

Uttarakhand Decentralized Watershed Development Project (GRAMYA) Phase-II



ABSO - DEHRADUN DIVISION, VIKASNAGAR



Annual Progress Report (Apr. 2019- Mar. 2020)

Submitted to



Deputy Project Director, UDWDP
Dehradun Division, Vikasnagar (Uttarakhand)

Submitted by



SOCIETY OF PEOPLE FOR DEVELOPMENT (SPD)
90, Mayur Vihar, Sahastradhara Road, Dehradun - 248 001, Uttarakhand



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Annual Progress Report (FY 2019-20)

ABSO, Dehradun Division, Vikasnagar



Background

SPD was inducted as Agri-business Support Organization for Dehradun Division, Vikasnagar with an objective to increase agri-business activities in 50% of the Revenue Villages of the Division under Gramya-II. SPD as an ABSO for the Division conducted extensive survey in the selected 37 intervention Revenue Villages and formulated the strategy for improving agribusiness in the area with the objective of increasing cash income of the farmers. Under this, the ABSO team formulated the strategy of carrying out production of high yielding variety of vegetable crops under cluster approach so that marketable surplus is produced to attract bulk buyers, on the one hand, and provide negotiating power to the farmers on the other.

The Initiative:

Under this, the ABSO mobilized and motivated the FIG members in the intervention villages to come forward to form clusters so that same type of cash crops are grown in the area to produce marketable surplus. The ABSO team in the division visited intervention villages falling under Gramya-

II and conducted several rounds of meetings with FIG members mobilizing and motivating them to adopt cluster approach of farming. The benefits of cluster farming were explained to the farmers. They were told that due to small land holding pattern in the hills, production of bulk marketable produce is only possible through cluster approach and this is important to give negotiating powers to the producers besides saving on transportation cost. After much persuasion, a cluster of 100 hectares of land was formed for production of high yielding variety of crops with input support from the project. The strategy worked successfully and the farmers were able to sell their products produced over a land area of 100.80 hectares under cluster approach with input support through the project at a market value of Rs. 179.74 lakhs during the financial year 2017-18 in Gramya-II villages.

Similarly, after revival of two Gramya-1 Federations, a cluster of 31.8 hectares was formed with a seed support of 17.60 lakhs through the project. Against this, an output worth 77.39 lakhs of high yielding variety of vegetable crops was achieved.

Progress of AWP for the Year 2019-20:

Gramya-II

The project has been able to accomplish continued success in meeting the desired goals with cultivation of high yielding variety of off-season vegetables through cluster approach over a cluster of 100 hectares of land in the intervention villages. In and around the intervention villages, a good adoption of these crops has been observed and broad assessment of production and sales figures have revealed manifold increase in the overall income of the farmers in the area. Thus, encouraged by the success of financial year 2018-19 seed, fertilizer and technical support was extended to the farmers in the intervention villages over a cluster of 101.44 hectares as against **110.42** hectares during the previous year 2018-19. As can be seen from the table below, the harvest of most of the crops is still awaited. However, as per an estimate, the total value of the crops to be produced from the said seed support is expected to be surpass the production value of previous years and will be much higher as compared to the output received during the previous financial years.



Over and above this, encouraged by the market demand and pricing of high yielding variety of vegetable crops, the farmers in the area have come up with their own initiatives as well and the coverage area under sowing of vegetable crops, such as Tomato, Pea and French Beans has seen considerable increase during the sowing season under reference with many farmers in the area adopting these high yielding variety of vegetable crops with their own inputs. Adoption of the variety of high yielding seeds introduced/distributed to the farmers through the project has received good response and adoption by the farmers in and around the project area. The details of crop sowing taken up with project support and with own initiatives by the farmers in the project area are enclosed as Annexure-I to this report.

Crop-wise Coverage Area and Production- 2019-2020 (Gramya-II)

S.No.	Proposed Crop	Proposed Area as per AWP(Ha)	Actual Coverage Area (Ha)	Seed Support (Rs. In lakhs)	Production Expected (Qtls.)	Production Achieved (Qtls.)	Value as per market rate (Rs in lac)	FIGs/ Farmers benefitted
1	Maize	12	12	1.8	305	309	3.983	6/100
2	French bean	10	10.16	4.47	712	665	15.354	16/220
3	Pea	20	20	8.2	1500	Awaited	–	20/280
4	Lentil	14	14	2.1	112	Awaited	–	16/240
5	Onion	6	3.28	3.22	350	Awaited	–	10/150
6	Tomato	30	30	15.3	9000	Awaited	–	44/660
7	Ginger	15	5	4.32	450	Awaited	–	8/125
8	Turmeric	8	7	6.05	700	Awaited	–	12/210
Total		115	101.44	45.46	13129	974	19.337	132/1985

Gramya-I

Similarly, in case of Gramya-1 Federations, seed support valued at 16.40 lakhs was provided to the farmers for an overall coverage area of 33.04 hectares as against 24 hectares earmarked for the year.

Crop-wise Coverage Area and Production- 2019-2020 (Gramya-I)

S.NO.	Proposed Crop	Proposed Area as per AWP(Ha)	Actual Coverage Area(Ha)	Seed Support (Rs. In lakhs)	Production Expected (Qtls.)	Production Achieved (Qtls.)	Value as per market rate (Rs in lac)	FIGs/ Farmers benefitted
1	Frenchbean	5	5.04	2.21	350	328	6.27	17/202
2	Pea	8	8	3.28	560	Awaited	–	17/170
3	Tomato	28	18	9.18	5400	Awaited	–	17/195
4	Turmeric	4	2	1.73	200	Awaited	–	13/80
Total		50.5	33.04	16.4	6510	328	6.27	64/647

As can be seen from the table above, the production output is awaited in all the crops, except in case of French beans, which has shown three times return of Rs. 6.27 lakhs as per market value against

the seed support of Rs. 2.21 lakhs.

