



Doon university (School of Environment and Natural Resources)

Doubling Farmers Income Through Integrated and Collective Farming
Approach in Uttarakhand

Quarterly Report

[Second] Quarter – 3rdst 1st October– 31st December, 2021

Submission Date: 21st January 2022

Activity Start Date and End Date: 1st October – 31st December 2022,

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Submitted by: Doon University School of Environment and Natural Resources

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Program Overview:

Program Name:	Doubling farmer's income through integrated and collective farming approach in Uttarakhand
Activity Start Date And End Date: (from first allocation of funds)	17 th April 2021 to 31 st March 2023
Name of Joint Implementing Partner: (if any, this is an org. that may be helping you implement)	Department of Horticulture, Department of Agriculture Uttarakhand Government
Geographic Coverage (State, Districts, Villages)	State – Uttarakhand District – Tehri-Garhwal, Almora, Pithoragarh, Champawat Block – Narendranagar, Bhilangana, Dwarahaat, Syeldey, Munakot, Didihaat, kanalicheena, Dharchula, Lohaghaat Villages (Nos.) – 86
Reporting Period:	October 2021 to December 2021
Total Program Cost	INR 2,01,52,356
Total amount received from THF/FIRST	5,375,847

1. Background of the Project / Description:



Ginger harvesting by farmers of Bandela Dhek Village in Lohaghat

Uttarakhand is a land of small peasants but every farmer is a proud owner of landed property and this is one such state of the Indian Union where very few persons are landless. The major issues related with doubling the hill farmer's income are absolute lack of proper scientific knowledge about agriculture and horticulture crops which may yield benefit to them, no knowledge of new varieties of crops in agriculture or horticulture, no formal training on nursery raising and proper treatment of seeds to ensure germination and survival of seeds in agriculture field. The hill farmers also face challenges to develop any basic kind irrigation system for crops even in the areas where water sources are nearby. There is absolute lack of proper nutritional management plan for specific crops and non existing knowledge about soil related issues such as nutrient status of the soil and status of micro nutrients etc.

In the eighty six villages which are linked with our project for the first phase, farmers have provided information in detail about the issues highlighted above related to bottle-necks for large scale production aimed at commercial trading of agri-horti produces.

We have managed to combine the farm lands of individual farmers within villages and four to six villages have been unified to developed clusters. This has given us very good opportunity for the bulk production of agriculture and horticulture produces. We are also developing concrete base line information on actual situation on ground of irrigation, manure and other issues related issues in agriculture. In third quarter we have collected data form 21 villages in Champawat, district.

2. Orientation Trainings for farmers, volunteers and staff in Champawat, Pithoragarh, Almora and Tehri-Garhwal.

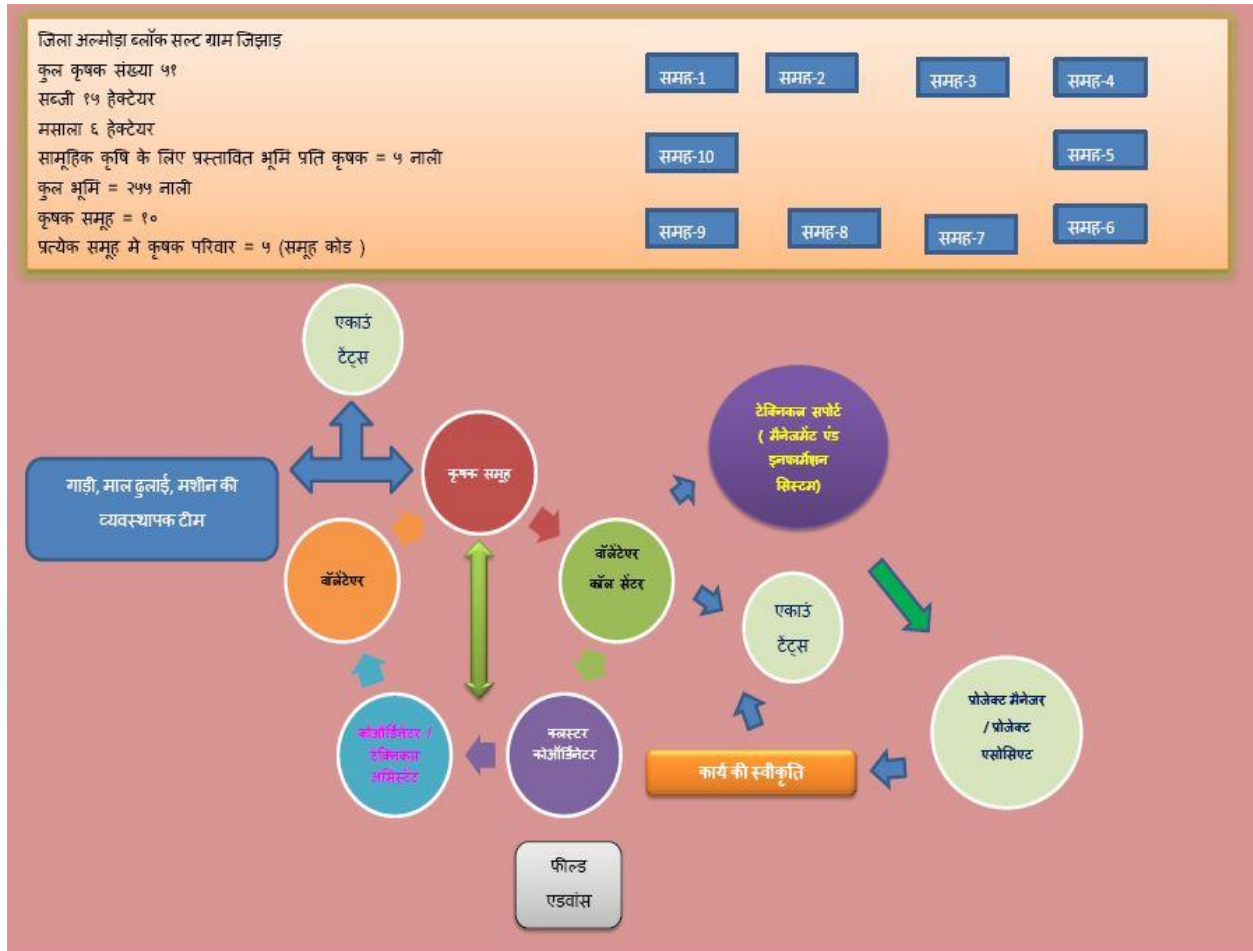
In the month of December 2021 total 28 orientation meetings were arranged in four districts. After receiving the formal letter of approval of project a team was recruited according to the budget provisions, and following the work plan a one month seven day visit was organized in four districts (Tehri-Garhwal, Champawat, Pithoragarh, and Almora). The main aim of these field visits was to organize the orientation trainings and for farmers, volunteers and staff of the project.

As one of the most important aspect of implementation of work plan is interaction with farmers and development of proper formats of communication for execution of the project goals. It is also important at ground level to involve the community in planning and making the community aware of the benefits that lie in coming together as a group.

Orientation trainings were organized in village clusters of the four districts namely Champawat, Pithoragarh, Almora and Tehri with the major objective of implementation of work plan and developing an online mode of data submission for providing a transparent online portal which will enable the

farmers and ground staff to interact with the management team and provide a quick and easy method to resolve issues at ground level.

In consultation with the community and experts a plan of management was developed for ease of work with the farmers, staff and volunteer teams.



A flow chart was developed and discussed in all orientation trainings. Inputs from experts, community and staff were also taken to develop the standard operating procedure.

