise and prescribe uniform standards for grading and packing for different fruits in the state.
- To demonstrate and train the fruit growers in the proper technique of handling, grading and packing of fruits so as to establish common trade language between producers, traders and buyers.
- To conduct trials on different packing materials for packing of fruits.
- To prepare and publish suitable literature on methods and standards for grading and packing of different fruits for the guidance of fruit growers.

(iii) Standardization of picking maturity standards for fruit crops:-

The quality of the fruit which has direct bearing on the price factor is determined by the maturity stage of picking, time and its handling during post harvest period. Since different fruits/ varieties mature at different stages, therefore, the farmers are motivated to know the proper maturity standards for different fruits/ varieties in different agro climatic zones and for different purpose like fresh market or cold storage, for sale in distant markets etc.

(iv) Demonstration of Post Harvest Technologies:

The post harvest losses in fruit crops are generally very high. Therefore, this scheme aims at demonstrating of such technologies, as may help in reduction of post harvest losses and improving the shelf life of fruits.

Objectives of the scheme are as under:-

- Post harvest disease control.
- Determination of maturity standards with specialized instruments and techniques.
- Pre-cooling technology of Fruits.
- Low cost environment friendly cool chambers.
- Solar drying of fruits.

B. Scheme for popularization of Environment friendly practices for packing of fruits:-

Keeping in view the magnitude of problem of packing cases and the drain of forest resources of the state which happens to be national wealth, constant efforts are being made by the state Govt. to find out suitable and economic alternative packing cases to wooden boxes for packing of fruit produce. The use of c.f.b. cartons for packing of fruits has been found to be the most suitable and environment friendly practice for packing of fruit produce of the state.

C. Market Intervention Scheme:

During the heavy crop year, the fruit growers receive very low price from the market as a result of glut in the market. This situation is also faced by them when the crop is damaged by weather vagaries like hail storms. Therefore, to stabilize the market prices for fruits and to save the fruit growers from economic losses, the Govt. has formed a policy to provide market support to the growers for their fruit produce under Market Intervention Scheme. The procurement of fruits under this scheme is done through HPMC and HIMFED for utilization in fruit processing industries, with the extension support of the Department of Horticulture, Himachal Pradesh.

7.3 Centrally sponsored schemes

The following central sponsored schemes are being implemented in the state

7.3.1 Horticulture Mission for North east and Himalayan states (HMNH)

The main objective of the mission is to establish convergence and synergy among numerous ongoing governmental programmes; achieve horizontal and vertical integration of these programmes; ensure adequate, appropriate, timely and concurrent attention to all the links in the production, post harvest and processing chain; maximize economic, ecological and social benefits from the existing investment and infrastructure created for horticulture development; promote ecological sustainable intensification, economically desirable diversification and skill development and generate value addition, promote the development and dissemination of low cost versatile technologies. Under Horticulture Technology Mission, four mini missions are being implemented for the integrated development of horticulture industry. Main emphasis is being given for the cluster approach so that the farmers get well-developed infrastructure right from production till marketing and processing. The scheme is being implemented under the following four missions:-

Mini mission-I: - Research and development activities

Mini mission-II: - Activities for improving production and productivity of horticulture crops are being undertaken.

Mini mission-III: - Post harvest management, marketing and export activities

Mini mission-IV: - Processing and marketing of processed products.

The list of various programmes being implemented under mini mission-II of HTM is being given here under:

- Area Expansion
- Rejuvenation of Senile plantations
- Model floriculture Centres
- Creation of Water Sources
- On farm water management
- Protected Cultivation
- Centres of Excellence for Horticulture Mission Programmes
- Production of planting material
- Transfer of technology
- Popularization of Organic Farming and use of Bio-fertilizers
- Promotion and Popularization of horticultural equipments
- Promotion of Integrated pest management
- Promotion of integrated Nutrient Management
- Establishment of Plant health clinic
- Establishment of Tissue/Leaf analysis laboratory
- Development of bee keeping
- Establishment of Integrated Mushroom Unit
- Entrepreneurial Development of Women farmers
- Development of information base through remote sensing
- Strengthening of Horticulture infrastructure

7.3.2 Additional central assistance scheme “Rashtriya Krishi Vikas Yojna”(RKVY)

Concerned by the slow growth in the Agriculture and allied sectors, the National development Council (NDC), in its meeting held on 29th May 2007 resolved that agricultural development strategies must be reoriented to rejuvenate agriculture and meet the needs of farmers. The NDC reaffirmed its commitment to achieve 4 per cent annual growth in the agricultural sector during the 11th plan. The NDC resolved that a special Additional Central Assistance Scheme Rashtriya Krishi VikasYojna (RKVY) be launched and called upon the Central and State governments to evolve a strategy.

With this objective the following schemes for horticulture development based on the district plans were proposed which were approved by the State level Sanctioning Committee of RKVY as State Horticulture Plan for inclusion into the New Central assisted scheme Rashtriya Krishi VikasYojna (RKVY).

As per the guidelines provided for the implementation of the Rashtriya Krishi VikasYojna (RKVY), the projects have been covered under two streams, Stream I and Stream II.

Components Covered under Stream-I:

The components covered under Stream-I are project based to be implemented at specific locations in the state but will be beneficial for the whole of the state. The following Components/Activities of Horticulture in respect of the state of Himachal Pradesh included under Stream-I of Rashtriya Krishi VikasYojna:

- Development of Progeny cum Demonstration Orchards as Model Centres of Excellence
- Strengthening of Horticulture Training and Extension services
- Establishment and Strengthening of Mushroom units
- Strengthening of Honey Agmarking Labs
- Modernization and Strengthening of Plant Nutrition Labs
- Upgradation of Fruit Processing Units

Components Covered under Stream-II:

The Stream-II comprises of the conventional components/activities being undertaken under the State plan schemes and programmes of Horticulture Technology Mission (HTM). These programmes are related to providing financial assistance to the main stakeholders, the farming community. The following Components/Activities of Horticulture in respect of the state of Himachal Pradesh has been included under Stream-II of Rashtriya Krishi VikasYojna:

- Protected cultivation
- Mechanisation of Horticulture
- Improvement of Plant and soil health
- Creation of water sources
- Supply of Bee colonies

CHAPTER VIII

TRAINING PLAN

8.1 Introduction

The training plan shall consist of providing training to each and every employee once in five years and training to newly recruited staff as well. The training plan shall be formulated every year to achieve the above objectives. There is a total sanctioned strength of 2421 numbers of various categories of the employees in the Department of Horticulture. It shows that plan is to be prepared to provide training to 500 to 600 numbers of employees each year. The number of employees to be trained may be more depending upon number of trainings to be given in more than one discipline to a group of employee in order to cover all training needs. More emphasis shall be given on training of women employees

8.2 Approval of Training Plan

The training plans shall be got approved from the Administrative Department in the first quarter of financial year, so that the training is provided well in time according to the plan. The technical staff has to serve in more than one technical section or wings during service period depending upon transfer from one section to other. Hence training in more than one discipline is required to be given to keep the officers up-to-date in all disciplines of the department in order to disseminate best technical knowhow to the orchardist according to their needs.

8.3 Orientation cum Induction training plan

Department of Horticulture shall provide orientation cum induction training to all the newly recruited technical officers like HDOs and HEOS and ministerial staff as and when the recruitment of such staff takes place. Department shall include this training programme in its annual training plan and shall keep provision of adequate funds for the purpose. The training module of 30 days duration for HEOS and HDOS is given in the **Annexure 9- A and B** on chapter titled “Training Module”. The induction training programme for ministerial staff shall be framed by the HIPA as already decided at the Govt level.

8.4 Training plan for the technical officers

8.4.1 Training of senior level officers.

The senior level officers at the directorate and district level shall be given at least seven numbers of refresher trainings to cover 100 to 120 numbers of officers on various technical matters like Bee Keeping, Mushroom Cultivation, Fruit Processing and Flower cultivation. The detail is given at Annexure **8- A**

8.4.2 Training of middle level officers.

The middle level officers at the directorate, district, fruit canning units, beekeeping station, floriculture centres and block level dealing with various subjects like orchard management, Bee Keeping, Mushroom Cultivation, Fruit Processing and Flower cultivation shall be provided at least 4 numbers of trainings by covering 95 to 100 numbers of officers under the training plan in a year. The detail is given at **Annexure 8-B**

8.4.3 Training of HEO level officers.

The HEO level officers posted at different offices like horticulture extension centres, plant protection centres and bee keeping stations shall be provided six numbers of training by covering 165 numbers of officers in a year under the plan. The detail is given at **Annexure 8-C**

8.5 Training plan for non technical/ ministerial staff

The non- technical staff or ministerial staff of different level in various offices shall be given 3 numbers of training to 90 numbers of employees in a year. The detail is given at **Annexure 8-D**.

8.6 Training plan for class –IV staff

The class –IV technical staff consisting of beldars and skilled grafters and non technical staff consisting of peon and chowkidars shall be provided one refresher training each by covering at least 200 and 60 numbers of employees respectively under the plan in a year. Department shall provide training to the class-IV technical staff at the Regional Horticultural Research Stations of the University and PCDOS of the department. Similarly, class-IV non-technical staff shall be provided training at the district centres of HIPA and Dy. Director Offices of the concerned District to avoid any hardships to them in travelling to long distances. The detail is given at **Annexure 8-E**.

8.7 Training cum exposure visits outside the state

The technical officers shall be taken on exposure visits to other states in order to expose them to various development activities in horticulture sector in different parts of the country. The possible states and areas having achieved good progress in horticulture and allied sector are given at **Annexure 8-F**

8.8 Number of trainings to be attended at different levels

The number of trainings to be given to a homogeneous group of employees at various levels of postings, promotion and placements shall depend upon their collective training needs. The detail is given in the following table.