Capacity Building Activities

Capacity building of farmers and federation members in the project intervention area is one of the key objectives of the project. For this purpose, a number of training programmes aimed at enhancing the capacity of farmers and federation members in terms of technology improvement and functioning of federations were conducted at the Division.



As against 12 training programmes scheduled under Annual Action Plan, 10 capacity building trainings were organized at the division. Details of these trainings are given in the table below:

Details of Trainings Proposed and Conducted

Trainings Proposed as per AWP	Actual trainings conducted	Name of Trainings conducted
12	10	1. Capacity Building Training on Sowing, care and post-harvest handling of high yielding vegetable crops
		2. Capacity Building Training on specific crop selection, management and disease control
		3. Capacity Building on post-harvest handling and marketing of high yielding crops
		4. Capacity Building Training on Sowing care and post-harvest handling of high yielding vegetable crops
		5. Capacity Building Training on specific crop selection crop management and disease control
		6. Capacity Building Training on post-harvest handling and marketing of high yielding crop
		7. Capacity Building Training on Sowing care and post-harvest handling of high yielding vegetable crops
		8. Capacity Building Training on specific crop selection crop management and disease control
		9. Capacity Building Training on post-harvest handling and

Trainings Proposed as per AWP	Actual trainings conducted	Name of Trainings conducted
		marketing of high yielding crop
		10. Capacity building on Functioning of Federations
		11. Capacity Building on post-harvest handling and marketing of high yielding crop
		12. Capacity Building Training on specific crop selection crop management and disease control



Similarly, against 2 exposure visits scheduled within the state for the year, 5 exposure visits were conducted for improving the outlook and enhancing the knowledge and information level of farmers in the area. In the series, 2 exposure visits, as planned in the AWP, were also conducted outside the state. The details of exposure tours organized during the year are given in the table below:

Details of Exposure Visits Proposed and Conducted

Proposed Exposure visits	No. of Exposure visits	Place of Exposure visit
Within the State		
3	3	<ul style="list-style-type: none"> • K.V.K, Dhakrani • Growth Centre, Thano • Growth Centre, Khyarsi
Outside the State		
2	2	<ul style="list-style-type: none"> • Y.S. Parmar Agriculture University, Simla (H.P) • I.C.A.R Karnal & K.V.K Karnal

Post-Harvest Handling & Other Support under Pilot Fund

For the purpose of proper post-harvest handling of the crops with a view to increasing the quality and shelf life of the crops, technical and material support is provided to the farmers in the intervention area under Gramya-II, as also to the member farmers of the Gramya-I Federations. The details of such support in terms material is given in table below:

Gramya–II Federations

S.No.	Particulars of Support Provided	Quantity
1	Vegetable/ Fruit Crates	200 Nos.
2	Plastic mulching sheet	6505 M2
3	Tomato staking	600 Nos.

Gramya –I Federations

S.No.	Particulars of Support Provided	Quantity
1	Vegetable/ Fruit Crates	900 Nos.
2	Plastic Kilt	300 Nos.
3	Spray Machine	110 Nos.
4	Tomato Staking	360 Nos.

Institution Building and Progress of Federations & FIGs**(i) Progress of Federations****Gramya-1:**

Two Federations formed under Gramya-I regime were revived and are being provided with technical and in-pu support to promote agri-business activities. Details of contributions by Federation members and FIGs into Federations' Revolving Fund are given in the table below:

SN	Name of the Federation	Membership Fee Deposited (in Rs.)	Amount available in Bank Account (in Rs.)
1.	Tamsa Ghati Phal Evam Sabzi Utpadak Swayatt Sahkarita	24,000.00	93,391.00
2.	Dev Bhoomi Phal Evam Sabzi Utpadak Swayatt Sahkarita	11,000.00	1,04,991.00

Gramya-2:

Similarly, three Federations have also been formed under Gramya-2 villages. Details of contribution of its members into Federations' revolving funds are as follows:

SN	Name of the Federation	Membership Fee Deposited (in Rs.)	Amount available in Bank Account (in Rs.)
1.	Athgaon Phal Evam Sabzi Utpadak Swayatt Sahkarita Sangh	18,000.00	28,000.00
2.	Jaunsar Phal, Sabzi Evam Dugdha Utpadak Swayatt Sahkarita Sangh	6,000.00	6,000.00
3.	Bangaon Mankhat Phal Evam Sabzi Utpadak Swayatt Sahkarita Sangh	<i>*Bank Account not yet opened</i>	<i>*Bank Account not yet opened</i>

Jaunsar Phal, Sabzi Evam Dugdha Utpadak Swayatt Sahkarita Sangh formed in Sahiya Unit mainly covered the four villages in the foothills which are closely located with Vikasnagar and have access to the market for sale of their farm produce. The idea for formation of this Federation was to link it with Growth Centre to be established in one of these villages for promotion of agri-business activities through bulk collection and sale of farm produce and value addition of the same, in case possible. But at a later stage, it was discovered that Gram Samaj land is not available in any of the four villages covered under the Federation for establishing Growth Centre. Moreover, the land price being very high in these villages, no one is willing to donate land for the purpose of establishing Growth Centre. It was therefore, decided to form another Federation in the name of Jaunsari Parvatiya Phal Evam Sabzi Utpadak Swayatt Sahkarita Sangh for establishing Growth Centre alternatively in Pajji Tilani village, where Gram Sabha land is available. The proposed Federation has already been formed and papers have been submitted for its registration. The member farmers in Jaunsar Phal, Sabzi Evam Dugdha Utpadak Swayatt Sahkarita Sangh will now be linked to this Federation for availing benefits of the Growth Centre. With this, Jaunsar Phal, Sabzi Evam Dugdha Utpadak Swayatt Sahkarita Sangh will become non-functional.