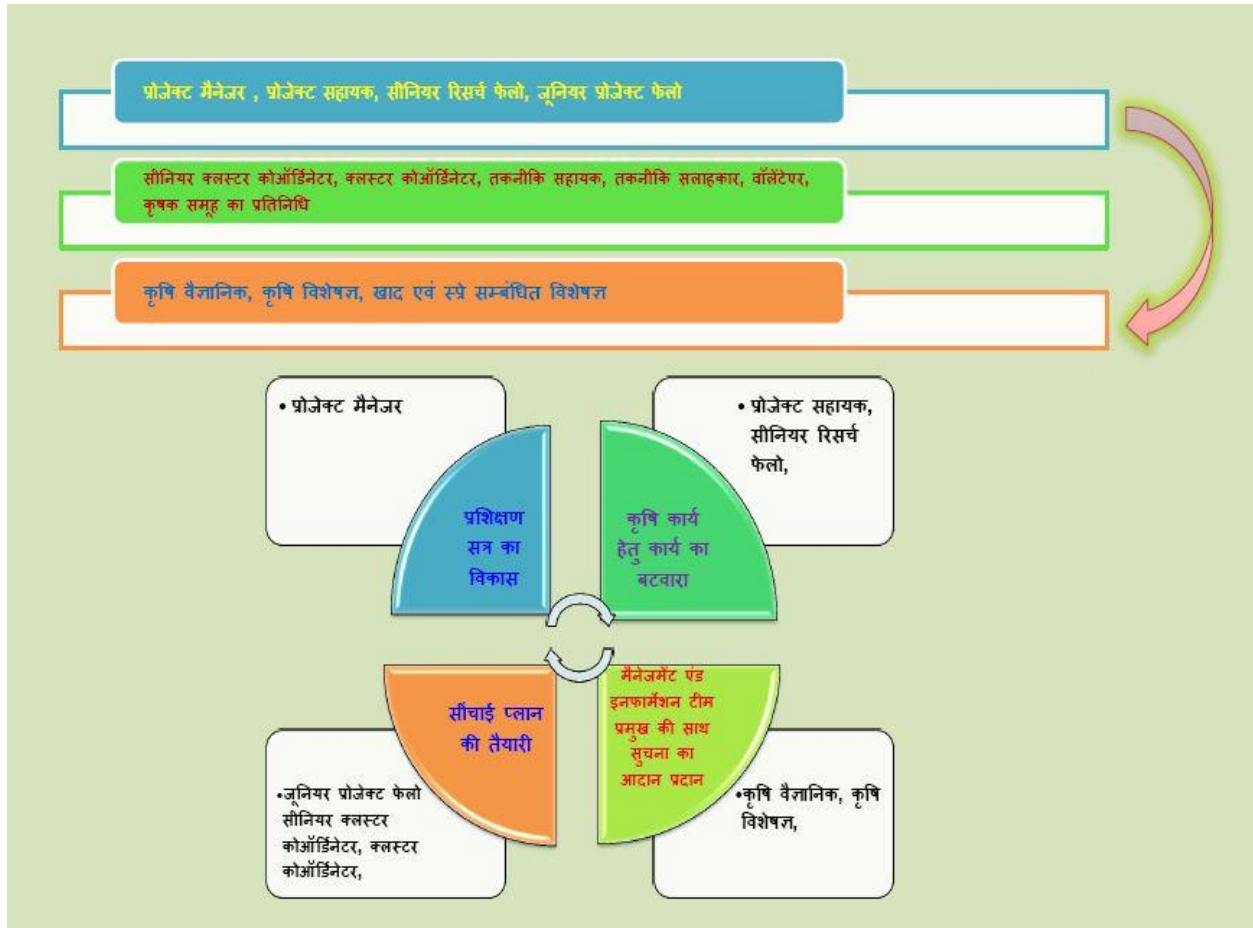
We have decided that separate farmer groups will work in identified / codified farm clusters inside a village so that accountability of work can be fixed at ground level. After deciding the crops for specific farm area our team of account, volunteers and farmers will prepare a report on management of loaders, power tillers, and distribution of machinery inside farming clusters for preparation of nursery and farm land for cultivation.

Cluster coordinators and technical assistants will work in close coordination with the farmer’s team inside the village clusters, and will inform the account team about the field advance required under the budget head of Volunteer’s honorarium and travel. Similarly they will also communicate with the account team regarding their travel plans on weekly basis. If any training is scheduled for the month than

senior district coordinator will arrange the field requirements by interacting with cluster coordinators, technical advisors and technical assistants.

Technical assistant, cluster coordinators will disseminate the information to farmers groups.

Program manager, project coordinator, project associate and project fellow will develop a detailed work plan with project investigator and interact with soil scientist, horticulturist, department of horticulture and agriculture, information technology experts and other experts which will be required for implementation of work plan in different clusters.



Division of work has been done for clarity of job responsibility and provides tangible results in a time bound manner. Standard operating procedures have been developed for different horticulture crops, medicinal plants and aromatic plants, similarly irrigation manual have also been developed for crops. These manuals will be printed and distributed to the team during the nursery development and mass scale cultivation of crops.

For internal communication of project team and volunteers team an online web portal and management and information system has been developed and trainings have been provided to

volunteers and project team. Total 16 formats have been developed for completion of task of the project

S.No.	Department/Organization	Date of communication	Purpose of Communication	Contact Person	Designation	Phone no.	Email id	Information shared (Copy to)	Details of Enclosures (if Any)	Formats of department available or not
1	Horticulture department	2.12.2021	Providing seeds under HMNEH scheme	Mr. Sachin	ADO Horticulture Syeldey	xxxx	abc@gmail.com	DHO Almora/ Director horticulture	List of Farmers	Not available

in time bound manner. Following are the formats developed:

Format no. 1

This format will be used for tracking timely progress of work plan by our team and this data will be uploaded on online information and management system.

Format no. 2

S.No.	Is any dialogue is require with coordinator regarding the Formats		In case yes	Details of specific information	Date of response from line department	Issue addressed	
						Yes	No
1	Yes		Stationary budget will be utilized in printing of documents and travel budget will be utilized	Rs.xxx will be request to account team for advance under specified budget heads	14.02.21	Yes	

In case the issue is not resolved and some additional information or paper work is required for linking farmers with different schemes of government, information will be shared by cluster coordinators and senior district coordinators on management and information system. This important so that teams facing similar issues in different district will follow standard procedure for resolving issues.

Format 3.

S.No.	In Case Issue not Addressed	Details of EDS required by the Department	Data Sought by (Authorized Person)	Designation	Phone no.	Email id	Information shared (Copy to)	Date of action taken by FPC on the issue	Date of final communication With line department	Remarks
1	Contact details and land	Scan copy	Mr. Sachin	ADO Syeldey	xxxx	xxx@gmail.com	DHO/Director Hort.	17.02.21	21.12.21	Copy of receiving letter

records are require										with cluster coord.
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Format 4.

S.no.	Resources required for cultivation			POC for Physical & Mechanical Resource arrangements	Email ID / Contact no.	Date wise details of raising the query	Details of staff in loop	Date of communicating the requirement of physical resources	List of Items	Liaising with Accounts Date	Action Taken Date of issues resolved as noted.
	Physical & Mechanical	Financial	Natural								
1	12 farmers 3 power tillers 2 water pumps.	Total payment from volunteers honorarium	Leaf litter, organic growth promoters	Senior district coordinator or Cluster coordinator or Volunteer (name)	8145... .xx	4.2.22 preparation of land 5.3.22 mixing of organic matter 8.2.222 seed sowing	Technical assistant Program manager Project fellow etc.	1.2.22	Pipe, sprayer, harrow, tiller, weeder etc.	27.1.22	29.1.22

★POC=Person of contact

A separate format has been developed in the orientation trainings for the physical resources required in villages during nursery development, cultivation, implementation of irrigation plan etc. This format is very important as this will provide the data to senior team to take decisions on time as the same work will be going on in many destinations in a short period of time. The online communication will enable the team to take decisions on time and monitor the progress.

Format 5.

S. No.	POC to manage financial resource in cluster	Workforce involved in arrangement of resources	Payment Mode to the FPC member		In Case of Cash Payment (Copy of receiving voucher)	Details of NEFT/RTGS /UPI (in case of Account Payment)	Bill no. shared with the POC / Total Amount Spent or proposed to be spent	Date of spending Cash in hand (if any)	Item wise details of spending	Availability of Bills	
			Cash payment	Account payment (NEFT/RTGS/ UPI)						Yes	No
1	SDC, CC,TA, Volu. 1,3,5 PM	Name of volunteers and farmer	Cash receipt of Rs. 216/day	If transferred to account	Receiving by field staff	Bank receipt	105 &106 Spend on fuel and hiring tools for field	From field advance	Xxx Sss ddd	Yes	

	PC						preparation				
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This format is also very important to keep track of the financial progress in field and will enable the team to understand the cost and benefit analysis of a specific crop so that they can decide the price of farm produce based on a proven accounting system. This will also help our team to understand the financial differences for same crop in different locations so that after one season analysis of this format decisions can be taken for promotion of specific crops according to the sites geographical location and access to nearest market.

Format 7.

S.No.	Type of natural resource required			*Soil		Details of contact person for arranging manure	Time line (Total no. of days worn to arrange the resource)	Total no. of people involved		Mode of transportation	Bills submitted to account		Details of Growth Promoters if any	Remarks	
	Soil related	Water Related (Hyperlink Provided)	Site related / GPS details/ Aspect	Arrangement of organic manure	Soil Health Card Issued			Staff	Farmers		Yes	No			
					Yes										No
1.	14 quintal of leaf litter require	2 water pump require in rotation of 7 days		Yes		no	Girish, lalit	7 days	2 P	19 Far	Loaders	Yes	Soil growth promoter. X brand 12.5 kg per Acer		

Other formats which will be used in our project have been developed and will be discussed in other meetings scheduled in the month of February and March 2022. All these formats have been provided in separate annexure attached with this report.