Table 8.1 Detail of number of trainings to be attended at different levels

S.N.	Level of post	Induction training	Refresher training courses within state	Training and exposure visits outside the state	Total
	A- Technical Officers				
1	Horticulture Extension Officers and equivalent posts	1	4-5	1-2	6-7
2	Horticulture Development Officers and equivalent posts	1	4-5	3-4	8-9
3	District Horticulture Officers /Subject Matter Specialist and equivalent posts	---	2-3	3-4	5-8
4	Deputy Director of Horticulture & equivalent posts	---	1-2	2-3	3-5
	B- Non Technical / ministerial staff				
1	Clerks/Stenographers	1	3-4	---	4-5
2	Senior Assistants & equivalents posts	---	2-3	----	2-3
3	Superintendent Gr.I andII	--	1-2	----	1-2
	Class –IV Technical staff				
1	Beldars /Skilled Grafter	1	4-5	----	5-6
	Total	4	21-29	9-13	34-45

8.9 Cost estimate of annual training plan

The cost estimate of annual training plan for the departmental employees shall be prepared after getting the cost estimate from the concerned training institutes. The performa for the same is given at **Annexure 8-G**

Annexure 8-G

Performa for calculation of expenditure on training

Category of Employee to be trained	Title of Training programme	No. of Employee to be trained	Duration of Training	Name of Training institute	Expenditure Day/ Employee (Rs.)	Total Expenditure (Rs.)
1	2	3	4	5	6	7

Annexure 8-A TRAINING OF SENIOR LEVEL OFFICERS

Category of Employee to be trained	Title of Training programme	Approximate Nos to be trained in a year	Duration of Training	Name of Training institute
Dy. Director of Horticulture (DDH), Subject Matter specialist (SMS), District Horticulture Officers (DHO) & equivalent officers	Advanced training course in Horticulture	20	6 days	UHF, Nauni, Solan
---do---	Complete package of all cultivated Mushroom	20	6 days	DMR Chambahg at
--do--	Advances in flower cultivation	15	6 days	UHF Nauni
--do--	Integrated training course in beekeeping	15	6 days	UHF Nauni
---do--	Office Procedure & financial administration	20	5 days	HIPA
Fruit Technologist (FT), / Manager Cum Chemist (MCC), Quality Control officers (QCO) & equivalent officers	Advanced training course on fruit processing	15	6 days	UHF Nauni
Fruit Technologist (FT), / Manager Cum Chemist (MCC), Quality Control officers (QCO) & its equivalent officers	Office procedure & financial administration	15	5 days	HIPA
Total		120	40	---

B. TRAINING OF MIDDLE LEVEL OFFICERS.

Category of Employee to be trained	Title of Training programme	No. to be trained in a year	Duration of Training	Name of Training institute
Horticulture Development Officers (HDO) & equivalent officers	Model Integrated training course on Horticulture	50(Two Batches)	6 days	UHF Nauni , Solan
--do-	Complete package of all cultivated mushrooms	15	6 days	DMR Chambahgat
--do---	Advances in Flower cultivation	15	6 days	UHF Nauni , Solan
--do--	Integrated training course in beekeeping	15	6 days	UHF Nauni , Solan
Total		95	24	

Annexure 8-C**C. TRAINING OF HEO LEVEL OFFICERS**

Category of Employee to be trained	Title of Training programme	Target of Employee to be trained in a year	Duration of Training	Name of Training institute
Horticulture Extension Officers (HEO) & equivalent officers	Fundamental training course in Horticulture	75(Three batches)	6 days	UHF Nauni
---do---	Complete package of all cultivated mushrooms	20	6 days	DMR Chambahgat
----do—	Training course in commercial floriculture	15	6 days	UHF Nauni
---do--	Integrated training course in bee-keeping	15	6 days	UHF Nauni
Bee- Keeper	-do-	20	6 days	UHF Nauni
Demonstrator/ Lab. Assistant/Jr. Technician	Refresher training course in Fruit Processing	20	6 days	UHF Nauni
Total		165	36 days	

D. TRAINING OF NON-TECHNICAL STAFF,

Category of Employee to be trained	Title of Training programme	No. of Employee to be trained in a year	Duration of Training	Name of Training institute
Supt. Grade I & II / Sr. Asstt./Clerks/Steno Typist	Office Procedure & Financial Administration	30	5days	HIPA, Shimla-12
Supt. Grade I & II/ Sr.Asstt./ Clerks/Steno Typist Assistant Research Officer, Investigator, Field investigator, Statistical Assistant	Basic computer MS Word/ MS Excel/ Power Point, Statistical analysis of data	30	5days	HIPA, Shimla-12
Supt. Grade I & II/ Sr.Asstt./Clerks/Steno Typist	Conduct Rules (Disciplinary Proceedings)	30	3 days	HIPA, Shimla-12
Total		90	13	---

Annexure 8-E**E. TRAINING OF CLASS –IV EMPLOYEES**

Category of Employee to be trained	Title of Training programme	No. Of Employee to be trained in a year	Duration of Training	Name of Training institute
Beldar / Skilled Grafters	Refresher Training course	200(Five batches)	3 days	UHF Nauni and its regional research stations
Peon/ Chowkidar	Refresher Training course	60 (Two batches)	2 days	HIPA and its regional training centres in the Districts
Total		260	5 days	---

F. TRAINING CUM EXPOSURE VISITS OF THE TECHNICAL OFFICERS OUTSIDE THE STATE

Category of Employee	Purpose of Training cum Exposure visit	No. Of Employees to visit in a year	Duration of visit	Training institutes and places to be visited
Dy. Director of Horticulture (DDH), Subject Matter specialist (SMS), District Horticulture Officers (DHO) & equivalent officers	1. Study of temperate Horticulture in J&K.	25	10 days	1. CITH Srinagar, Jammu
	2. Study of sub-Tropical fruit cultivation in North India	25	10 days	2. IARI New Delhi, Lucknow
Fruit Technologist and other staff in fruit canning units	1. Study of modern fruit processing technique in CFTRI	25	10 days	1. Mysore, IIHR Bangalore
Horticulture Development Officers (HDO) & equivalent officers	1. Study of citrus cultivation, drip irrigation system & high tech poly houses in Central India.	25	10 days	1. Nagpur, Jalgaon
	2. Study of temperate Horticulture in J&K.	25	10 days	2. Jammu and Sri Nagar
	3. Study of sub-Tropical fruit cultivation in North India	25	10 days	3. IARI New Delhi, Lucknow
Horticulture Extension Officers (HEO) & equivalent officers	1. Study of sub-tropical fruits cultivation in North India	25	10 days	1. IARI New Delhi, Lucknow
	2. Study of temperate Horticulture in J&K.	25	10 days	2. Jammu and Sri Nagar
	3. Study of citrus cultivation, drip irrigation system & high tech poly houses in Central India.	25	10 days	3. Nagpur, Jalgaon
Total		225	90 days	

CHAPTER-IX

TRAINING MODULES

9.1. Training module for newly recruited HEOS and HDOS:-

The newly recruited technical officers like Horticulture Development Officers and Horticulture Extension Officers of the state department of Horticulture shall be given induction cum orientation training as per the requirements of the H.P State training policy, 2009. The induction training programme shall have 30 days duration. The training shall be completed in following three phases:-

- Training on various schemes and programmes of the department, Office procedures, financial administration, conduct rules, service rules, MNREGA, RTI Act, and Good Governance etc.
- Training on various technical subjects like Cultivation practices for fruit crops, flower crops, mushroom cultivation, bee keeping, IPM etc.
- Training on day to day office works relating to dealing of PUC ,diary, dispatch & filing

The above three phase orientation cum induction training module for the newly recruited HEOS & HDOS is given at **Annexure 9-A and 9-B** respectively.

9.2 Training of trainers

Department shall designate technical officers at the Directorate and District level as trainers, who will get training in relevant subjects at University of Horticulture and Forestry, Nauni and other training institute situated within and outside the state. These officers shall further provide training to the newly recruited officers at the state, District and field level. The designation of trainers and subject of their training is given in the **Table 9.2** below.

Table 9.2 Trainers at various levels for training of newly recruited HEOS, HDOS and farmers

S. N.	Place of posting	Designation of the trainers	Subject of the training	Trainees
1	Directorate level	Senior plant protection officer (SPPO)	Plant protection scheme	Newly recruited HEOS, HDOS and farmers
		Fruit Technologist	Fruit processing and community canning scheme	Newly recruited HEOS, HDOS and farmers
		Senior Marketing Officer (SMO)	Implementation of Market Intervention(MIS) and other related schemes	Newly recruited HEOS, HDOS and farmers
		Assistant Project Officer (APO)	Implementation of state and central sector projects and schemes	Newly recruited HEOS, HDOS and farmers

		Subject Matter Specialist (Orchard and Nursery)	Management of Orchards and Nurseries, Productivity improvement, Disaster Management and crop insurance scheme	Newly recruited HEOS, HDOS and farmers
		Assistant Floriculturist	Floriculture schemes	Newly recruited HEOS, HDOS and farmers
2	District Level	Bee Keeping Development Officers	Bee keeping Development schemes	Newly recruited HEOS, HDOS and farmers
		District Horticulture Officers	Implementation of state and central sector projects and schemes	Newly recruited HEOS, HDOS and farmers
		Subject Matter Specialist (Orchards and Nurseries)	Management of Orchards and Nurseries, Productivity improvement	Newly recruited HEOS, HDOS and farmers
		Mushroom Development Officer (MDO), Subject Matter Specialist (Mushroom)	Mushroom Development Schemes	Newly recruited HEOS, HDOS and farmers
		Subject Matter Specialist (Plant Protection)	Plant protection schemes	Newly recruited HEOS, HDOS and farmers

9.3 Training module for training of technical staff

Keeping in view the training needs, the technical officers of various levels shall be given training on varied horticulture subjects at four training institutes within state as per detail given in **Table 9.3** below. The class-IV technical staff shall be trained at the regional research stations of the University in temperate and sub tropical zones near to their place of posting.