(ii) Progress of FIGs

The ABSO Team also motivated and mobilized the FIG members to contribute some part of their savings to FIG revolving fund so that a corpus is formed and this amount is utilized for inter-lending amongst its members for agricultural purposes and other personal activities/needs to get rid of

loaning at higher interest rates by money lenders. As a result of this, the FIGs in intervention villages of the Division keep on contributing some portion of their income to the FIG corpus. As on date, the overall corpus of the FIGs in the project villages has swelled to Rs. 31,37,013.00. This amount is presently being utilized for the purpose of inter-loaning and reportedly a sum of Rs. 5,35,700.00 has been given as credit to FIG members. The details of FIG-wise savings in the intervention villages is given in the table below...

S.No.	GP	RV	FIG Name	No. of Member	Total Saving	Inter-loaning	Purpose of Loan
Unit- Sahiya							
1	Aara	Aara	Kukurshi Devta	15	81000		
			Mahasu Devta	15	21000	60000	Marriage
2	Timra	Timra	Sharda Devta	18	97200		
			Shilgur Devta	12	55200		
3	Dilau	Dilau	Sakshi	20	13442	40000	FD in bank Rs. 40000
		Senj	Shilgur Devta	12	20180	30000	For Agriculture
4	Chandau	Chandau	Shilgur Devta	18	20862	10000	Marriage
		Khoe	Gruru gorakh nath	12	19470	20000	For Agriculture
5	Supau	Supau	Mahasu Devta	20	60264	9000	For Agriculture
			Peer Devta	19	57347	8000	For Agriculture
		Keshau	Dharti mata	19	48750		
			Shilgur Devta	19	38200		
6	Panjiya	Panjiya	Shilgur Devta	16	44800		
		Chapnu	Shilgur Devta	11	29700		
			Bijat Devta	18	99600		
7	Kalsi	Kalsi	Aam Bahar	8	43200	28000	Marriage
			Shilgur Devta	20	108000	100000	For Agriculture
			Pragati	20	73000	57000	Marriage
8	Byasbud	Byasbud	Laxmi	18	100800	30000	Marriage
			Seeta	18	80800	5000	For Agriculture
9	Haripur	Haripur	Mahasu Devta	20	104000	22000	Marriage
			Vashno Devi	16	76000		
10	Byasnahri	Byasnahri	Mahila FIG	18	99000	10000	Other Activity
Total				382	1391815	429000	
Unit-Chakrata							
1	Ravna	Ravna	Mata	15	47375	16000	Other Activity
			Bhoriya	14	40868	10000	Other Activity
		Pati	Peer Devta	12	44536		
			Rani Lakshmi Bai	20	58602	19400	Agriculture
2	Mehravna	Mehravna	Kali Mata	17	48250		
			Bharav Devta	16	42605	40000	Agriculture

S.No.	GP	RV	FIG Name	No. of Member	Total Saving	Inter-loaning	Purpose of Loan
		Shirva	Bharav Devta	20	72774	50000	Agriculture
		Shirva Tungroli	Mahasu Devta	16	47400	20000	Marriage
3	Mindal	Mindal	Silgur Devta	10	26000		
4	Kandar	Kandar	Manshu Devta	15	39050	10000	Other Activity
		Indroli	Kali Mata	15	38262		
5	Savra	Savra	Jai Mahasu Devta	15	38266		
			Indra Club	12	30700		
6	Sujau	Sujau	Shilgur Devta	15	37500		
7	Mohna	Mohna	Chalda Devta	15	43500	8000	Agriculture
			Mahila Shakti	16	33200		
8	Tungra	Tungra	Mahasu Devta	19	72850	20000	Other Activity
			Kali Mata	20	62000	10000	Other Activity
			Sarlachani	16	48944		
Total				298	872682	203400	
Unit-Quansi							
1	Dhaurapudia	Dhaurapudia	Mahilashakti	15	43872	18000	Marriage
						10000	Other Activity
			Matra Shakti	10	24000		
2	Chultad	Chultad	Kali mata	15	37350	10000	For Agriculture
3	Kandoebondur	Kandoebondur	Shilgur Devta	16	44550		
			Vikas	14	32500		
4	Kandi Chamagatha	Kandi Chamagatha	Jai Kali mata	12	31945		
			Badrkali	13	25350	12000	Other Activity
5	Lakhamandal	Lakhamandal	Bhairav devta	12	33600		
			Kali mata	14	39500	4000	For Agriculture
6	Kunna	Kunna	Aastha	17	45050	13000	Other Activity
						5000	Other Activity
			Bhairav devta	15	72000	10000	For Education
7	Muyda	Muyda	Kali mata	15	45447		
			Sangharsh	16	41952	16000	For Agriculture
		Meghad	Narishakti	8	20400	1700	Other Activity
8	Sidi barkoti	Sidi Barkoti	Guru devta	15	35350	4000	For Agriculture
						3000	For Education
			Bherav devta	15	33250		
9	Punah pokhri	Punah Pokhri	Suraj	18	34200		
			Kedar devta	10	27500		
			Mahasu devta	17	43350		
10	Bijnu	Bijnu	Mahashiv devta	14	37550		
			Mahasu devta	17	46750		
		Chunoti	Shilgur devta	17	46750		
		Chunoti	Mahakali	12	30300		
Total				327	872516	106700	
Grand Total				1007	3137013	739100	