3. Development of web site / online information and management system

As mentioned in the concept note a functional web site has been developed containing details such as Lat., Long, altitude and aspect details of each collective farm area. Details of cultivated species, details and production details will be given an page in the web site so that all farms with same species may be grouped in a single window, for ease of buyers in nationally and international market. Details of each single nursery and central nursery will be given on web site explaining about the species, month of cultivation, various environmental factors evolved, estimated production, on shelf produces and future yield estimates.

Website will have following format:


- i. Name of the project

- ii. Details of project
- iii. Details of seed collection centers
- iv. Details of donor organization
- v. Details of seeds of medicinal and aromatic plants
- vi. Details of nursery techniques of medicinal and aromatic plants
- vii. Details of individual farms at cluster
- viii. Details of storage facility
- ix. Details of post harvesting and storage
- x. Operational mechanism

A layout of web site was shared with the information and technology expert who was hired for a month during the field visit in the month of December. The IT expert interacted with the farmers, volunteers and field team and based on their feedback developed a web portal. Training of progressive farmers, volunteers and field staff was also done by the IT expert.

Logo			
Our Farmers	Our Profile -About us -Team -Mission -Our Companies	Our Work -Our area -Liaison -Google Location -Land Area -budgets	Communication -Bills Register
Project Gallery Production Login Contact			
Links District Wise <ul style="list-style-type: none"> ➤ Tehri Garhwal ➤ Almora ➤ Champawat ➤ Pithoragarh Introducation <ul style="list-style-type: none"> ● Doon University ● Dehardun 			
Flashing Album Add 10 photographs for each album			

Almora

 | [Our Farmers](#) | [Our Profile](#) | [Our Work](#) | [Communication](#) | [Project](#) | [Gallery](#) | [Production](#) | [Login](#) | [Contact](#)



Links District Wise

- Project description here
- Introduction
- Almora Village list paste here and also Google location
- other

MAY

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Day wise events Addition
Events – Meeting Place,
Date , Time

Form Bill Submission

1. Name
2. Address
3. Phone /Mobile No
4. Multiple option upload bill .. Category

- a. Traveling and meal Bill
- b. Voluntary bill
- c. Food bill
- d. Petrol bill
- e. Stage decoration bill
- f. Dj & speaker bill
- g. Printing and stationery
- h. Room Rent
- i. Support staff salaries
- j. Advertising and promotion
- k. Office supplies
- l. Utilities
- m. Software and devices bill

5. Upload Bill

Upload bill

Note Images size mention

6. Complain/ Suggestion / Feedback

Message

Photo gallery



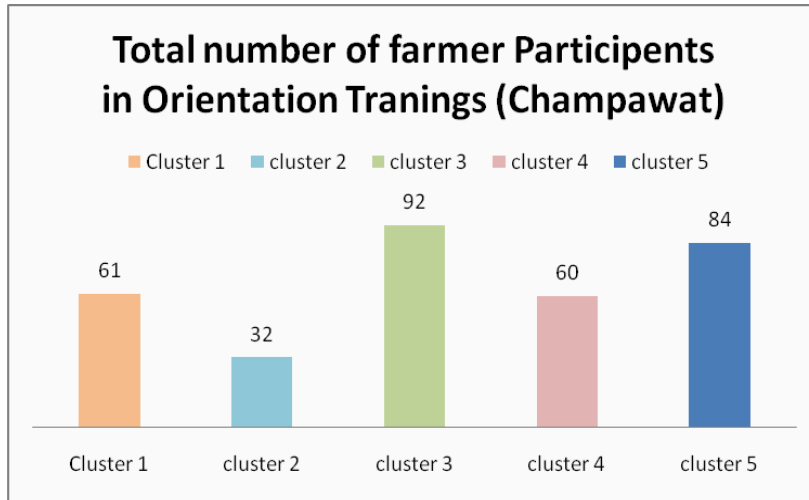
After proper development of this website we are expecting to monitor farm work and financial work on weekly basis through the use of tools of information technology.

4. Introduction of project team with farmers, volunteers and other issues discussed during the Orientation trainings

The other objectives of the orientation and meeting are enlisted hereafter: In total our team interacted with 974 farmers in these meetings. We will be working with 3260 farmers in the coming months, we interacted with about 29% of total farmers in these meetings.

1. Introduction of the team namely, Project Manager, Project Coordinator, Project Associate, Project Fellow and IT Expert along with the local project members.
2. Introduction of the Project Objectives: Doubling Farmers' Income through Integrated and Collective Farming, imparting Information about the schemes that the farmers will be benefitted from, Briefing regarding the procedures and documents required for the schemes, Briefing about how the project would help the farmers in attaining the objective of doubling their income and particulars regarding Farmer Producer Company (FPC) and its membership.
3. A Q & A session with farmers that involved noting down of the issues and difficulties faced by them in current farming practices.

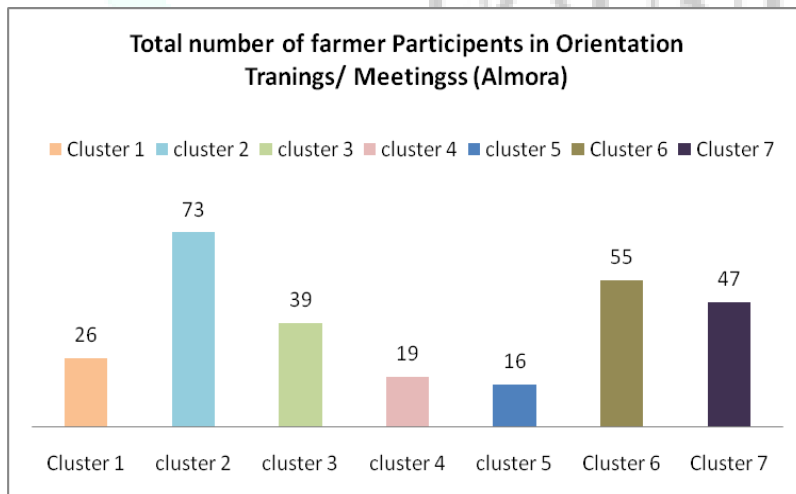
4. A rundown of the Baseline survey and its formats that enlisted thirteen questions to gather information about the contemporary and traditional farming practices to better understand, document, analyze, rectify issues and then implement the solutions based on the local level information gathered.
5. A selection of volunteers from the villages to carry out the document collection and surveys in the villages.
6. An assessment of the willingness of people and a discussion regarding the work and benefits after being part of the FPC. (A picture of team gathering)



In Champawat we are working in 1 *Wikash Khands* / blocks namely Lohaghaat. In Champawat district for ease of work five village clusters have been identified depending on proximity of villages with each other. In total 352 farmers/ volunteers participated in these meetings. In these meetings above explained formats and

website details were discussed in details.

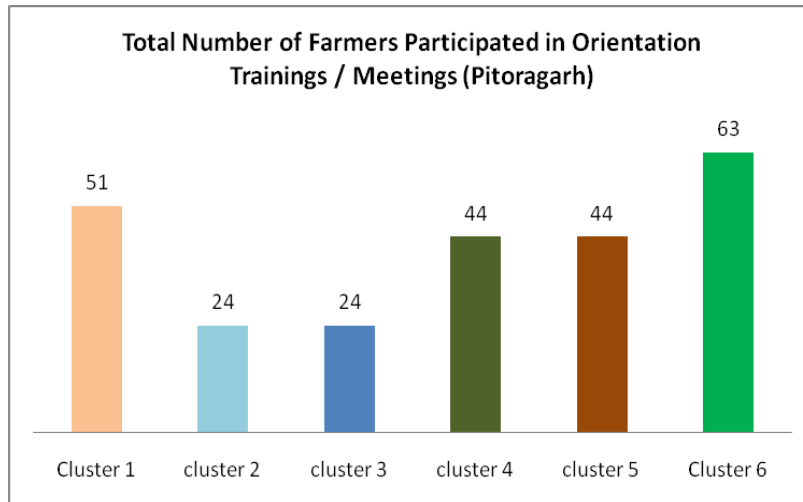
In Almora we are working in 2 *Wikash Khands* / blocks namely Dwarahaat and Syeldey. In Almora district seven work clusters were identified out these seven clusters three clusters are in *Deghat* valley which



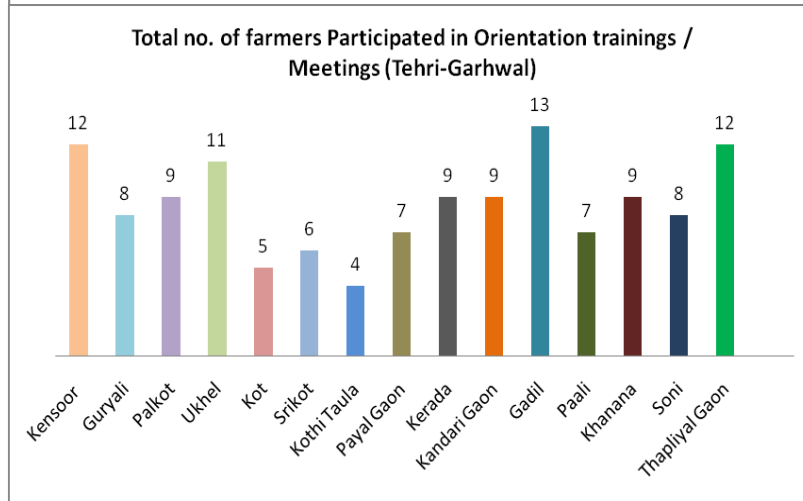
comes under *Syeldey* Additional District Horticulture Officer. Three Clusters fall under ADO *Dwarahaat* and one village cluster falls under jurisdiction of *Chiliyanaula* ADO. In total 353 farmers and volunteers participated in the orientation meeting in Almora district.