Table 9.3 Detail of training module for technical staff

S. N	Category	Training institute	Level of officers	Title of Training module	Detail of training module	Duration of Training
1	Technical officers	Dr. Y.S. Parmar University of Horticulture & Forestry, Nauni, Solan and its regional research stations	1. Senior level officers(DDH/ SMS/DHO) & equivalent officers	1) Advanced Training Course in Horticulture	Annexure 9-C	6 days
				2) Advances in flower cultivation	Annexure 9-D	6 days
				3) Integrated Training course in Bee keeping	Annexure 9-E	6 days
				4) Model Training Course on Temperate Fruit Production Technology	-----	8 days
			2. Senior Level Officers (FT , MCC, QCO & equivalent Officers)	1) Advance Training course on Fruit Processing	Annexure 9-F	6 days

			Middle level officers(HDO)	1) Model Integrated Course on Horticulture	Annexure9-F	6 days
				2) Advances in flower cultivation	Annexure 9-H	6 days
				3) Integrated Training course in Bee keeping	Annexure 9-I	6 days
				4) Induction cum Orientation Training Programme	Annexure 9-B	14 days
		4. Lower Level Officers (HEO)		1) Fundamental Training course in Horticulture	Annexure 9-J	6 days
				2) Training course in Commercial Floriculture	Annexure 9-K	6 days
				3) Integrated Training course in Bee Keeping	Annexure 9-L	6 days
				4) Induction cum Orientation Training Programme	Annexure 9-A	14 days
		5. Lower Level Officers (Demonstrator/ LA/ JT)		1) Refresher Training Course in Fruit Processing	Annexure 9-M	6 days
		6. Lower Level Officer (Bee Keeper)		1) Integrated Training course in Bee Keeping	Annexure 9-L	6 days
		7. Class –IV (Beldars /Skilled Grafter)		1) Practical Training on orchard operations	Annexure 9-P	3 days
		Directorate of Mushroom Research (ICAR), Chambaghat, Solan	1. Senior level officers(DDH/ SMS/DHO) & equivalent officers	1) Complete package of all cultivated Mushroom	-----	6 days
			2. Middle officers(HDO	2) Complete package of all cultivated Mushroom	-----	6 days
			3. Lower Level Officers (HEO)	3) Complete package of all cultivated Mushroom	-----	6 days
		Himachal Institute of Public Administration (HIPA), Fairlawn, Shimla- 171012.	1. Senior level officers(DDH/ SMS/DHO) & equivalent officers	1) Office Procedure & financial Administration	-----	5 days
			2. Senior Level Officers (FT , MCC, QCO & equivalent Officers)	1) Office Procedure & financial Administration	-----	5 days
		State Agriculture Management Extension Training Institute (SAMETI), Mashobra, Shimla171012	1. Middle officers(HDO	1) Induction cum Orientation Training Programme	Annexure 9-B	7 days
			2. Lower Level Officers (HEO)	2) Induction cum Orientation Training Programme	Annexure 9-A	7 days

9.4 Training module for training of non technical staff

Keeping in view the training needs, the non- technical officers of various levels shall be provided training in Office Procedure & Financial Administration, Basic computer, MS Word/ MS Excel/ Power Point, Conduct Rules, Disciplinary Proceedings, e- governance and information technology at regular intervals in order to hone their skills in computer application as well as various day to day service matters. The detail is given in Table 9.2. The non technical class –IV staff like Peon & Chowkidars shall also be provided training on their day to day activities regarding care of the departmental property at the District level training centres of HIPA and other institutes in order to avoid undue hardships to them in travelling to distant institutes in the state.

Table 9.2 Detail of training module for non- technical staff

S.N.	Category of staff	Training institute	Level of staff	Name of training module	Duration
2	Non - Technical /Ministerial staff	Himachal Institute of Public Administration (HIPA), Fairlawn, Shimla-171012	1. Supt. Grade I& II/Sr. Asstt. Clerks/Steno Typist	1)Office Procedure & Financial Administration	5 days
			2. Supt. Grade I & II/Sr.Asstt./ Clerks/Steno Typist	1) Basic computer, MS Word/ MS Excel / e-mail etc.	5 days
			3. Assistant Research Officer, Investigator, Field investigator, Statistical Assistants	Statistical analysis of data	3 days
			3. Supt. Grade I& II/Sr. Asstt. Clerks/Steno Typist	1) Conduct Rules	3 days

9.5 Training module of sponsored training programme for technical and ministerial staff organised by HIPA

Technical and ministerial staff is also sponsored by the department for training in various subjects like financial administration, service rules etc organised by HIPA from time to time for the employees of various department of state Govt. About 3-5 numbers of employees of the horticulture department shall be sponsored for each training programme. The detail of various training modules is given in **Table 9.4** below. Efforts shall also be made for sponsoring maximum numbers of women employees in sponsored training programme for their training at the regional centres of HIPA in the District in order to avoid any hardships to them in travelling to distant training institutes.

Table 9.4 Detail of training modules of sponsored training programme for technical and ministerial staff organized by HIPA

S.No.	Title of training module	Duration
1	Citizen Charter and Service Delivery	3-5 days
2	Management Development Programme	
3	Good Governance	
4	Democratic Decentralization of Development	
5	Mahatma Gandhi National rural employment Guarantee Act (MNREGA)	
6	Right to Information Act, 2005	
7	Environmental issues in Economic Development	
8	Gender Empowerment and Development	
9	Delegation of powers, functions & responsibilities to PRIs	
10	Combating corruption in Administration	
11	Disaster Management	
12	Stress Management	
13	Protection of Consumer Rights	
14	Communication Skills	
15	Extension Reforms and Motivational Skills for improving Participation of Farmers/ Farm Women in Government Programmes	
16	Establishment Rules	
17	Reservation in Services	
18	Record Management	
19	Noting & Drafting	
20	Assured Career Progression	
21	Citizen Centric Administration	
22	Application Statistic and use of data in Government	
23	Computer Course on E-Mail /Internet Handling and website development	
24	Digital Video Production / Presentation Skills for Radio and Television Pro.	

9.6 Module for Training cum Exposure visits of the technical officers Outside the state:-

It is important that all employees are updated on their knowledge periodically and are acquainted with the latest developments not only in their area of working but also with the ever changing scenario in different parts of the country. There are various institute of national and international importance engaged in R&D in horticulture sector in the country. The visits of employee to these institutes and to area of specialised horticultural regions will definitely enhance their knowledge & skills, which they can apply to their areas of working in the state. The detail of such training module is given at **Annexure 8-F of chapter- VIII.**

9.7 Assessment of trainees

The departmental officers deputed for training to various training institute for attending refresher training courses within state and model training courses outside the state shall be periodically assessed. The feedback on various training courses attended by them, and the relevance of the courses or modules for the up gradation of their knowledge shall be obtained from each trainee at the end of their training programme. A performa has been designed for the trainees in this regard. Each trainee officer shall submit the feedback on relevance of the training on the prescribed performa and the training programme and module shall be redesigned accordingly. A copy of such performa is given at **Annexure 9-O.**

Annexure 9-A

Induction Cum Orientation training module for the Newly recruited HEOS

I. Training Session at (SAMETI), Mashobra Duration

Duration= 7 days

Topic	Remarks/faculty
Registration and inaugural session	
Departmental organizational structure	Faculty from Horticulture Department
Roles and responsibilities of HEOs	
State Plan Schemes for development of horticulture in HP	
Central sponsored schemes, Horticulture Mission (HMNH)	
National Mission on Micro-irrigation (NMMI)	
National Mission on Medicinal and Aromatic plants(NMMAAP)	
Rashtriya Krishi Vikas Yojana (RKVY)	
Women specific schemes and role of women in horticulture development	
PRIs and their functions,	Faculty from Rural Development Department
Principle and Measures for Productivity improvement in horticultural crops .Climate change and its implications on horticulture crops	Faculty from Horticulture Department
MNREGA/SGSY scheme of self employment	Faculty from Rural Development Department
White button mushroom production technology	Faculty from Horticulture Department
Weather Based Crop Insurance Scheme	Faculty from Horticulture department
Role of Bio control agents in Integrated Pest Management	Faculty from Horticulture Department
Agriculture & Horticultural Produce (Marketing and Regulation) Act2005	Senior Marketing Officer, H.P. Marketing Board, Khalini, Shimla (H.P.)-
Conduct Rules	Faculty from HIPA

Disaster Management of fruit crops	Faculty from Department
Commercial flower crops of HP- an over view	Faculty from Horticulture Department
Office procedures and record maintenance	Faculty from HIPA
CCS and CCA Rules	
Departmental Acts and Rules-Nursery registration act	Faculty from Department of Horticulture
Judicious use of pesticides and awareness about the Central Insecticide Act 1968 and quality control of pesticides.	
RTI-Right to information Act 2005	Faculty from HIPA
Subsidy procedures and record maintenance. Procedure adopted for issue of insecticides licence to private and public dealers/ distributors	Faculty from Department of Horticulture
Communication skills	Faculty from HIPA
Good Governance	
Advances in Post harvest handling of fruits	Faculty from Horticulture Department
Maintenance of records pertaining to Progeny Trees / Nursery stocks of the PCDO	