Marketing Support:

ABSO, Dehradun Division, Vikasnagar provided due marketing support to the farmers during the current financial year for the vegetable production achieved by them against the seed support during the previous financial year (2018-19) through contacts with bulk purchasers in Dehradun and Vikasnagar Mandis. As a result of these marketing initiatives and minor changes in the crop calendar, the entire quantity was sold out at much higher prices as compared to previous years. Interestingly, during the harvest of tomato crop, the traders from far off markets of Delhi and Saharanpur also thronged the area for purchase of tomato.



The increased interest shown by the traders from Delhi and Saharanpur during the crop harvest season has expanded the market of vegetables produced in the project areas resulting in promotion of healthy competition which is likely to benefit the farmers during the ensuing crop seasons and increase their negotiation power. The details of farm produce against the input support for the previous year (2018-19), for which marketing support was provided during the financial year under reference, is given in the tables below:

Gramya-I Federations - Seed Support and Output Achieved (2018-19):

SN	Name of Crop	Actual Coverage Area (Ha.)	Seed & Input Support Provided (Rs. in Lac)	Expected Production (Qtls.)	Total Production (Qtls.)	Total Value as per Market Rate (Rs. in Lac)	No. of FIGs/ Farmers involved
1	Pea	12.0	4.9	900.0	876.0	21.9	17/170
2	Tomato	12.0	4.9	3600.0	3240.0	81.0	17/195
3	Ginger	1.5	1.0	105.0	122.0	6.32	17/120
4	Frenchbean	4.0	1.6	300.0	237.0	7.1	17/202
5	Turmeric	4.0	2.8	240.0	Awaited	4.8	17/117
Total		33.5	15.2	5145.0		121.12	

Gramya-II Federations- Seed Support and Output Achieved (2018-19):

SN	Name of Crop	Actual Coverage Area (Ha.)	Seed and Input Support Provided (Rs. in Lac)	Expected Production (Qtls.)	Total Production (Qtls.)	Total Value as per Market Rate (Rs. in Lac)	No. of FIGs/ Farmers involved
1	Tomato	42.0	17.1	12600.0	11970.0	299.3	44/663
2	Pea	18.0	7.3	1350.0	1314.0	32.9	18/262
3	Ginger	3.8	2.6	262.5	280.0	14.85	19/294
4	Masoor	5.0	0.6	30.0	30.0	3.6	4/66
5	Maize	10.0	1.2	240.0	240.0	3.4	11/170
6	Urad	5.0	0.6	30.0	18.0	1.4	5/81
7	Frenchbean	7.0	2.8	522.0	410.0	12.3	15/254
8	Turmeric	14.0	9.7	840.0	Awaited	16.8	36/540
9	Onion	5.0	2.0	625.0	469.0	7.0	17/290
Total		109.7	44.0	16499.5		391.6	

Impact on Pricing due to Production of Off-season Crops:

As a result of project interventions and support in terms of seeds, technology, post-harvest handling, marketing and above all, modification in crop calendar to produce off season crops, the farmers were observed to have been able to fetch better price in the market during last sowing season, which has helped in increasing the income of farmers considerably. This trend is expected to continue this season as well. The price difference observed in the sale of crops is given in the table below:

Change in Market Price of Crops as a Result of Project Interventions (FY 2018-19)

SN	Crop Name	Change in Pricing (Rate Per Qtl.)		Reasons for Price Increase
		Before (Y2016-17)	After (Y2018-19)	
1	Tomato	700	2500	Change in cropping calendar Improved seeds Grading and sorting
2	Pea	1000	2500	
3	French bean	1800	3000	
4	Ginger	3000	4500	Floods in South India
5	Potato	800	1500	Inflation & improved seed quality
6	Onion	1500	2000	
7	Maize	1100	1400	

Linking of Vendors through Gramya Shree App:

For the benefits of farmers in the intervention villages, ABSO is constantly in the process of uploading the vendors on Gramya Shree app so that they are linked to the farmers/federations who can conduct deals during harvest season and also get market information from time to time. A system of

sending SMS messages to the vendors as regards availability of vegetables and other agri-products at a particular location/village has also been introduced in the division, which is likely to promote healthy competition and sale at remunerative prices. A list of the vendors who were linked on Gramya Shree App is given below:

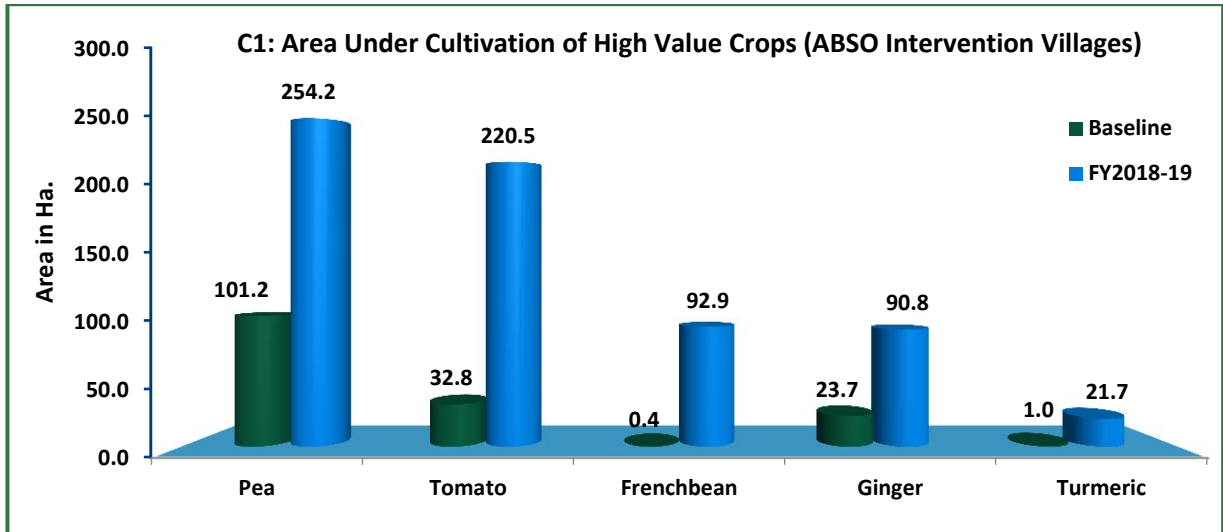
List of Vendors linked with Federations

SN	Vendor Name	Contact Person	Address	Contact No.
1	Yamuna Valley Sabji Bhandar	Attar Singh Chauhan	C 55-56 Sabji Mandi Vikasnagar	9411169623
2	Jansar phal evam sabji vikreta	Kaale Khan	Vikas Nagar Mandi	7088365786
3	S.K. Trading Company	Anuj Lala	Sahiya Mandi	9837601422
4	Gupta Trading Company	Manoj Gupta	Sahiya Mandi	9917600707
5	Garhwal Phal Evam Sabji Vikreta	Rajesh Agrawal	Vikas Nagar Mandi	9997014457
6	Tarachand Devendra	Davendra jain	Vikas Nagar Mandi	9499721982
7	Rameswer Dayal Rajesh Kumar	Nitin Kumar	Vikas Nagar Mandi	9412952781
8	AFC	Yogendra Pundir	Dehradun Mandi	9412992311
9	Asnani Agro Product	Nikhil Kumar	New Delhi	9650278670
10	Saini Traders	R.K. Saini	Sonipat	8813024000
11	C.S.Sabji Agent	Manoj Kumar	Sahiya Mandi	9411136253
12	Janta Sabji Bhandar	Mukesh Kumar	Vikasnager	9412056381
13	Kumar Dinesh Kumar	Dinesh Kumar	Sahiya	9012398776
14	Vikas Sabji Bhandar	Sudhir Kumar Jain	Vikasnager	9412409959
15	M/S Shanker Sabji Bhandar	Parmod	Dehradun	9411172907
16	Naman Sabji Bhandar	Rakesh Sathi	Dehradun	9219882747
17	M/S Lalaram Mnohar Lal	Sanjay Bhatiya	Dehradun	9412056852
18	Kapil Kumar Deepak Kumar	Sudhir Kumar	Dehradun	9412058803
19	Jagmohan Sharma & Sons	Ashish Sharma	Dehradun	9897444833
20	My Organic Food Farm	Ramesh Rahija	Rohini Delhi	9811060324
21	Sunder Lal Morya & Sons	Sunder Lal	Navin Mandi Haldwani	9719838488

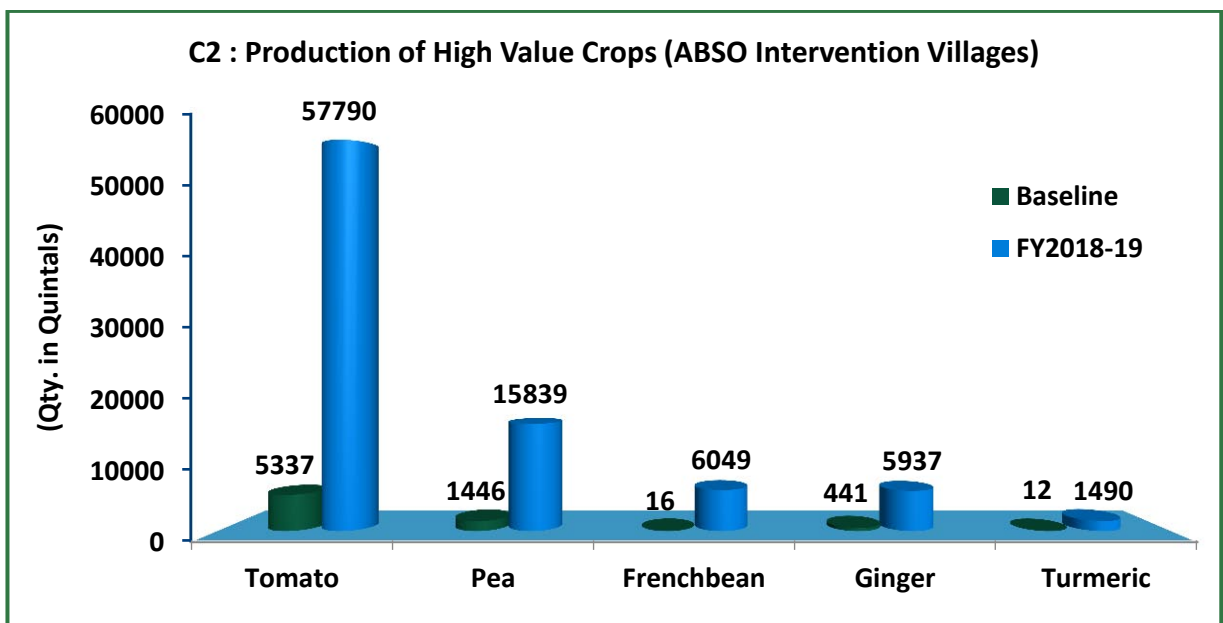
Adoption of Crops & Overall Impact of Interventions:

To gauge the overall impact of project interventions and judge the level of adoption of high value off season vegetable crops in ABSO intervention villages of Dehradun Division Vikasnagar, a study was conducted during the year. Data relating to farm produce of high value crops was collected from the villages, which has shown encouraging results as regards adoption of vegetable crops promoted through the project. It was seen that even those farmers who had not received any input support

from the project also cultivated these vegetable crops from their own resources and received encouraging production output from the same. The data collected was compared with the baseline data collected during project inception. Some of the findings of the study revealed the following:

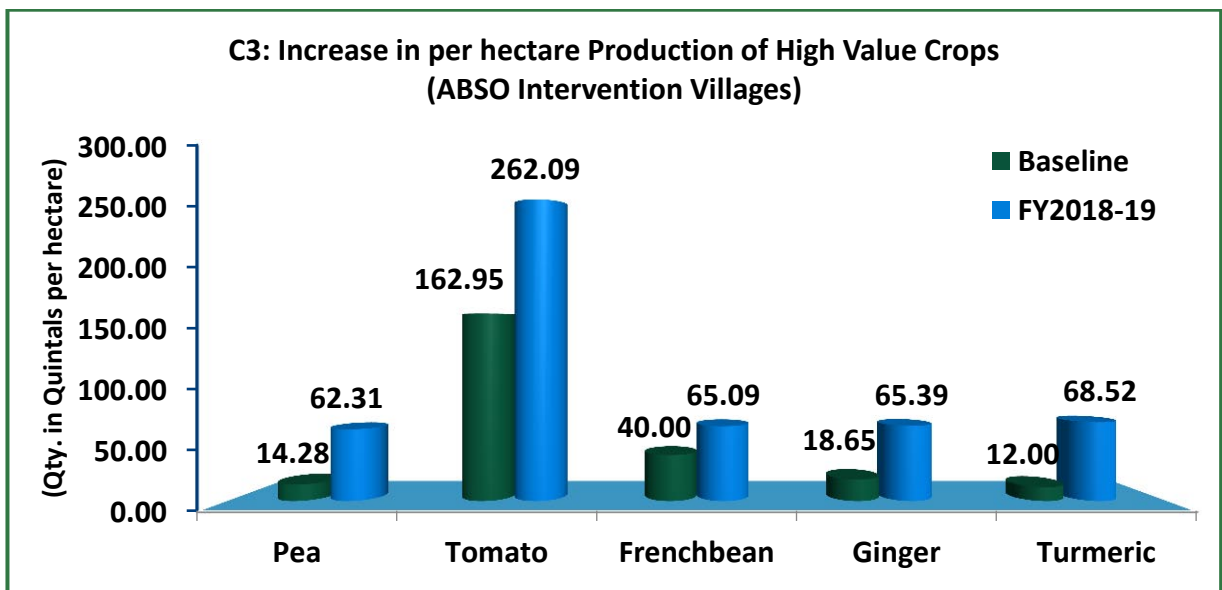


The Chart C1 shows the area that has been brought under cultivation of high value crops after project interventions. The area shown includes the cluster area promoted through the project and the land brought under cultivation of high yielding crops with farmers' own resources. The chart shows the overwhelming interest shown by the farmers in the project villages in cultivation of high value crops as a result of motivation and good results achieved production of high value crops as a result of improved seeds provided to the farmers as project input support.