In Pithoragarh district we are working in three *Wikash Khands* / blocks namely Didihaat, Munakot and Kanalichhena.

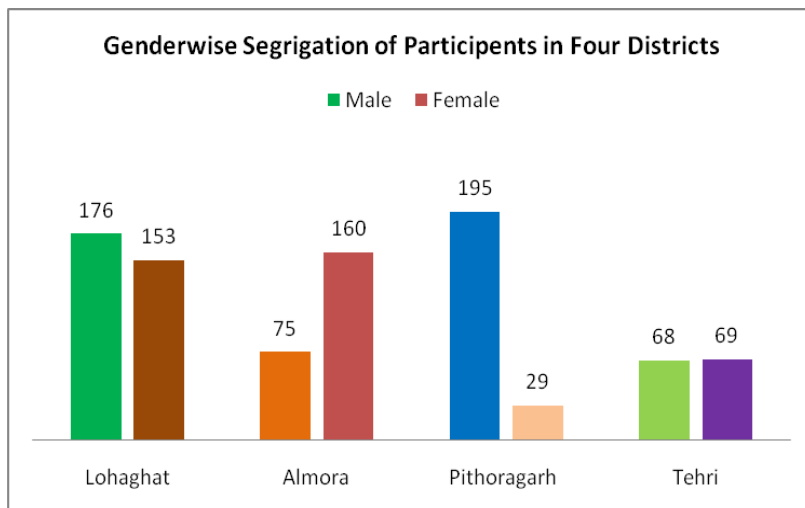
In Pithoragarh district six work clusters were identified out these one clusters is in *Munakot* valley which comes under *Munakot* Additional District Horticulture Officer (ADO). Three Clusters fall under ADO



Kanalichhena, *Devalthal* and *Bungachhena* ADO's. Two clusters falls under jurisdiction of *Dharchula* ADO and *Didihaat* ADO. In total 224 farmers and volunteers participated in the orientation meeting in Almora district.



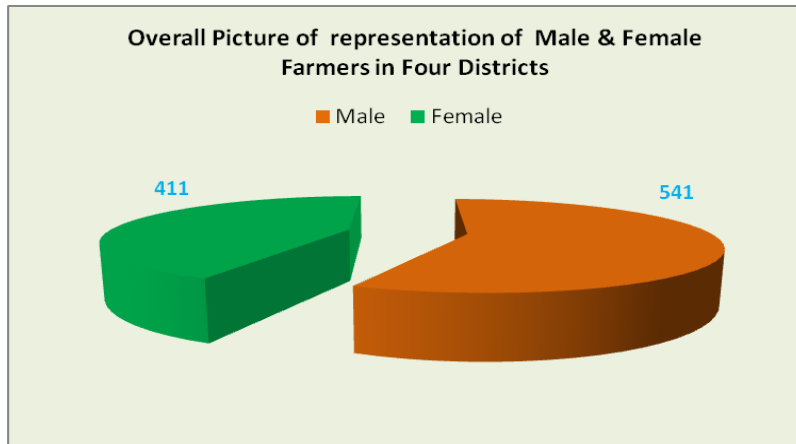
In Tehri-Garhwal district we have initiated work in one cluster, which falls under the jurisdiction of ADO *laseer*. In total 137 farmers and volunteers participated in the orientation trainings. We did gender wise segregation of farmer groups so that we can develop understanding on the distribution of work for the implementation of work plans. Traditionally female and male member do different set of works in during agriculture work in hills. Having a clear idea on available work force will enable us to distribute the work in more effective way during nursery development and mass scale cultivation of crops in agriculture work. In total 541 male farmer members and 411 female farmers participated in orientation trainings



organized under this project. All these members were representing 84 villages and finally 3620 farmers

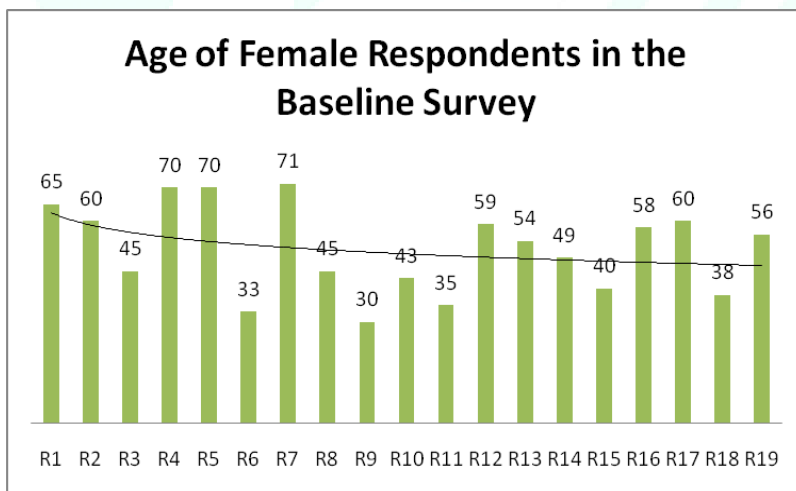
were linked with our program after orientation trainings by the farmers who participated in orientation meetings and trainings.

5. Baseline Survey of farming Communities in Almora, Pithoragarh and Champawat

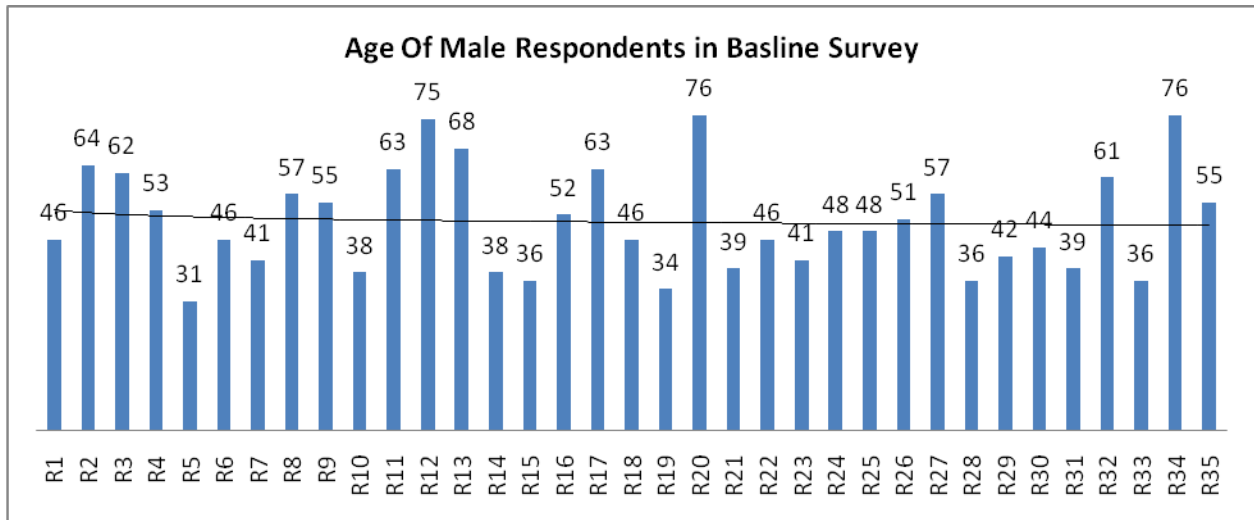


A baseline survey was also conducted in three districts in the month of December 2022 to understand the existing farming pattern and annual farming income of individual farmers who have been linked the farmer producer companies and this program. We tried to

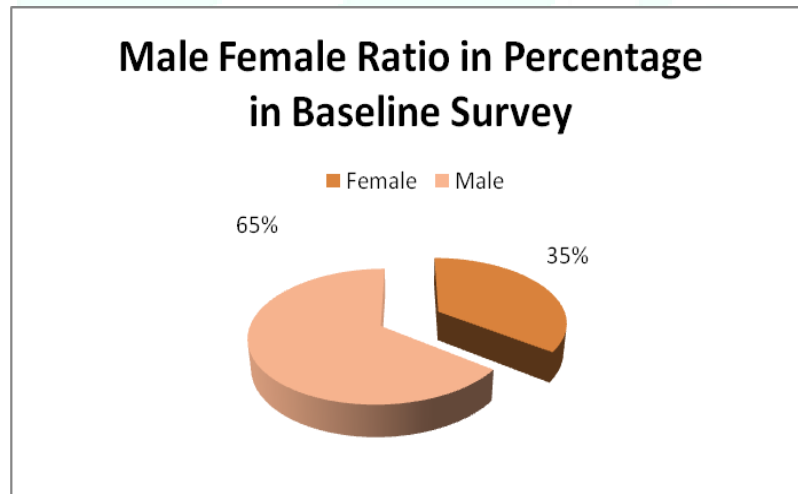
interview a wide range of age group so that we can get opinion of farmers from older generation, mid aged and relatively younger farmers. All the details of farmers were documented in the specially designed formats so that a wide range of information can be collected which is relevant to doubling the farmer’s income through though integrated farming.