II. Training Session at University of Horticulture & Forestry, Nauni & Regional Research Stations

Duration of Training= 14 days

Topic	Remarks/faculty
Organic farming, Biodynamic Farming, Homa Farming	Faculty from UHF Nauni, Solan
Practical Demonstration of Biodynamic Farming, Homa Farming	
Bio fertilisers – Efficient Use and Application	
Importance of soil and leaf analysis in fruit crops	
Modern Orchard Management Practices	
Modern Nursery Management Practices	
Field visits and Practical training on orchard management Practices	

Field visits & Practical Training on Nursery Production Techniques	
Protected Cultivation of high value and low volume crops	
Diversification in horticulture sector	
Field visits to high tech Ploy houses	
Field visits to Kiwi and Pomegranate block	
Commercial cultivation of major medicinal plants	
Commercial cultivation of flower crops	
Field visits to medicinal plants experimental farms	
Field visits to floriculture experimental farms	
Visit to Toxicology lab and study of pesticides residual effects on fruit crops	
Visit to Biotechnology lab & study of Micro propagation technique in clonal rootstocks	
Organic certification	
Fertigation technique in precision farming	
Practical Demonstration of fertigation technique in the field	
Processing techniques for horticulture crops and value addition	
Fermentation Technology	
Practical demonstration of preparation of various fruit products	
B. Training Session at RHRS Kandaghat	
Orchard Management Practices in stone fruit crops	Faculty from RHRS Kandaghat, Solan
Importance of Training and Pruning in stone fruit crops	
Field visits to experimental farms and imported fruit plants block	
Practical demonstration of training and pruning in stone fruit	
Propagation technique in Nut Crops (Walnut, Pecan nut)	
C. Training Session in temperate fruit zone at RHRS Mashobra	

<p>Concept of High Density Apple Plantation</p> <p>Canopy Management in Pome and Cherry fruit crops</p> <p>Importance of Nutrition in Pome and Cherry fruit crops</p>	<p>Faculty from RHRS Mashobra, Shimla</p>
<p>Practical Demonstration of Training & Pruning in Pome fruit crops</p> <p>Field visit to Nursery Production site and Practical Demonstration of plant propagation technique in Pome fruit and Cherry</p>	
<p>Integrated Pest and Disease Management in pome fruit crops</p>	
<p>Identification of major ornamental plants</p>	
<p>Study of protected cultivation in high tech poly houses in Bilaspur area</p>	
<p>Visit to PCDO , Nihari</p>	<p>Faculty from Horticulture Department</p>
<p>Major orchard management practices in Mango, Litchi, Citrus and Guava fruit crops</p>	<p>Faculty from RHRS Jachh in Kangra</p>
<p>Visit to the experimental farms & practical demonstration of plant propagation techniques in Mango, Litchi, Citrus and Guava fruit crops</p>	
<p>Mitigation of losses due to frost in Mango, Litchi & other sub tropical fruit crops</p>	
<p>Canopy management in sub tropical fruit crops</p>	
<p>Basic Principal of Bee Keeping</p> <p>Migratory Bee Keeping</p>	<p>BKDO Kangra</p>

III. Training session at the respective Distt. Headquarter

Duration = 9 days

Topics to be covered	Remarks/faculty
<p>Nine days practice session regarding diary, dispatch of official letters, dealing of PUC, drafting of letters, maintenance of register of store stock article, Udyan cards, various office procedures and routine works, maintenance of office record, subsidy rules and completion of various formalities by the orchardist for availing assistance under the various central and state sponsored schemes in operation in the Department.</p>	<p>District level officers shall impart training to the newly recruited staff.</p>
Total	

Total Duration (7+14+9) =30 days

Induction cum Orientation training module for the newly recruited HDOS**I. Training Session at (SAMETI), Mashobra****Duration = 7 days**

Topic	Remarks/faculty
Registration and inaugural session	
Departmental organizational structure	Faculty from Department of Horticulture
Roles and responsibilities of HEOs	
State Plan Schemes for development of horticulture in HP	
Central sponsored schemes, Horticulture Mission (HMNH)	
National Mission on Micro-irrigation (NMMI)	
National Mission on Medicinal & Aromatic plants(NMMAAP)	
Rashtriya Krishi Vikas Yojana (RKVY)	
Women specific schemes and role of women in horticulture development	
PRIs and their functions,	Faculty from Rural Development Department
Principle and Measures for Productivity improvement in horticultural crops	Faculty from Department of Horticulture
Climate change and its effects on horticulture	
MNREGA/SGSY scheme of self employment	Faculty from Rural Development Department
White button mushroom production technology	Faculty from horticulture Department
Weather Based Crop Insurance Scheme	Faculty from horticulture department
Role of Bio control agents in Integrated Pest Management	Faculty from Horticulture Department
Agriculture & Horticultural Produce (Marketing and Regulation) Act2005	Senior Marketing Officer, H.P. Marketing Board, Khalini, Shimla (H.P.)-
Conduct Rules	Faculty from HIPA

Disaster Management of fruit crops	Faculty from Department
Commercial flower crops of HP- an over view	Faculty from Horticulture Department
Office procedures and record maintenance	Faculty from HIPA
CCS and CCA Rules	
Departmental Acts and Rules-Nursery registration act	Faculty from Department of Horticulture
Judicious use of pesticides and awareness about the Central Insecticide Act 1968 & quality control of pesticides.	
RTI-Right to information Act 2005	Faculty - To be arranged by SAMETI
Subsidy procedures and record maintenance Procedure adopted for issue of insecticides licence to private & public dealers/ distributors.	Faculty from Department of Horticulture
Communication skills	Faculty from HIPA
Good Governance	
Advances in Post harvest handling of fruits	Faculty from Horticulture Department
Maintenance of records pertaining to Progeny Trees / Nursery stocks of the PCDO	

II. Training Session at University of Horticulture & Forestry, Nauni and Regional Research Stations

A. Training in Main Campus at Nauni

Duration= 14 days

Topic	Remarks/faculty
Organic farming, Biodynamic Farming, Homa Farming	Faculty from UHF Nauni
Practical Demonstration of Biodynamic Farming, Homa Farming	
Importance of soil & leaf analysis in fruit crops	
Bio fertilisers – Efficient Use and Application	
Establishment of Bud wood banks, their importance and management	
Modern Nursery Management Practices	
Field visits & Practical training on sound orchard Management Practices	

Field visits & Practical Training on Nursery Production Techniques	
Protected Cultivation of high value & low volume crops	
Diversification in horticulture sector	
Field visits to high tech Ploy houses	
Field visits to Kiwi & Pomegranate block	
Commercial cultivation of major medicinal plants	
Commercial cultivation of flower crops	
Field visits to medicinal plants experimental farms	
Field visits to floriculture experimental farms	
Visit to Toxicology lab & study of pesticides residual effects on fruit crops	
Visit to Biotechnology lab: <i>In vitro</i> propagation of rootstocks/varieties to obtain disease free plant material	
Organic certification, Intellectual Property rights	
Fertigation technique in precision farming	
Practical Demonstration of fertigation technique in the field	
Processing techniques for horticulture crops & value addition	
Fermentation Technology	
Practical Demonstration of preparation of various fruit products	
Visit to Department of Horticulture Mushroom Project , Directorate of Mushroom Research (ICAR) & UHF Mushroom Lab at Chambaghat & interaction with the experts	
B. Training Session at RHRS Kandaghat	
Orchard Management Practices in stone fruit crops	Faculty from Research Station
Importance of Training & Pruning in stone fruit crops	
Field visits to experimental farms & imported fruit plants block	
Practical demonstration of training & pruning in stone fruit	
Propagation technique in Nut Crops (Walnut, Pecan nut)	

C. Training Session at RHRS Mashobra	
Concept of High Density Apple Plantation Canopy Management in Pome & Cherry fruit crops Importance of Nutrition in Pome & Cherry fruit crops	Faculty from Research Station
Practical Demonstration of Training & Pruning in Pome fruit crops Field visit to Nursery Production site & Practical Demonstration of plant propagation technique in Pome fruit & Cherry	
Integrated Pest & Disease Management in pome fruit crops	
Identification of major ornamental plants	
Study of protected cultivation in high tech poly houses in Bilaspur area	
Visit to PCDO , Nihari	Faculty from Horticulture Department
D. Training Session in Sub Tropical Fruit Zone at RHRS Jachh, Distt Kangra	
Major orchard management practices in Mango, Litchi, Citrus & Guava fruit crops	Faculty from RHRS Jachh
Visit to the experimental farms & practical demonstration of plant propagation techniques in Mango, Litchi, Citrus & Guava fruit crops. Nursery raising in poly house especially of mango, citrus and other subtropical fruits	
Mitigation of losses due to frost in Mango, Litchi & other sub tropical fruit crops	
Basic Principal of Bee Keeping, Migratory Bee Keeping	BKDO Kangra

III. Training session at the respective Distt. Headquarter

Duration= 9 days

Topics to be covered	Remarks/faculty
Nine days practice session regarding diary & dispatch of official letters, dealing of PUC, drafting of letters, maintenance of register of store stock article, Udyan cards , various office procedures, maintenance of office record , subsidy rules & completion of various formalities by the orchardist for availing assistance under the various central & state sponsored schemes in operation in the Department. Evaluation of fruit trees.	District level officers shall impart training to the newly recruited staff.