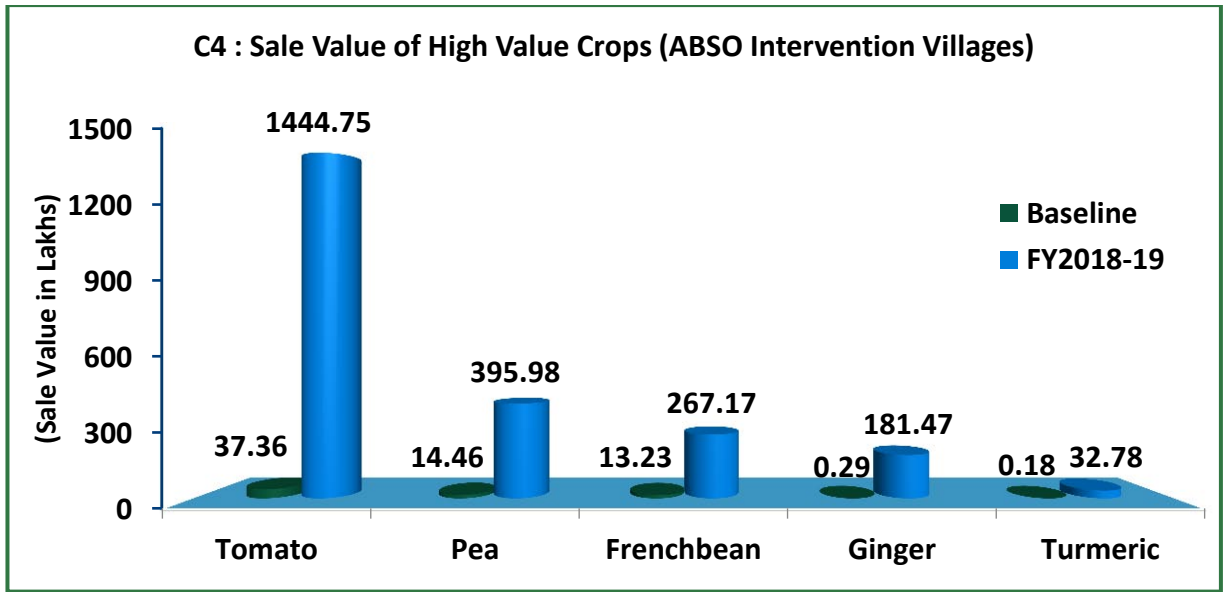


The Chart C2 shows the production data of high value crops in ABSO intervention villages during the financial year 2018-19 as compared to the baseline figures. The spike seen in production of high value crops shows how the farmers have diversified to cultivation of these crops from their traditional farming system. All the crops above show tremendous increase in their production which is a clear cut indicator of the fact that there has been an overall upsurge in adoption of high value crops by farmers with their own resources.

As can be seen from the Chart (C3) below, the data as regards per hectare yield of high value vegetable crops in the project villages as compared to the baseline figures was also collected from ABSO intervention villages. It can be seen from the chart that the introduction of high yielding quality of improved seeds has positively impacted the per hectare yield of high value off-season vegetables in the ABSO intervention villages. The per hectares yield of Pea crop has increased to around 4.5 times, whereas in case of turmeric, the yield has increased to around 6 times as compared with the baseline data. Similar upward trends can be observed in case of tomato, French beans and ginger.

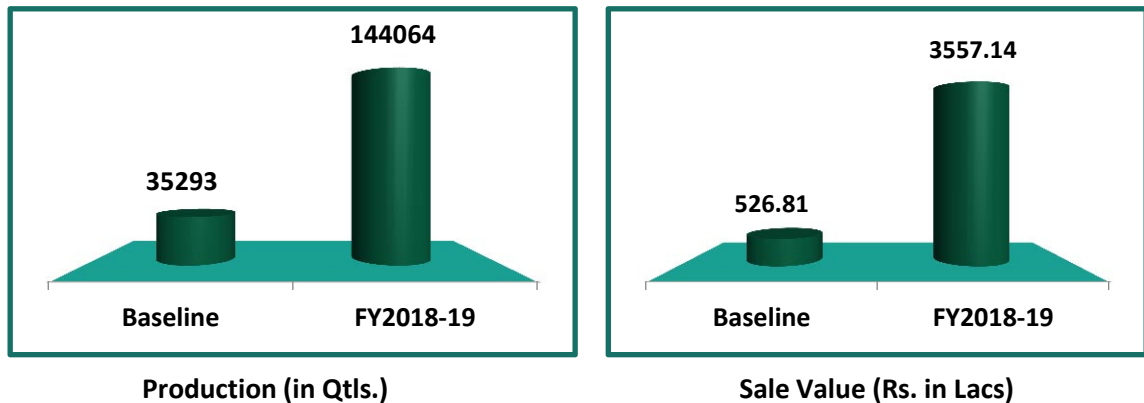


The chart C4 shows remarkable increase in sale of high value crops in ABSO intervention villages due to increase in cultivation and production of these crops. There has been a jump of 625 times in sale of ginger, followed by turmeric 182 times, tomato 38 times, pea 28 times, French beans 21 times. This has become possible as result of using high yielding variety of improved seeds and adoption of latest technologies in agriculture.