Majority of members which participated in this survey were from mid aged farmer groups with aspiration for growth. We can also develop a long term partnership with these farmers so that a



dedicated group can be developed in each village cluster for cultivation of specific crops such as horticulture crops, spices, medicinal plants and hone production. With these framers we aim to make the farmer producer companies stable at least in production of cash crop at large scale. Age of male farmers was observed at least 3-5 years more that female farmers during the survey. As majority of



agriculture work in hills is done by women farmers it provided a better opportunity to all of us to stabilize a standard operating procedure for specific crops. And develop an trained cadre of farmer’s who will be looking after the production, post harvesting, shorting / grading, bulk labeling of produces, recording of produce and arrange timely

transport of produces to the nearest and far away markets. The interest of male farmers in our trainings was encouraging as resolution of the issues of human wildlife conflict in agriculture requires serious team work and vigilance on crop raiding by monkeys. As the women members normally do weeding, cultivation work male members participate in land preparation and saving crops from wildlife damage. In our survey 65% of farmer members who participated voluntarily were male members. If these members can be trained in anti crop raiding operations, then production can be saved in farms which will lead ultimately lead to higher productivity and profit to farmers from cash crops.

We also surveyed on cropping pattern in hills to suggest best option to double the farmers income. Generally, two crops are taken from the land. Maize and Paddy is the main crop of the Kharif season and potato and peas are also sown, where the conditions so permit. Wheat and barley are the major Rabi crops. The period of sowing and harvesting of crops depends on the elevations. Millets and coarse cereals like *Ogla*, *Kangni*, *Cheeneey*, *hilai* and *Bathu* constitute important crops of the cold region where maize is not sown during the Kharif. Amongst the vegetables grown during the Kharif season are tomato, peas, potato and cabbage.

A General Cropping Pattern Followed by Hill farmers in Uttarakhand for Non-Horticulture Crops

<i>March - April</i>	<i>April -May</i>	<i>May-June</i>	<i>June July</i>	<i>July- August</i>	<i>Oct-Nov</i>	<i>Feb-March</i>
<i>Paddy</i>	<i>Maduwa</i>	<i>Paddy</i>	<i>Corn</i>	<i>Corn</i>	<i>Wheat</i>	<i>Beans</i>
<i>Beans</i>	<i>Kala Bhatt</i>	<i>Maduwa</i>	<i>Paddy</i>	<i>Pulses</i>	<i>Barley</i>	
<i>Wheat</i>	<i>Horse gram</i>	<i>Gehet</i>	<i>Soyabean</i>		<i>Musterd</i>	
<i>Barly</i>	<i>Soyabean</i>	<i>Kala Bhatt</i>	<i>kala Bhatt</i>		<i>Lentils</i>	
<i>Musterd</i>		<i>Horse gram</i>	<i>Beans</i>			
		<i>Soyabean</i>				
		<i>Paddy</i>				
		<i>Corn</i>				
		<i>Beans</i>				
		<i>Urad</i>				

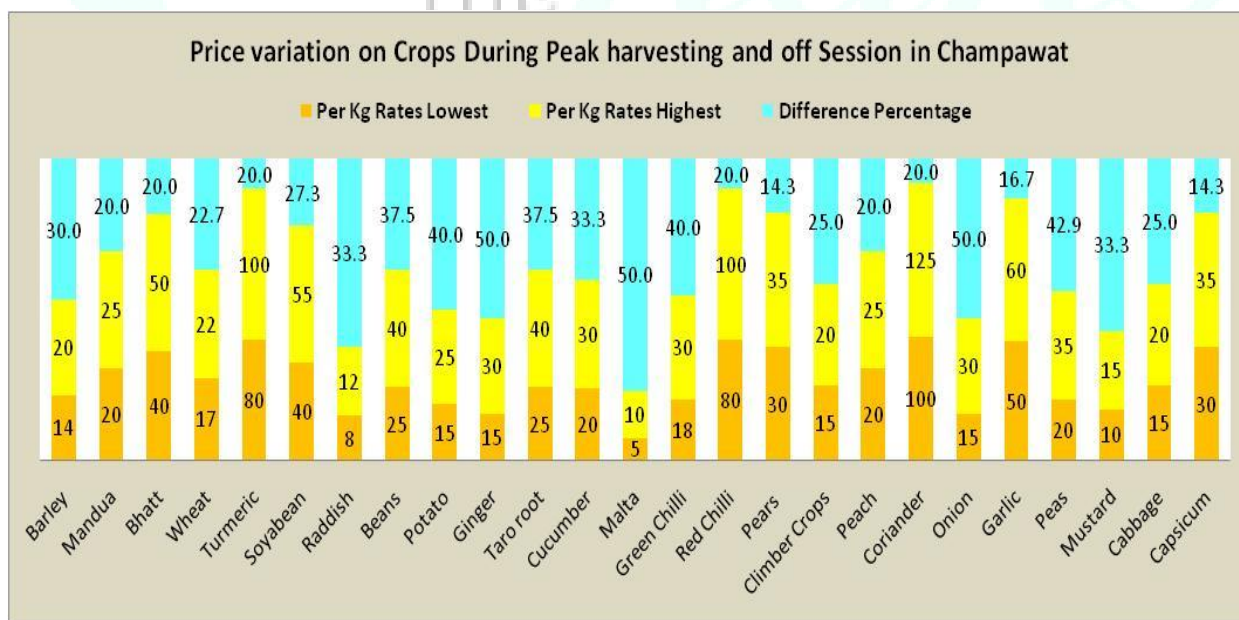
THE
FOUNDATION

Traditional Crop	Crop Replaced By	Reason Of replacement	Irrigation pattern
<i>Paddy, Mandua</i>	Ginger	Human-Wildlife conflict	Rainfed
<i>Flowers, Corn, Paddy</i>	Vegetables	Human-Wildlife conflict and Water scarcity	Rainfed
<i>Paddy</i>	Ginger	Human-Wildlife conflict, Less yield, lack of buyers and started to grow vegetables for consumption purpose	Rainfed
<i>Paddy, Potato</i>	Ginger	Human-Wildlife conflict and Water scarcity	Rainfed
<i>Paddy</i>	Ginger	Financial aid and consumption purpose	Rainfed
<i>Paddy, Bhatt</i>	Mustard, Sunflower, Tomato	Human-Wildlife conflict and Water scarcity and for consumption purpose of Ginger	Rainfed
<i>Paddy, Mandua</i>	Mustard, Sunflower, Tomato	Human-Wildlife conflict and Financial aid	Rainfed
<i>Paddy, Mandua, Barley</i>	Paddy, Mandua and Barley	Water Scarcity	Rainfed
<i>Paddy, Barley</i>	Paddy, Mandua and	Human-Wildlife conflict	Rainfed

	Barley		
Paddy, Barley	Ginger	Financial aid and consumption purpose	Rainfed
Paddy	Potato	Human-Wildlife conflict and Water scarcity and for consumption purpose of Ginger	Rainfed
Paddy	Ginger	For Consumption purpose	Rainfed
Paddy	Turmeric	Financial aid and consumption purpose	Rainfed

Some farmers have shifted from traditional crops to spices production due to various reasons in past 10 years. This gives us an opportunity to understand the response of farmers to issues which are bottleneck in their traditional farming crops.

We also studied the pricing pattern of traditional agriculture crops, horticulture crops in the nearest market available to farmers in Lohaghat block of district Champawat. This exercise gives us an insight of market dynamics and also helps us to take decision on replacing cropping pattern to increase income from farm produces. We collected the data on lowest and highest prices of farm produces during peak harvesting season and off season prices. We will be doing this exercise again and again in coming year so that we can take decision on post harvest ion and processing of produces so that value addition can be done to farm produces to achieve our goals.