Total Duration (7+14+9) =30 days

Module of Refresher Training Course on horticulture for DDH /SMS/DHO's

1. Title of the Course : Advanced Training Course in Horticulture
 2. Course Duration : 5 Days
 3. Period of the year : May/June or Oct/November
 4. No. of trainings : 1
 5. No. of trainee officers per course: 20

Course contents:

S. No.	Topics
1.	Advances in nursery production techniques: <i>In vitro</i> propagation of rootstocks/varieties to obtain disease free plant material/. Nursery raising in polyhouse especially of mango, citrus and other subtropical fruits.
2.	New promising varieties of fruit crops and their role in productivity improvement.
3.	Establishment of Budwood banks, their importance and management.
4.	Concepts of integrated nutrient management and organic farming in horticultural crops.
5.	Precision farming of horticultural crops.
6.	Organic certification, Intellectual property rights and patent laws for horticultural crops.
7.	Hi-tech cultivation of flowers of commercial importance.
8.	Advances in Apiculture, Problems and Remedies
9.	Advances in Mushroom cultivation.
10.	Advances in Post harvest management of horticulture crops.
11.	Recent trends in Pest and Disease management in horticultural crops.
12.	Cultivation and Marketing of important Medicinal and Aromatic plants in H.P, their trade prospects at national and international level.
13.	Processing techniques for horticulture crops and value addition.
14.	Climate change and its effects on horticulture.

Module of Refresher Training Course on flower cultivation for DDH/SMS/DHO

1. Title of the course : Advances in Flower cultivation
2. Course Duration : Six day
3. Period of the year : October
4. No. of trainees per course : 15

Course contents

Sr. No.	Topics
1.	Commercial floriculture in HP-An over view
2.	Green house for commercial flower crops suited to varied agro-climatic conditions
3.	Green house cultivation of cut rose for commerce.
4.	Quality production of cut carnations under commercial environment.
	Regulated production of quality chrysanthemum flowers
6.	Regulated production of quality flowers of lillium and gladiolus
7.	Assured production of quality gerbera and alstroemeria cut flowers
8.	Year round flower production of marigold aster and antirrhinum
9.	Advances in growing substrates for commercial cultivation of flower crops
10.	Advances in regulated production of quality planting stock of carnation chrysanthemum and rose.
11.	Advances in commercial propagation of bulbous plants.
12.	Quality seed production of ornamentals
13.	Advances in integrated nutrient management in commercial flower crops under varied environmental conditions.
14.	Augmentation of innovative irrigation technologies suitable for different flowers crops
15.	Advances in insect-pest management of commercial flower crops
16.	Advance technologies for integrated diseases management of commercial flowers.
17.	Advances in post-harvest handling of cut flowers and flower bulbs.

Module of Refresher Training Course on Beekeeping for DDH /SMS DHO

- 1. Title of the Course** : Integrated Training Course on beekeeping
2. Course Duration : 6 Days
4. Periods of the year : September
5. No. of trainee officers per course : 15

Course contents:

S. No.	Topics
1.	Different Castes and Life History of the Honey Bee
2.	Hive and other modern bee equipments
3.	Beekeeping as an industry.
4.	Economics of beekeeping
5.	Stationary and migratory beekeeping
6.	Diversifying apiculture industry in the state
7.	Bee as pollinator and their role in enhancing crop productivity
8.	Economic value of honey production and hive products
9.	Economic value of pollination
10.	Bumble bees as alternate/backup pollinator of crops
11.	Conservation of insect pollinators for maintaining biodiversity
12.	Importance of queen in honey production and pollination
13.	Factors affecting honey production
14.	Commercial queen production as an enterprise
15.	Miscellaneous management practices for increasing hive productivity
16.	Importance of bee flora in beekeeping
17.	Breeding strategies for combating mite menace
18.	Practice for quality honey production
19.	Honey potential of different bee flora
20.	Recent advances in production technology of various hive products
21.	Emerging pest problems in apiculture and their management
22.	Bee based network in H.P.
23.	International scenario of Apiculture Industry
24.	Feedback, Interaction and closing ceremony

Module of Refresher Training Course in fruit processing for Fruit Technologist/ SMS/DHO

1. Title of the course : Advance Training course on fruit processing
2. Course Duration : 6 days
3. Period of the year : October
4. No. of trainees per course: 15

Course contents

Sr. No.	Topics
1.	Noble processing technologies.
2.	Primary processing for entrepreneurship
3.	Fermentation Technology
4.	Recent developments in packaging
5.	Spoilage and toxicity in processed products
6.	Cool chain handling
7.	Frozen foods and irradiation
8.	Cool chain handling
9.	Food laws and regulations (HAACCP.FPO. ISO, Codes Alimentarius)
10.	Functional food anti-oxidants
11.	Food additives
12.	Maturity. Marketing and storage of fruits and vegetables
13.	Schemes of agencies involved in export and research
14.	Nutrient labelling
15.	Factory Waste management and effluent management

Module of Refresher Training Course on horticulture for Horticulture Development officers (HDOS)

1. Title of the Course : Model Integrated Training Course in Horticulture
 2. Course Duration : 6 Days
 4. Periods of the year : September and October
 5. No. of trainee officers per course: 25

Course contents:

S. No.	Topics
1.	Advances in nursery production techniques: <i>In vitro</i> propagation of rootstocks/varieties to obtain disease free plant material. Nursery raising in poly house especially of mango, citrus and other subtropical fruits.
2.	New promising varieties of fruit crops and their characteristic features.
3.	Establishment of Budwood banks, their importance and management.
4.	Concepts of integrated nutrient management and organic farming in horticultural crops.
5.	Fertigation and pesticides application in fruit/vegetable crops through micro irrigation.
6.	Principals and Measures for Productivity improvement in horticultural crops.
7.	Precision farming of horticultural crops.
8.	Organic certification, Intellectual property rights and patent laws for horticultural crops.
9.	Hi-tech cultivation of flowers of commercial importance.
10.	Advances in Apiculture, Problems and Remedies
11.	Advances in Mushroom cultivation.
12.	Advances in Post harvest management of horticulture crops.
13.	Integrated Pest and Disease management in horticultural crops.
14.	Cultivation and Marketing of important Medicinal and Aromatic plants in H.P, their trade prospects at national and international level.
15.	Processing techniques for horticulture crops and value addition.
16.	Climate change and its effects on horticulture.

Module of Refresher Training Course on flower cultivation for HDO's of the**Department of Horticulture,**

1. Title of the course : Advances in flower cultivation
2. Duration of course : Six days
3. Period of the year : September
4. No. of trainees per course : 15

Sr. No.	Topics
1.	Commercial flower crops of HP-an over view
2.	Green house for commercial flower crops.
3.	Advances in cultivation of cut roses under protected environment
4.	Production of carnation and chrysanthemum under Hi-tech-environment.
5.	Advances in commercial cut flower production of lilium and gladiolus.
6.	Commercial cultivation of marigold, aster and antirrhinum.
7.	Scheduled production of gerbera and alstroemeria under commercial environment.
8.	Growing substrates for commercial flowers crops.
9.	Advanced technologies for production of quality planting stock of rose, carnation and chrysanthemum.
10.	Quality seed production of ornamentals.
11.	Production of disease free and quality planting stock of lilium, alstroemetia and gerbera.
12.	Advances in integrated nutrient management of commercial flower crops.
13.	Innovative technology for integrated insect-pest management of commercial flowers.
14.	Advanced techniques for disease management of commercial flower crops
15.	Post-harvest handling of commercial flowers.
16.	Irrigation management in flower crops under commercial environment.

Annexure 9-I

Module of Refresher Training Course on beekeeping for Horticulture Dev. Officers (HDOS)

- 1. Title of the Course** : Integrated Training Course on beekeeping
2. Course Duration : 6 Days
4. Periods of the year : October
5. No. of trainee officers per course : 15

Course contents:

S. No.	Topics
1.	Current scenario of beekeeping in H.P.
2.	Castes and Life History of the Honey Bee
3.	Economics of beekeeping
4.	Hive and other bee equipments, Colony Inspection, Identification of different castes of bees
5.	Basic principles of beekeeping
6.	Spring management of bees
7.	Summer and monsoon management of bees
8.	Autumn and winter management of bees
9.	Preparation of colonies for over wintering
10.	Preparation of colonies for migration and Honey processing
11.	Special management in honey bees
12.	Economic value of honey production and other hive products
13.	Role of honey bees in pollination
14.	Importance of queen management in honey production and pollination
15.	Preparation of colonies for pollination and honey production
16.	Queen introduction, Dividing colonies, uniting Colonies
17.	Mass queen rearing technique
18.	Beekeeping with <i>Apis cerana</i>
19.	Supplementary feeding to honey bees
20.	Importance of bee flora in beekeeping
21.	Preparation of colonies for queen rearing
22.	Preparation of package bees
23.	Disease management in bees
24.	Major bee pest and their management
25.	Production of hive products
26.	Feeding Bees, Detecting bee diseases, Identification of major pest and enemies of bees, Extraction of hive products, Preparation of colonies for pollination
27.	Safety of honeybees from pesticide poisoning
28.	Quality honey production
29.	Strategies for producing mite tolerant stock

Module of Refresher Training Course on horticulture for Horticulture Ext. officers (HEOS)

1. Title of the Course : Fundamental Training Course in Horticulture
 2. Course Duration : 6 Days
 4. Periods of the year : November, December & March
 5. No. of trainee officers per training: 25

Course contents:

S. No.	Topics for training
1.	Principals of nursery production of Fruit crops of economic importance in H.P: (Apple, Pear, Peach, Apricot, Almond, Cherry, Walnut, Pecan, Citrus fruits, Mango, Litchi, Pomegranate, Grapes, Strawberry, Kiwi, Aonla, Papaya and Guava. Nursery raising in poly house especially of mango, citrus and other subtropical fruits.
2.	Orchard management in Temperate, Sub temperate and sub tropical fruit crops: Lay out, promising varieties, Canopy management, Soil and Water management.
3.	Integrated Nutrient management in Horticultural crops
4.	Integrated pest Management of important Pests and diseases of fruit crops in H.P.
5.	Post harvest handling and marketing of Fruit crops
6.	Ancillary horticulture Activities important for self employment in H.P: i) Apiculture ii) Commercial floriculture. iii) Mushroom cultivation iv) Commercial Cultivation of major medicinal and aromatic plants
7.	Protected cultivation of Flowers and vegetables.
8.	Organic farming
9.	Micro-irrigation techniques
10.	Micro-propagation of horticulture crops

Module of Refresher Training Course in commercial floriculture for HEO's

1. Title of the course : Training course on “Commercial Floriculture”
2. Course Duration : Six days
3. Period of the year : July
4. No. of trainees per course: 15-20

Course contents

Sr. No.	Topics
1.	Commercial flower crops of HP-an over view
2.	Growing environments for commercial flower crops.
3.	Commercial cultivation of rose.
4.	Production of quality carnations under protected environment.
5.	Production of quality chrysanthemum flowers.
6.	Commercial cultivation of lilium gladiolus.
7.	Commercial cultivation of marigold and aster.
8.	Commercial cultivation of gerbera.
9.	Production of quality alstroemeria flowers.
10.	Production of quality planting carnation, chrysanthemum and rose.
11.	Commercial propagation of lilium and gladiolus
12.	Production of quality planting stock of gerbera and alstroemeria.
13.	Quality seed production of marigold and aster.
14.	Integrated nutrient management in commercial flower crops.
15.	Integrated insect-pest management of commercial flower crops.
16.	Integrated disease management in commercial flower crops.
17.	Irrigation management in commercial environment.

Module of Refresher Training Course on beekeeping for Horticulture Ext. Officers (HEOS) and Beekeepers.

1. Title of the Course : Integrated Training Course on beekeeping
 2. Course Duration : 6 Days
 4. Periods of the year : November
 5. No. of trainee officers per course : 15-20

Course contents:

S. No.	Topics
1.	Life History of the Honey Bee Colony.
2.	Activities and Behavior of Bees
3.	Basic principles of honey bee management
4.	Economics of beekeeping
5.	Hands on bees- colony inspection and bee equipments
6.	Wax processing, Honey processing, Colony inspection ,Queen introduction, Dividing colonies, feeding bees, bee equipment,
7.	Quality honey production
8.	Role of honey bees in pollination
9.	Protecting bees from pesticides
10.	Importance of queen bee and mass queen rearing technology
11.	Disease detection, Enemies identification, Condition of colony for pollination
12.	Role of honey bees in pollination
13.	Hive products
14.	Supplementary feeding to honey bees
15.	Importance of bee flora for sustaining apiculture industry
16.	Hands on bees –preparing colonies for pollination, extraction of hive products
17.	Review of beekeeping requirements of area of participants
18.	Seasonal management of honey bees
19.	Special management in honey bees
20.	Importance of bee flora
21.	Hands on bees- preparing of bee colony for winter migration and handling of queen bee
22.	Major bee pest and their management
23.	Safety of honey bees from pesticide poisoning
24.	Economics of bee keeping
25.	Hands on bees- detecting bee diseases, enemies and demonstration of management practices
26.	Hands on practice in mass queen rearing
27.	Preparation of mating nuclei, package bees and mating yard
28.	Feedback, interactions and question answer session

Module of refresher training Course on fruit processing for lower level officers engaged in fruit canning units

1. Title of the course : Training course on Fruit Processing
2. Course Duration : 6 days
3. Period of the year : December
4. No. of trainees per course: 20

Course contents

Sr. No.	Topics
1.	Lab techniques and practices in processing
2.	Hygiene and safety during processing
3.	Role of enzymes in processing
4.	Modern processing practices
5.	Packaging materials and their use
6.	New processed products
7.	Use of additives
8.	Fresh fruit handling practices
9.	Importance of low temperature storage
10.	Non conventional sources for oil extraction
11.	FPO standards
12.	Establishment of a processing unit.

Module of Refresher Practical training course for Skilled Grafters/ Beldars.

- 1. Title of the Course** : Practical training on orchard operations
2. Course Duration : 6 Days
4. Periods of the year : January, Feb. and March
5. No. of trainee officers per training : 40

Course contents

S. No.	Topics for training
1.	Budding and Grafting techniques in fruit plants
2.	Training and pruning of fruit plants
3.	Methods of plant protection and pesticides application
4.	Orchard Management practices like Digging of pits, plantation, fertilizer application, irrigation, intercultural operations etc.
5.	Picking and packing of fruits

Format for submission of training note by the officers attending training at the training Institute:-

1. Name of the Training Institute:-
2. Name of the Officer:-
3. Designation:-
4. Title of the training programme:-
5. Duration of the training:-
6. Training Methodology adopted during training session:-
7. Relevance of the training for enhancing extension & communication skills:-
8. Relevance of the training for enhancing technical skills/knowledge:-
9. Brief note on training attended and suggestions for further improvement, if any:-

Signature

Name and Address of the
Trainee Officer/ Official

CHAPTER-X

TRAINING INSTITUTES

10.1 Training institute for training within states

The following training institute are available within state for training of technical and non technical staff as per detail given below:-

8.1.1 Training of non technical or ministerial staff

- 1) Himachal Institute of Public Administration (HIPA)

8.1.2 Training of technical staff

- 1) Dr. Y.S. Parmar University of Horticulture and Forestry (UHF), Nauni, Solan
- 2) Directorate of Mushroom Research (DMR), ICAR Unit, Chambaghat, Solan
- 3) State Agriculture Management Extension Training Institute (SMETI), Mashobra
- 4) Himachal Institute of Public Administration (HIPA)

10.2 Training institute for training of technical officers outside the state

There are number of training institutes situated outside the state, where Model Training courses & Workshops relating to horticulture development & extension are conducted for at least 2-3 numbers of extension officers of each state departments of Horticulture at regular interval every year. Most of these training courses & workshops are sponsored by the Ministry of Agriculture, Govt of India, New Delhi. The training courses organised at these training institutes are relevant to the technical staff of the department of horticulture. The detail of such training institute is at **Annexure 10-A&B**.

10.3 The level of officers to be deputed on training outside the state.

The middle and senior level technical officer of the department shall be nominated for training outside the state as per the training requirement of the most of the training organising institute situated outside the state.

10.4 Approval for attending training outside the state

The HOD shall be competent to approve tour programme for deputing staff to undertake journey outside the state as per directions contained in the Finance department letter No Fin (C) A (2)-1/2004, dated 18th November, 2010 subject to the conditions that boarding/lodging, to and fro travelling expenses are borne by the institute. The detail of such training institute is at **Annexure 10-A**. However, deputing officers for training in following training institute, which are not covered under this delegation shall be referred to the Administrative Department for approval:-

- i) Those training institute, where boarding, lodging is free but the to and fro travelling expenses are to be borne by the Department and the training is relevant to the departmental officers. The detail of such training institute is at **Annexure 10-B**.
- ii) Those training institute, where the training fee is charged however, the training is relevant to departmental officers. The detail is at **Annexure 10-C**

The detail of training institutes, training courses where the boarding/ lodging and to and fro travelling expenses are borne by the institute

1	Indian Institute of Horticultural Research, Bangalore	1) MTC Integrated Pest and Disease Management in Horticulture Crops, 2) MTC Post Harvest Management and processing in Horticulture crops, 3)MTC Advances in Production technology of Horticultural crops	8 days 8 days 8 days
2	Indian Agriculture Research Institute (IARI) , New Delhi	MTC on Monitoring & Evaluation Techniques for Extension Programmes including e monitoring tools & mechanism	8 days
3	Central Institute of Temperate Horticulture, Srinagar, ICAR, (J& K)	MTC on Enhancement of temperate fruit & nuts crops productivity through modern technological Interventions,	8 days
4	Extension Education Institute (Govt of India), Nilokheri	Workshops on :- 1) Participatory planning in watershed management, 2) Market led extension, Organic farming for sustainable Agriculture, 3) Mass media skills to support Agriculture Extension, 4)Management skills for Extension Personnel, 5) Participatory Extension Management, Computer Application in Agriculture & Allied fields.	5 days 6 days 8 days 6 days 8 days
5	Central Research Institute for Dry land Agriculture, Hyderabad	MTC on Impact of climate change on rain fed agriculture & adaptation Strategies,	8 days
6	Central Institute of Sub-Tropical Horticulture, Rehwan Khera, Lucknow(UP)	1) MTC on Rejuvenation and Canopy Management of Mango, Guava and Aonla, 2) Post Harvest Management & Value addition in fruit crops	8 days 8 days
7	National Research Centre for orchids (ICAR) Pakyong, Sikkim	MTC on Recent Trends in floriculture improvement	8 days
8	Central Training Institute, Kerala Agriculture University, Thrissur	Recent Advances in cultivation & Utilisation of Medicinal & Aromatic Plants	8 days
9	National Bee Board, M/S Lee Bee International Institute of Beekeeping and Agro Enterprises, Ludhiana (Punjab)	Management of Honey Bees Colonies for effective Pollination	8 days
10	Directorate of Water Management, Bhubneshwar, Orrisa	MTC Water Resource Management for sustainable Agriculture and livelihood Management	8 days
11	National Centre of Organic Farming, Kamla Nehru Nagar, Ghaziabad-201002	Organic certification ,management and internal control system	8 days
12	Directorate of Ext. Education, S.K. University of Agricultural Science & Technology Shalimar (J&K.)	1. Processing & Packaging of fruits & Vegetables 2. Sustainable Agricultural Development in degraded & rain fed areas.	8 days 8 days
13	University of Agricultural Sciences, Bangalore	MTC on Farm Field School	8 days

14	National Research Centre for Citrus, Nagpur(Maharashtra)	MTC on Post Harvest Management and value addition of citrus fruits	8 days
15	National Research Centre for Litchi, Mujjafarnagar (UP)	MTC Improved Production Technology in Litchi	8 days
16	National Plant Quarantine Station, Rangpuri, New Delhi	Standard operating procedure for export inspection and Phyto-sanitary certification	5 days
17	International Institute of Horticultural Management-Bangalore	Training Programme on Precision farming in Agriculture and Horticulture	5days
18	National Research Centre for Women in Agriculture, Bhubaneswar, Orissa	1) Gender Sensitive Extension Training Programmes 2) Gender Mainstreaming through Horticulture Based Enterprises 3) Improved Tools & Equipment for Farm Women	7 days 12 days 5 days
19	Central Arid Zone research Institute, Jodhpur	1) MTC on Sustainable rain fed farming systems for dry land areas and arid areas. 2) MTC Arid horticulture and value addition for Livelihood security in dry land arid areas. 3) MTC on Arid Horticulture.	8 days 8 days 8days

Annexure 10-B

The detail of training institutes, training courses, where the boarding/ lodging expenses are borne by the institute and to and fro travelling expenses are borne by the department.