A General Cropping Pattern Followed by Hill farmers in Uttarakhand for Sowing of Horticulture Crops

March-April	April May	May-June	June-July	July-August	Aug-Sep.	Sep-Oct	Nov-Dec	Jan-Feb	Feb-March
Peach	Seed sowing of tomato	Seed sowing of chilly	Seed sowing of chilly	Seed sowing of ginger	Plantation of pear seedlings	Plantation of apple seedlings	Seed sowing of onion	Seed sowing of potato	Seed sowing of potato
Plum	Seed sowing of bitter gourd	Seed sowing of radish	Seed sowing of radish	Taro roots	Seed sowing of turmeric	Plantation of pomegranate seedlings	Seed sowing of spinach	Seed sowing of ginger	Seed sowing of ginger
Nursery of chilly	Seed sowing of capsicum	Seed sowing of cabbage	Plantation of Malta seedlings	Plantation of malta seedlings	Seed sowing of cabbage	Plantation of walnut seedlings	Seed sowing of fenugreek		Seed sowing of peas

A General Cropping Pattern Followed by Hill farmers in Uttarakhand for Sowing of Horticulture Crops

Nursery of Raddish	Seed sowing of Brinjal	Seed sowing of brinjal	Plantation of lemon seedlings	Plantation of lemon seedlings	Seed sowing of fenugreek	Seed sowing of garlic	Seed sowing of coriander	Seed sowing of Raddish
Seed sowing of Potato	Seed sowing of peas	Seed sowing of capsicum	Seed sowing of bottle gourd	Plantation of pear seedlings	Seed sowing of coriander		Seed sowing of garlic	
Seed sowing of Cucumber	Seed sowing of coriander	Seed sowing of colocasia(Arbi)	Seed sowing of tomato	Seed sowing of onion	Seed sowing of fenugreek			
Seed sowing of Bottle gourd	Seed sowing of Raddish	Seed sowing of coriander	Seed sowing of ridge gourd	Seed sowing of turmeric	Seed sowing of rai			
Seed sowing of Pumpkin		Seed sowing of bottle gourd	Seed sowing of cucumber					
		Seed sowing of ridge gourd	Seed sowing of coriander					
		Seed sowing of cucumber	Seed sowing of turmeric					

We aim to promote the cash crops (horticulture crops) as almost in all the hill towns, villages, vegetables and spices are being supplied from plain areas. In Almora district around 7-8 months in a year the vegetables are supplied from Haldawni *Mandi*, similarly in Pithoragarh and Champawat districts the

supply of vegetables and spices come from Tanakpur *Mandi*. In Tehri-Garhwal district however in some clusters villages are growing spices and vegetables but there too majority of supply for the district comes from Haridwar and Rishikesh *Mandi*. We aim to supply the vegetables and spices to the local hill markets through our initiative.

We have conducted a survey of traditional methods and season of raising nursery and seed sowing of horticulture crops in the hills of Uttarakhand so that we can get an idea to develop our time frame for the interventions through project for on time trainings to farmers according to specific crops. This data will also help us to understand the harvesting time so that proper management of the crops can be done and post harvesting and processing may be provided on time.

Champawat District's Lohaghat cluster was an entirely new addition to the project. Thus, before organizing the meetings, the team took a local survey from village to village for the first couple of days. An invitation and intimidation to the Gram Pradhans and locals of the cluster was provided regarding the project. A few volunteers from each village were also selected for a door to door invitation before organizing large scale meetings. This method was then followed in the other districts.

The first meeting organized in Dhek and Motyuraj gave an insight regarding the conventional agriculture and the issues faced by the farmers. Studying this, major meetings were organized in the follow up.

The meetings organised from December 4th to December 7 included around seventeen villages or toks under the gram Sabha Dhek, Motyuraj, Dungri –Fartyal and Kalchauda.



Meeting in Motyuraj Gram Sabha , Lohaghaat, Champawat

The major discussions of the meetings revolved around explaining Integrated and Collective farming to the farmers and its importance. An observation to be made was how collective farming had been practiced for years before and the elders of the community were willing to share its benefits while the younger generation took some time to be convinced regarding the same. This was followed by discussion of the aim of the project that involved introduction about benefits of coming together as a group to form FPCs, how ground work for its establishment had already been done and particulars about Maa Kanayi Krishak Utpadak company.

The benefits of mass production and provision of marketing facilities, provision of seeds of vegetables, Aromatic and medicinal plants and fruit plants, linkage to various horticulture and agricultural schemes , using the mass production to sell as raw materials to various industries and its benefits, the protocols of share benefits of the production after being members of the FPC were discussed in detail.

The schemes discussed included Farm Machinery bank yojna (FMBY). Under the scheme, one tractor (5 lakhs), one rotavator (1.20 lakhs), two seed drills (60 thousand), one power tiller (70 thousand), one power spare (25 thousand), one drum seeder (8 thousand), one multi thresher (50 thousand),

irrigation pipe 100 meters (90 thousand), two pump sets (70 thousand) and 20 nep sec spare (20 thousand) are provided.

Benefits of Pradhan Mantri Krishi Sinchai Yojna while discussing 'Watershed Development', 'Per crop , More drop', 'Har Khet ko Pani',etc were discussed. The focus areas included :

1. Creation of new water sources; repair, restoration and renovation of defunct water sources; construction of water harvesting structures, secondary & micro storage, groundwater development, enhancing potentials of traditional water bodies at village level.
2. Developing/augmenting distribution network where irrigation sources (both assured and protective) are available or created;
3. Promotion of scientific moisture conservation and run off control measures to improve ground water recharge so as to create opportunities for farmer to access recharged water through shallow tube/dug wells;
4. Promoting efficient water conveyance and field application devices within the farm viz, underground piping system, Drip & Sprinklers, pivots, rain-guns and other application devices.
5. Farmer oriented activities like capacity building, training and exposure visits, demonstrations, farm schools, skill development in efficient water and crop management practices (crop alignment).

The other schemes that the farmers would be benefitted included Poly house installments, Low tunnel Technology and mulching. The particulars of how the farmers would be benefitted and the project would bare the installation subsidy costs were discussed.

The proper procedures that would be followed to attain the benefits of schemes, The documents such as Adhar card number , Bank Passbook Cover page photocopies and land holding information and how it would be used was discussed.

The locals who wanted to help with and take part in this uplifting initiative were appointed as volunteers who later on carried out process of document collection and form filling in their respective villages. The volunteers were also trained separately in the training sessions with project staff.

In order to understand the issues faced by the farming community of these hilly districts a baseline survey was also conducted with the help of local community.

Questions were asked in local dialects to make the process easier. The questions framed included information regarding monthly calendar of agricultural and horticulture crops sown and harvested, the production quantity of each crop per nali, The profits gained if any, problems faced in farming, if any crop replacement had occurred in the last ten years etc.

The data collection started in the month of December and would be continued in the month of January for all four districts. This baseline survey was an important step in determining and assessing the problems and finding out solutions that could be implemented.

An example of the survey format or excel sheet if required and seemed appropriate.

The discussions and information from the survey has shown some issues common across all districts which is listed below:

1. Human- Wildlife conflict- The expansion of land and planting of cash crops on a large extent has led to invasion of monkeys and wild boars in the hills. This causes intensive damage to crops such as paddy , barley, wheat and potato. The boars attack less frequently but damage any and every crop.
This grave issue has led to the shift from traditional crops to ginger and Turmeric. This marks the importance of planting medicinal and aromatic plants to mitigate the human wildlife conflict issue.
2. Unaware about the government schemes and benefits : The interior villages even if have information regarding the benefits that are provided by the government, they lack the infrastructure to carry out the procedures for their villages.
3. Lack of scientific knowledge: The need of soil testing, Nutrient deficiency, Nutrient excess, Good agriculture practices etc. need to be thoroughly explained and effectively addressed in these villages.
4. Not getting appropriate Market value: Even if the production is high, the local markets are either far away or do not provide appropriate value for the Produce thus making farming non profitable for the farmers.

Secondary meetings were organized in Motyuraj , Dungri Fartyal and in Khaiskhaande in Sui and Pau , and Walso and Chomel villages the month of December again.



Farmers' meeting in Chomel, Lohaghat, Champawat



Farmers' meeting in Sui and Pau, Lohaghat, Champawat

In Pithoragarh, meetings were organised in four different clusters namely, Kanalichina, Bungachina, Dharchula and Didihaat.

First meeting was organized in Mitaadi Gram Sabha in the presence of Gram Padhan and SHGs. It also involved active involvement of the cluster coordinators. During this meetings were setup with Himalayan Sewa Samiti Dharapani and DHO Pithoragarh. The team later split into two divisions to cover



A meeting being organized in Bungachina cluster, Pithoragarh

the rest of the clusters in the district. While half the team conducted meetings and gatherings in Cluster Didihaat (Nankudi and Limabhat) and the people actively agreed to work towards the common goal, Half of the team travelled to Dharchula to join the honey beekeepers of Jamku, Garkua, Kalika, Fultadi, Dharchula Deha and Bajaani.

A total of five meetings were organized in this respect with a motive to integrate honey bee keeping in the remote region with the farming of herbs, vegetables and fruit plants. A local survey and PRA activity with the locals was conducted in village Jamku.



Participatory Rural Appraisal for Honey Production in Jamku, Dharchula

5. Hand-holding support to the Honey Bee keepers and resolving issues related to Honey-bee in Pithoragarh and Almora.

As we aiming for integrated farming in hills and bee keeping will be one of the focus area, during our orientation trainings almost all the bee keepers in Pithoragarh and Almora urged us to help them in increasing the productivity by helping them in establishing nurseries of wild flowering plants. The bee keepers in hills are facing problems such as:

1. Multiplication of bee colonies is extremely difficult
2. Forage for bees is not available throughout the year
3. Due to over exploitation and climate change the flowering plants in *Van Panchayats* have reduced in general.
4. The frequency of honey bees leaving the boxes have also increased.
5. The cropping pattern in hills is not designed according to the honey bee production cycles.

To increase the honey production a micro plan is being developed with participatory rural appraisal method in all the villages which have been chosen for the honey bee production. With our team and 20 honey bee producers from Almora district we participated in International Honey Bee Festival from 18th



December till 20th December 2021 at Haldawni.

The discussions in this cluster led to the following observations, issues and solutions:

Remoteness of the villages: The villages are situated in very remote regions, making it difficult for the farmers to access infrastructure, gather information and contact the agriculture and horticulture department.

Dearth of Flowering plants to forage: The villagers mentioned how the production amount has decreased over the years and ample variety and abundance of flowers is absent in the foraging season making honey production difficult. To this, nursery formation of wild flowering plants from collecting the seeds from nearby forests came up as a solution.

Inappropriate thickness for insulation and quality of bee boxes: To rectify this, Locals agreed to use *Toona ciliata* and make their own bee boxes taking aid from the project. The discussions in this cluster led to the following observations, issues and solutions:



Meeting with Honey Bee keepers and farmers of village Jamku, Dharchula, Pithoragarh



Meeting with farmers of Village Malla Bajani, Kalika, Dharchula

In Almora district we have three clusters namely Deghaat, Binta and Syaldey, Survey, training of volunteer, staff and orientation trainings were done in all three clusters in the third quarter.

A local survey, training session and volunteer meetup was done in the Binta cluster. A major practice was to carry out the process of Public rural appraisal with the villagers in the cluster. The team also went for inspection of field in the villages of Bhasod and Matela. A meeting for the cluster was organised in Bhataura which was attended by farmers of eleven villages that lie in the radius of 7 kms.



Training of volunteers from Kanalichina and Bungachina clusters, Pithoragarh

Farmers' meeting with village Bhasaud, Binta Cluster & Photo of Participatory Rural Appraisal in Sehkarita Office

Public rural appraisal helped in listing out every detail of the villages and farming practices alongside planning on village level of the steps to be taken to improve irrigation practices, Good agriculture, SHG involvement and marketing techniques to nearby or distant markets.

Similar meetings were organized in Syaldey and Dehaat cluster by living in the villages and planning about future directions.

Training of volunteers

From time to time within the districts, training sessions were organized for the volunteers for three major objectives:

1. **Baseline Survey**: The youth of villages actively participated in helping with the survey questionnaire and carried it out with the team and independently. For this, they were provided with formats and instructed on how to carry out the survey.
2. **Document and form filling**: Volunteers were trained on how to collect documents, Fill forms such as drip irrigation, and the submission of letters/ applications to Local government bodies.

3. Training with IT Expert: IT expert trained the volunteers regarding the usage of applications to be used for the web portal , for uploading the training and on field work pictures.



Training of volunteers for Management and Information System with IT Expert

The volunteers were provided with training kits to carry out the collection of data and documents. The purpose was to aware and train volunteers regarding the schemes for which documents had to be collected , hands on training of how the forms had to be filled for drip irrigation and Farm Machinery Bank. They were guided to maintain logs of Aadhar card, Bank Passbook front page Photocopy and land records, maintenance of muster rolls for the work done and elaborate explanation on filling up of the survey forms. It was made sure that the volunteers were aware of all schemes and the objectives of the project. They were also provided with written handouts for one on one interaction with their village farmers. It was made sure that they took signatures and pictures with the people interviewed.

The IT expert took elaborate sessions about the MIS and Website. The volunteers downloaded the Time Stamp Camera app and one on one training regarding uploading of scanned documents, training and field pictures taken by volunteers in the coming months was also given. This made sure that legitimate and timely update of installation and supply of machinery on field, farming done on field by the farmers, meetings done at local government bodies or within villages and the transportation of the farm produce.

To maintain the continuum of work,they were also trained to carry out the local level monitoring work independently in their villages such as keeping track of receiving of seeds and machinery, tracking of production of the vegetables or plants and their storage alongside correct supply once ready. The MIS system was explained and will be a stepping stone in timely monitoring of the on field work.

In Tehri , meetings were organized in Sendul and nearby 7 villages in the month of November . A meeting was also organised in the Chakha Cluster.

Farmers' meeting being organized In Beleshwar, Tehri:

Follow up meetings were organized by the cluster coordinator and Technical assistants with local volunteers and villages. In Tehri, the first meeting was conducted in Beleshwar which was attended by nearby village farmers and SHG members. The major issue faced about the villages was Human Wildlife conflict. A plan to carry out survey and conduct meetings in the nearby villages Sendul, Kemra, Lata and Siliyara was formed. The meetings led to two the formation of conclusions that:

1. Migration to plains is a major issue in this region which has led to unwillingness of people to carry out agriculture.
2. Man -Animal conflict needs immediate solution to protect the farm produce.



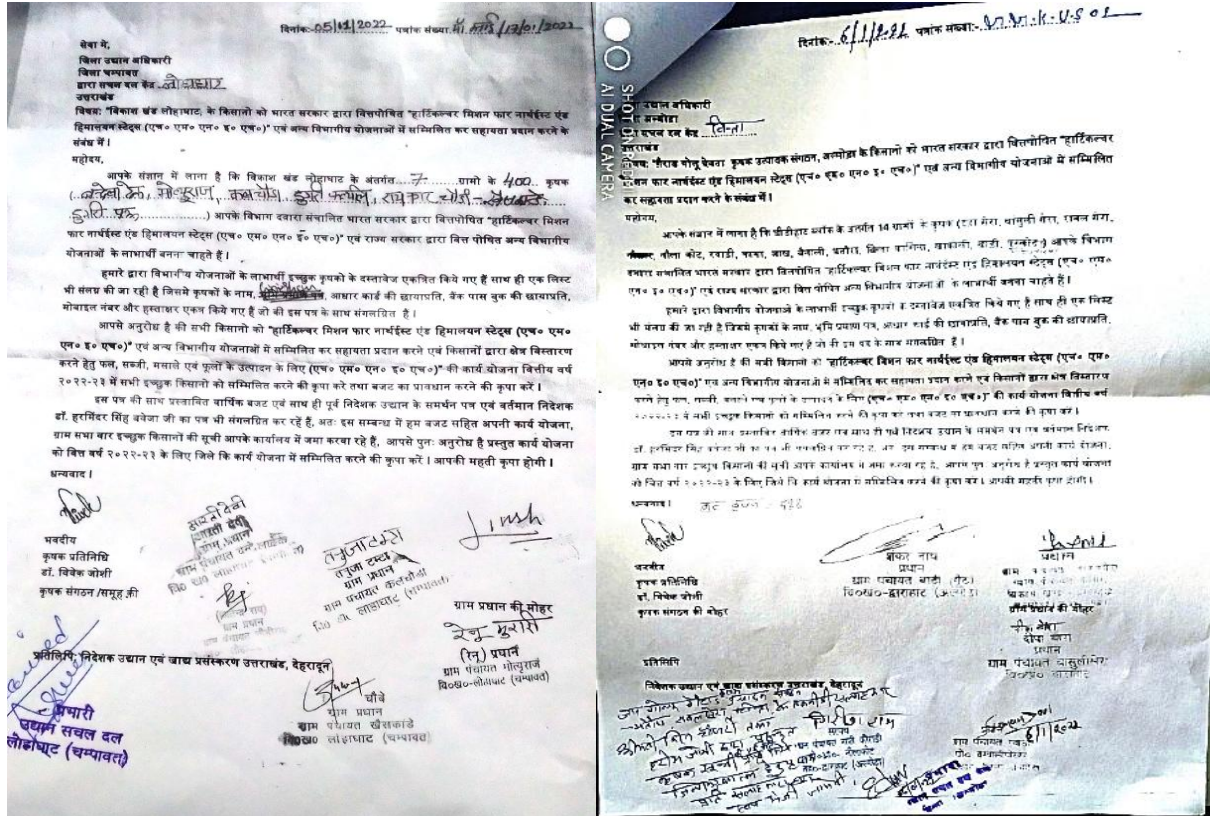
Interaction with farmers in Beleshwer Cluster Tehri Garhwal, Interaction with SHG members in Sendul

Linking Farmers with schemes of horticulture department: We have linkes 3260 farmers with three schemes of horticulture department

1. Horticulture mission for north east and Himalayan states
2. Chief minister integrated horticulture mission
3. Training of bee keepers

Collectively a budget of Rs. 27,300,000 (Two caror seventy three lakh five hundred) has been submitted to district horticulture office in all four districts to include the proposed amount in annual action plan of the district as was done for financial year 2021-22.