S.N .	Name of training institute	Training subject covered	Duration of training
1	National Institute of Agricultural Extension Management (MANAGE) Hyderabad	1) Public Private Partnership in Agri. Extension Development 2) Training Management for state level Training coordinators 3) Mainstreaming Gender Concerns in Agriculture 4) Managerial skills for extension Personnel 5) Mainstreaming the use of common Service centres for effective delivery of Agriculture Information 6) Tools & Technique in Managing Development Projects 7) Agriculture Entrepreneurship Development 8) Training Management	6days 5 days 5 days 3 days 5 days 6 days 5 days 5 days
2	National Institute of Disaster Management, New Delhi.	1) Environmental Resources and Disaster Management 2) Climate change & Disaster Management 3) Formulation of District Disaster Management Plan	5 days 5days 5 days
3	National Institute of Plant Health Management, Rajendranagar, Hyderabad.	1) Safe & Judicious Use of Pesticides for food, safety & quality 2) Short/Long duration training courses in Plant Protection	8 days 8 days
4	National Institute of Rural Development, Hyderabad	1)Promotion of Entrepreneurship in Agriculture, 2)District Planning under Rashtriya Krishi Vikas Yojana, 3)Institutional Arrangements in Watershed Development 4) Planning & Implementation of SGSY	6 days 6 days 6 days 5 days
5	National Academy of Statistical Administration, Plot No 22, Knowledge Park-II, Greater Noida District Gautam Budha Nagar (U.P.)	Agriculture Statistics	7 days
6	Regional Agmark Laboratory, Gobind Nagar, Amritsar (Punjab)	Grading and Marking of Honey under "Agmark"	One Month

Annexure 10-C**Name of Training institute situated outside where the training fee is charged by training institute**

S.N.	Name of training institute	Name of the training courses	Remarks
1	Ch. Charan Singh National Institute of Agricultural Marketing	Risk Management and Modern Marketing Methods of Horticulture Produce	Fee of Rs 4000/ trainee is charged
2	Horticulture Training centre, S.N. 398-400, Next to CRPF Campus, Pune Mumbai Highway, Talegaon-Dabhade, Tal Maval, Distt. Pune-410506	General Green House Management	Fee of Rs. 4500/trainee is charged
3	International Horticulture Innovation and Training Centre, Durgapura Horticulture Farm, Tonk Road, Jaipur, Rajasthan	Green house Technology	Fee of Rs. 5000 /trainee for 5 days

CHAPTER-XI

TRAINING OF FARMERS

11.1 Introduction

Training and extension is an important programme for the transfer of technology to the farmers for increasing horticultural production. This programme is also very important for human resource development to meet the skilled manpower need of the horticulture industry. The scheme aims at organizing training camps/ workshops/ seminars/ courses/ study tours etc. for the farmers.

11.2 Main objective of the scheme

- To organize special short term and long term training courses for the rural educated youths, so as to enable them to find self employment or part time employment in the horticulture industry.
- To organize training camps for farmers at State, District, Block & Village level for creating awareness amongst the farmers about the various schemes and programmes of the state Govt. and to acquaint them with the latest development in horticulture.
- To organize seminars for interaction between the farmers, technical personnel and scientists for solving the problems of horticulture industry.
- To organize study tours for the farmers to horticulturally developed areas/projects/research stations etc. to create awareness amongst them about the latest development in horticulture.

The shortage of skilled manpower on various aspects of horticulture operations is being increasingly experienced. Taking these aspects into consideration, the farmers shall be provided training on various aspects of horticulture and various training programme shall be organised as:-

- Long duration training in Horticulture in the PCDOS/Horticulture training centre/U.H.F. Research stations.
- Short duration training/seminars ranging from 1-20 days in important aspects of horticulture, beekeeping, mushroom cultivation, Floriculture & fruit preservations.
- Conducting of study tours for the farmers within & outside the State

11.3 Venue, Duration and number of camps

The venue of the long duration training camps, district level training camps and village level training camps shall be preferably at the Departmental PCDOS. (The detail list of PCDOS is at **Annexure 11-A**). The venue of short duration training camps on Bee keeping, Mushroom Cultivation, Fruit Preservation and Flower cultivation shall be at the Bee Keeping stations, Departmental Mushroom Units, Fruit Canning Units and Model Floriculture Centre/Flower Nurseries respectively. The number of camps to be organised shall depend on availability of budget. However, the proposed number of various farmers training camps to be organised in a year is given at **Annexure 11-B**.

11.4 Training of women farmers

Women play important role in society, especially in development of agriculture and Horticulture sector in the country. Women as farmers contribute immensely for the family by carrying out various operations in the farms and orchards. It is therefore, important to train and sensitise the women farmers in various farmer training camps about Orchard Management, Fruit Processing, Mushroom Production and Flower Cultivation. Department shall make all efforts to train at least 30 % of women farmers in various farmer training camps out of total farmers to be trained. Women farmers group shall also be trained within district, state and outside the state by utilising funds available under the transfer of technology component of Horticulture Mission. Department will identify couples to motivate, sensitise and train them in modern farm management, post harvest management, fruit processing, value addition to the fruit crops and flower cultivation as per their need and requirement ,wherever possible. The complete family unit shall be associated and imparted training with a motive to forming a composite, dedicated group in order to raise their income levels.

11.5 Trainers for farmer training

Horticulture development officers at the Block level or posted in PCDO shall act as trainers for training of farmers in village level farmers training camps. The District Horticulture Officer or Subject Matter Specialist may also attend these training camps wherever possible. The District Horticulture Officer or Subject Matter Specialists will be trainers for farmers at district level training camps.

11.6 Feed back from the farmers and the trainers

The feedback on the issues to be raised by the individual farmer in various farmer training camps shall be submitted by the concerned officers on the prescribed Performa to the Directorate of Horticulture through proper channels. The detail of such performa is given at **Annexure 11-C**. The framers shall also submit their feedback on training organised for them on prescribed performa to the officers attending and organising training camp. The detail of performa is given at **Annexure-11-D**.

District wise information about PCDO'S in Himachal Pradesh

Sr. No	Name Of Distt.(NO'S)	Number of PCDO's	Name of PCDO/ Nursery/Unit.	Area (Ha)	Name of Panchayat	Name of Block	Distance from Block HQs	Distance from Distt. HQs
1	Bilaspur(6)	1	Baroha	4	Galian	Jhandutta	4Kms	25kms
		2	Guru-Ka-Lahaur	0.95	Bassi	Sadar	86Kms	88Kms
		3	Saloha	5.2	Saloha	Sadar	70Kms	72Kms
		4	Nihal	3.5	NAC Sadar	Sadar	4Kms	2Kms
		5	Nihari	2.05	Seo	Ghumarwin	6Kms	25Kms
		6	Kot -Kahloor	1.4	Toba	Sadar	78Kms	80Kms
2	Chamba(14)	7	Rajpura	7.2	Rajpura	Chamba	10km	2kms
		8	Nehla	6.9	Bhanjradu	Tissa	6km	80kms
		9	Sarol	1.36	Sarol	Chamba	8km	50kms
		10	Chowari	1.25.	Chowari	Bhatiyat	Nil	58kms
		11	Tipari	3.62	Mehla	Mehla	2km	16kms
		12	Thulel	2.21	Balana	Bhatiyat	40km	90kms
		13	Dharwas	4.35	Dharwas	Pangi	18km	688kms
		14	Kilod	18.4	Killod	Salooni	14km	70kms
		15	Lanji	8.09	Baror	Chamba	10km	9kms
		16	Killar	3.2	Killar	Pangi	1km	670kms
		17	Keenala	0.8	Kuthed	Bharmour	35km	78kms
		18	Keenala F.N.	0.56	Ulansa	Bharmour	26km	71kms
		19	Ulansa	3	Ulansa	Bharmour	26km	71kms
		20	Bhanota F.N.	6	Bhanota	Chamba	20km	12kms
3	Hamirpur(4)	21	Badiana	4	Lagmanwin	Bhoranj	4 Kms	29 Kms
		22	Bhumpal	3.84	Sudhial	Nadaun	7Kms	21Kms
		23	Deot Nursery	1	Tal	Bhoranj	12Kms	15Kms
		24	Deot Sidh	0.92	Kalwal	Bijhari	12Kms	35Kms
4	Kullu(4)	25	Bajaura	17	Bajaura	Kullu	14km	14kms
		26	Banjar(Barda)	1.06	Ghartgard	Banjar	3km	49kms
		27	Chowai	9.6	Chowai	Ani	12km	12kms
		28	Sagot	5.04	Remu	Nirmand	15km	15kms
5	Kangra(6)	29	Indpur	4.52	Indpur	Indora	2km	110kms
		30	Palampur	11.24	Bharmat	Punchrukhi	15km	40kms
		31	Badoh	2.48	Dhanea	N/Bagwan	25km	75kms
		32	Jachh	4.2	Multhan	Baijnath	70km	120kms
		33	Gummer	11.08	Gummer	Dehra	12km	60kms
		34	Multhan	0.44	Multhan	Baijnath	70km	120kms
6	Kinnaur(8)	35	Pooh	10	Pooh	Pooh	2km	65kms
		36	Kilba	4.54	Kilba	Kalpa	40km	40km
		37	Nichar	2.97	Nichar	Nichar	19 km	69km
		38	Boktu	9.5	Telangi	Kalpa	4km	4km