Liaising has also been done with director horticulture Uttarakhand office and a letter of support has also been received by our team regarding this budget.



पं० २० ३० लि० ० लि० - जाम - पंचायत - कुमुती - पिन - २४१५००

क्रम संख्या	कृषक संख्या	कृषक का नाम	पिता या पति का नाम	आधार संख्या	प्लॉट नंबर	गाड़ी की संख्या	मौज संख्या	बकरी की संख्या जो हॉर्टिकल्चर मिशन से बढ़ाना चाहते हैं	हस्ताक्षर
01	01	कलकती चंद्र	पुंग चंद्र	420094520970		02	02	05	कलकती चंद्र
02	02	जगन सिंह	रामो सिंह	76600606483		02	01	05	जगन सिंह
03	03	बनार सिंह	चमन सिंह	821027320954		04	64	06	बनार सिंह
04	04	कामान सिंह	राम सिंह	466982498637		03	03	05	कामान सिंह
05	05	कामान सिंह	नरनाथ सिंह	409000431534		04	04	05	कामान सिंह
06	06	जगन सिंह	पदम सिंह	658982280222		01	01	05	जगन सिंह
07	07	राम सिंह	गीता सिंह	476023974671		05	05	05	राम सिंह
08	08	हर सिंह	प्रताप सिंह	568688423373		02	02	05	हर सिंह
09	09	पदार्थ सिंह	जिनोकर सिंह	766062936983		02	02	05	पदार्थ सिंह
10	10	रवि सिंह	नरपति सिंह	443598465956		04	04	05	रवि सिंह
11	11	कल्याण सिंह	रजिंदर सिंह	66941504394		08	08	05	कल्याण सिंह
12	12	वीर वहाल सिंह	मोहन सिंह	939160947737		04	04	05	वीर वहाल सिंह
13	13	नर सिंह	रमेश सिंह	877798426067		02	02	05	नर सिंह
14	14	नरनाथ सिंह	कल्याण सिंह	718470068372		02	02	05	नरनाथ सिंह
15	15	मनो ज सिंह	प्रताप सिंह	690774716538		02	02	05	मनो ज सिंह
16	16	मंगल ठाकुर	शुभ ठाकुर	61154639844		02	02	05	मंगल ठाकुर
17	17	रमेश सिंह	चंड सिंह	680081827188		04	04	05	रमेश सिंह
18	18	तारो ठाकुर	गंगा सिंह	39674601344		62	02	05	तारो ठाकुर
19	19	जगत सिंह	जोपाल सिंह	52017374890		02	02	05	जगत सिंह
20	20	नरनाथ ठाकुर	एल सिंह	446023257609		02	02	05	नरनाथ ठाकुर

निदेशालय, उद्यान एवं खाद्य प्रसंस्करण, उत्तराखण्ड,
उद्यान भवन, चौबटिया, रानीखेत (अल्मोड़ा)

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पत्रांक ४४५/विविध/2021-22

दिनांक: देहरादून-जुलाई 22, 2021

मुख्य/जिला उद्यान अधिकारी,
टिहरी, अल्मोड़ा, पिथौरागढ़, पौड़ी।

विषय:- विभाग द्वारा संचालित केन्द्रपोषित/राज्य/जिला सैक्टर की योजनाओं में उत्तराखण्ड के विभिन्न कृषक उत्पादक समूहों से जुड़े कृषकों को लाभान्वित किये जाने विषयक।

उपरोक्त विषयक पत्र के साथ संलग्न डा0 विवेक जोशी, प्रतिनिधि, कृषक उत्पादक समूह के पत्र दिनांक 15.07.2021 का संदर्भ ग्रहण करें। पत्र द्वारा अवगत कराया गया है कि आपके जनपदों में संलग्न पत्र में वर्णित लगभग 6000 कृषक सब्जी, मसाला, पुष्प एवं फल उत्पादन कृषक उत्पादक समूहों के माध्यम से कार्य कर रहे हैं तथा विभाग द्वारा संचालित केन्द्रपोषित/राज्य/जिला सैक्टर की योजनाओं से लाभान्वित होना चाहते हैं।

अतः उपरोक्त के क्रम में आपको निर्देशित किया जाता है कि संलग्न पत्र में अंकित समूहों के कृषक प्रतिनिधियों से समन्वय कर विभाग द्वारा संचालित योजनाओं से लाभान्वित किये जाने हेतु अपने स्तर से कार्यवाही सम्पन्न करते हुए कृत कार्यवाही से निदेशालय को भी अवगत कराना सुनिश्चित करें।

संलग्नक-उपरोक्तानुसार।

डा0 (हरामिन्दर सिंह बवेजा)
निदेशक

पत्रांक _____/उक्तदिनांकित।

प्रतिलिपि:- संयुक्त निदेशक, उद्यान, गढ़वाल मण्डल, पौड़ी/कुमाऊ मण्डल, नैनीताल को उपरोक्तानुसार आवश्यक कार्यवाही हेतु प्रेषित।

निदेशक

We have send the details of all 3260 farmers with their Aadhar card no., phone number, existing number of bee hives, existing number of bee boxes, both traditional style and modern ones to the additional district horticulture officer in all the blocks where bee keepers want to adapt modern techniques to multiply the bee-hives and increase the honey productivity. A photo is being attached here with

for explaining the details which are being submitted to state government to for including the bee keepers in their annual action plans and provide budget for their training, bee boxes etc. We are focusing on marketing and branding which comes under value addition of the produce.

1. Summary of Results to Present

Deliverables / Indicators	Baseline Financial Year	Annual Target	Q1 (April-June 21)	Q2 (July-Sept.21)	Q3 (Oct-Dec 21)	Q4 (Jan-March22)	On Target? Y or N	Remark
Orientation Training of Farmer Producer Company at cluster level		28	N	Yes	Yes	Yes	Yes	Activity completed in 3 rd quarter
Training on internal management (Business plan, record keeping, legal accounting documentation & taxation, stock, etc.		7	No	No	Yes	Yes	Yes	Activity planned in 3rd and 4th Quarters of project
Training on Good Agri/horti practices e.g. field preparation, manuring, pruning, irrigation, pest & disease management, etc.		3	Yes	N	N	Yes	Yes	Partial Activity completed in 1 st quarter and final activity is planned in 4 th Quarter
Preparation of Fruit Orchards, and cultivation of aromatic plants (oregano, guava, pomegranate, citrus etc.)		100 hectare/ >500 farmers	Y	9 Hectare 49 farmers	N		Y	Rest of Activity planned in 3 rd Quarter
Citrus spp.	556 plants		Y					Plantation activity was effected by covid pandemic We will extend the orchard areas in winter season.
Pomegranate	1334 Plants		Y					
Guava	3330 plants		Y					
Mango	300 plants		Y					
Meetings in villages for identification, preparation of land for cultivation of horticulture crops		84 Villages	No	No	Yes (Meetings were conducted 28 Villages)	Yes	Yes	Activity will also be done in 4th quarter.

Nursery Preparation		26 Nurseries	Yes	No	No	Yes	Yes 37 nurseries proposed	Activity planned in 3 rd and fourth Quarter
Plantation of horticulture crops		190 hectare	Yes	Yes	Yes	No	Yes	As seeds have be demanded by farmers and nursery will be operational by January end to early February all work seems be in time.
Training of farmers for Nursery development techniques		6			Yes	Yes	Yes	Activity planned in 3 rd and 4 th Quarter
Organizing interface with line departments for dovetailing of govt. development schemes & for other convergences		Round the year	Yes	Yes	Yes	Yes	Yes	This activity will be done round the year.
Exposure Visit on processing and packaging of value added products (production scheduling, manpower management, job role defining etc.)		1					Yes	Activity planned in 3 rd quarter

Changes to Deliverable / Indicators

Deliverable / Indicator	Change	Why change was made	Approved by
1. Trainings & Establishment of Nurseries 2. Cultivation of MAPs, development of orchards in Private Land and plantation, fruit trees in Van Panchayat	changes were done	Distribution of planting material such as seeds and fruit sapling were delayed by government.	