		39	Ribba	4.8	Ribba	Pooh	45km	65km
		40	Spillo	1.67	Labrang	Pooh	45km	65km
		41	Bhaba F.N.	0.64	Kafnoo	Nichar	2km	70km
		42	Gyabang	4.4	Giabong	Pooh	30km	65km
7	Lahaul & Spiti (2)	43	Thirot	2.56	Thirot	Lahaul	37km	37km
		44	Hurling	0.88	Gue	Spiti	54km	241km
8	Mandi(11)	45	Madhan	3.4	Chamukha	Sundernagar	7Kms	34Kms
		46	Harabagh	4.4	Baila	Sundernagar	6Kms	35Kms
		47	Bhangrotu	3.2	Bhangrotu	Balh	1Kms	17Kms
		48	Kingas Olive Dev. Station	4.8	Kingus	Mandi	53kms	56Kms
		49	Pingla	4.8	Pingla	Gopalpur	45kms	50Kms
		50	Janjehli	3.4	Dhim kalaru	Janjehli	2kms	89Kms
		51	Samrahan	7.2	Dhaniyara	Mandi	39Kms	42Kms
		52	Nalhas	3.2	Chachiot	Gohar	8Kms	40Kms
		53	Jhamad	3.8	Sanchard	Mandi	5Kms	8Kms
		54	Pangna	7.6	Pangna	Karsog	30Kms	94Kms
		55	Jarol	3.4	Jarol	Sundernagar	10kms	38Kms
9	Solan(8)	56	Chail	6.8	Chail	Kandaghat	32km	48kms
		57	Arki	1.26	NAC Arki	Kunihar	17km	58kms
		58	Patta Mahlog	6.1	Patta	Dharmapur	30km	60kms
		59	Gaura	2.5	Hinner	Kandaghat	40km	25kms
		60	Darlaghat	11.2	Darla	Kunihar	40km	80kms
		61	Dhang	1.76	Dhang	Nalagarh	6km	90kms
		62	Khatnali	1.36	Katkot	Kunihar	1km	40kms
		63	Baga Fruit Nursery	0.8	Mangal	Kunihar	80km	120kms
10	Shimla(14)	64	Bahli	12.14	Bahli	Rampur	45km	125kms
		65	Chopal	8.24	Chopal	Chopal	110km	4kms
		66	Bamta	1.5	Chopal	Chopal	4km	110kms
		67	Gopalpur	4.02	Sarahan	Rampur	20km	150kms
		68	Sarahan (Bathara)	7.35	Sarahan	Rampur	30km	160kms
		69	Kumarsain	3.79	Kumarsain	Narkanda	44km	104kms
		70	Dutt Nagar	1.99	Duttnagar	Rampur	15km	115kms
		71	Baragaon	3.52	Baragaon	Narkanda	44km	104kms
		72	Dhalli	6.09	Kiyari	Jubbal	47km	80kms
		73	Annu	12.4	Anti	Jubbal	15km	115kms
		74	Rajhana	1.6	Rajhana	Mashobra	28km	10kms
		75	Khadrala	18.8	Khadrala	Rahree	40km	96kms
		76	Sunni	3.2	Sunni	Basantpur	7km	45kms
		77	Dodra Kavar	2.49	Kavar	Chirgaon	157km	222kms
11	Sirmour(16)	78	Dhaulakuan	7.2	DhauLaKuan	Ponta Sahib	18km	25kms
		79	Shirumyala	6	Katah Sheetola	Nahan	34km	34kms

		80	Timbi	13.21	Timbi	Shilli	13km	112kms
		81	Rajgarh(Old)	20	Bhuira	Rajgarh	3km	100kms
		82	Rajgarh(New)	5.2	Bhuira	Rajgarh	3km	100kms
		83	Kwagdhar	11.4	Bagpashog	Pachhad	10km	50kms
		84	Jubbal Chandesh	11	Neharpab	Rajgarh	8km	90kms
		85	Bagthan	19.8	Bagthan	Pachhad	20km	42kms
		86	Ritabpal	2.7	Habban	Rajgarh	42km	145kms
		87	Nohra	5.6	Nohra	Sangarh	65km	130kms
		88	Nohra W.D. Station	4.4	Nohra	Sangarh	65km	130kms
		89	Charna	3.68	Nohra	Sangrah	65km	130kms
		90	Daro-Devria	1.36				
		91	Bhadoli	2.88	Bharoli	Rajgarh	80km	170kms
		92	Andheri	9.2	Andheri	Sangrah	10km	75kms
		93	Jarwa Olive station	6.33	Badol	Sangrah	55Kms	115kms
12	Una(1)	94	Saloh	33.61	Saloh	Haroli	8Kms	11Kms
	Total Number	94						

Detail of proposed farmers training camps to be organised in a year:-

S. N.	Detail of training courses	Location	Duration	No of camps to be organised in a year	Number of farmer per camp	Training components
A	Long duration training courses	PCDOS or Research Stations of the University	4-6 weeks	12-24	3-5	Training shall be given on the subjects having potential to generate self employment opportunities like commercial nursery production technology of fruit plants, flowers, training & pruning, budding/grafting/layering of fruit and ornamental plants etc. with major emphasis on practical aspects so as to make the trainees professionally competent to undertake the job independently
B	Short Duration Training camps					
1	Organisation of Distt. Level training camps/seminars	PCDOS or Distt Headquarter	8 days	96	Maximum 80 farmers per camp	Orchard management, training/pruning budding & grafting & Plant protection measures to be undertaken and Hops cultivation etc.
2	Bee Keeping	Bee Keeping station or research station of the university	7 days	24.	10-20	Management and migration of Honey Bees. Camps shall be organised by the BKDOS
3	Commercial Flower cultivation	Model Floriculture centre or Floriculture stations of the department	4 days	12	20	Cultivation practices of cut flower and other flower crops grown in the area.
4	Mushroom Cultivation	Departmental Mushroom Units at Chambaghat, Palampur and Bajaura	10 days	8	40-50	Complete cultivation practices of button mushrooms, dhingri etc. Camps shall be organised by the MDO Solan, SMS (Mushroom) Palampur and APO Bajaura.

5	Fruit Preservation Training camps	Fruit Canning Units	2 days	24	20-30	Practical demonstration of preparation of various fruit products like Squash, Jam, Pickles and chutney etc. Camps shall be organised by the Incharge of the Fruit Canning units
6	Training in post harvest Management/ Picking, Packing and Grading etc.	District Headquarter or grading packing house	2 days	12	20-30	Demonstration of packing and grading of fruits
C	Village level Training camps	PCDOS or Fruit Nurseries	One day	2000	25	Awareness of departmental schemes, programmes and redressal of problems of individual farmers relating to orcharding.
D	Seminars					
1	State level seminars	Directorate of Horticulture	3 days	2	120	Recent advancements in Horticulture Development Marketing, Mushroom cultivation, Floriculture Dev. Beekeeping dev. and problems being faced by the farmers & their solution by the expert of University & Department of Horticulture. The camps will be organized by the Dy. Director of Horticulture(Inf.)
E	Study Tour					
1	With in state	University Farms or Fruit Growing areas	10 days	12	50	Organization of study tour of the orchardists to the developed fruit pockets within & outside the State, so that they are also convinced to adopt modern packages of practices in their orchards
2	Outside the state		15 days	2	50	

Format for submission of training note on the issues raised by the farmers in training camps

1. Level of farmer Training camp (e.g. Vill. or Distt.) :-
2. Venue of training camp :-
3. Date of organisation of Training camp :-
4. Number of participant in the camp :-
5. Number of issues raised by the farmers :-
6. Detail of issues raised by the farmers :-

7. Number of issues referred for redress at various levels:-

	Name of office/ institute	Number of issues
I	Horticulture Development Officers level	
II	Deputy Director of Horticulture level	
III	Directorate level	
IV	University of Horticulture and Forestry ant its research stations	

8. Brief summary of training camp

Name and Address of the
Officer organising training camp

बागवानी प्रशिक्षण शिविर में बागवानों की प्रतिक्रिया जानने हेतु निर्धारित प्रपत्र ।

1. प्रशिक्षण शिविर का स्तर (ग्राम स्तर/जिला स्तर)

2. प्रशिक्षण शिविर का स्थान

3. प्रशिक्षण शिविर की तिथि

4. प्रश्नों का ब्यौरा

5. आयोजित प्रशिक्षण शिविर का महत्व

6. बागवानी स्कीमों से सम्बन्धित सुझाव

7. अन्य सुझाव

बागवान का नाम व पुरा पता