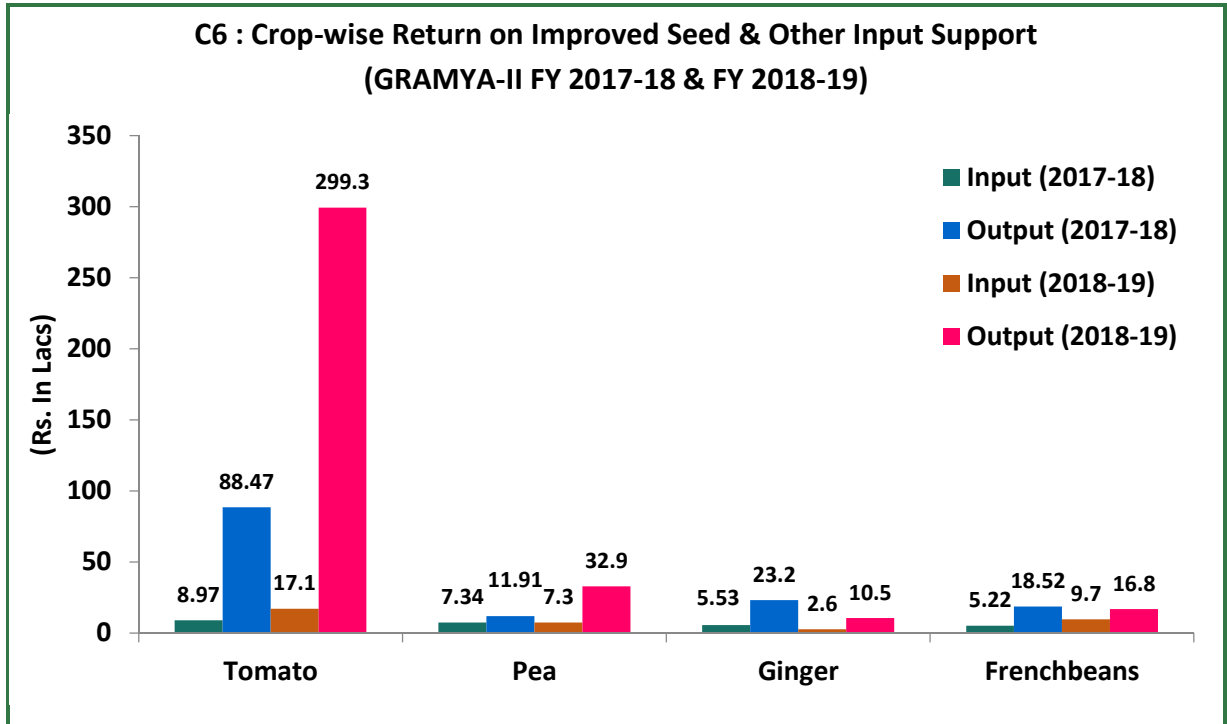


The charts (C5) show increase in crop output and sale value during the the year 2018-19 as compared to the baseline. From the charts, it can be seen that the crop production during the year 2018-19 has increased more than 4 times against the baseline production. Interestingly, the sale value of the crop has increase around 7 times during the same year as against baseline year. Thus, it can be very well concluded that the project interventions have helped in increasing the production of high value crops in the area, which has resulted in increased cash income of the farmers in the area.

C5 : Increase in Crop Output and Sale Value in ABS0 Intervention Villages



The study also endeavoured at capturing the increase in crop yield against the seed input during the financial year 2018-19 in comparison to FY 2017-18. It can be seen from the Chart C6 that the yield with respect to every crop has shown considerable increase. The results are overwhelming in case of tomato, as the yield output in this case is more than 17 times of input value as against only around 10 times during the previous year (2017-18). Similar upward trends in crop yield can be observed in case of other high value vegetable crops.



Conclusion

The study has, thus, thrown ample light on the positive outcomes of project interventions in the area in case of cultivation of high value offseason vegetable crops. This trend is likely to look upward and have positive bearing on the lives of farmers in the area when more farmers come forward to adopt the cultivation of high value improved seeds and latest technologies in agriculture.

ANNEXURE - I

Details of Coverage Area of High Yielding Varieties Sown through Project Support and own Resource by Farmers

GP	RV	Crop Name	Project Support Coverage Area (in Ha.)	Production achieved through Project support (Qtl.)	Area sown with own resources (Ha.)	Production achieved from self sown area (Qtl.)	Total Production Achieved (Qtl.)	Quantity sold (Qtl.)	Value of Sold Production (Rs. in Lakh)	Sale Point	
UNIT CHAKRATA											
Tungra	Tungra	Pea	0		5.25	472.5	472.5	462	13.875	V.Nagar/ D.dun	
		Tomato	1.8	516	0	0	516	510	13.575	V.Nagar/ D.dun	
		Potato			2	400	400	380	6.1	Vikasnagar	
		Ginger	0.267	19	2.33	215	234	174	8.7	Vikasnagar	
		Frenchbean	0.8	31	2.2	239	270	268	8.04	Vikasnagar	
		Turmeric	0.968	18.75	0	0	18.75	18	0.75	Vikasnagar	
		Onion			0.5	50	50				
Rawna	Rawna	Pea			4.5	405	405	395	11.85	V.Nagar/ D.dun	
		Tomato	1.6	468	0	0	468	450	10.125	V.Nagar/ D.dun	
		Potato			3	500	500	400	5.9	Vikasnagar	
		Ginger			1.2	75	180	130	6.5	Vikasnagar	
		Frenchbean			1.8	162	162	160	4.8	Vikasnagar	
		Turmeric	0.451	8.75	0	0	8.75	8	0.75	Vikasnagar	
		Onion			0.6	55	55				
Pati	Pati	Pea	0.4	21	2.1	204	225	217	6.51	V.Nagar/ D.dun	
		Tomato	2.24	657			657	640	3.875	Vikasnagar/ Dehradun	
		Potato									
		Ginger			2.5	175	28.8	20	1	Vikasnagar	
		Frenchbean			1.2	102	102	100	3	Vikasnagar	
		Turmeric	0.451	9.5			9.5	9	0.5	Vikasnagar	
		Onion			0.65	60	60				
Mehra-wana	Mehra-wana	Pea	0.4	20	11.6	1060	1080	1060	31.8	Sahiya/ V.Nagar	
		Tomato			1.5	465	465	450	11.25	Sahiya/ V.Nagar	
		Potato			0.5	95	95	92	1.2	Vikasnagar	
		Ginger			2	180	180	100	1.5	Vikasnagar	
		Frenchbean			9	810	810	800	24	Vikasnagar	
		Turmeric	0.452	9			9	9	0.72	Vikasnagar	
		Onion			0.5	40	40				
Mehra-wana	Sirva	Pea			7.6	684	684	664	19.92	Sahiya/ V.Nagar	
		Tomato	1.8	515	0.2	125	640	620	15.5	Sahiya/ V.Nagar	
		Potato			1.5	240	240	210	2.8	Sahiya/ V.Nagar	
		Ginger			1	62	340	240	120	Sahiya/ V.Nagar	
		Frenchbean			6.5	585	585	581	17.43	Sahiya/ V.Nagar	
		Turmeric	0.452	9.75	0	0	9.75	9	0.75	Vikasnagar	
		Onion			0.5	50	50				
Mindal	Mindal	Pea	0.64	14	3.5	166	180	160	3.2	Sahiya/ V.Nagar	
		Tomato	1.6	471	4.23	1394	1865	1805	45.125	Sahiya/ V.Nagar	
		Potato			2	400	400	350	4.6	Vikasnagar	
		Ginger	0.5	39	3.5	321	360	280	14	Vikasnagar	
		Frenchbean			8.5	765	765	755	22.65	Vikasnagar	

GP	RV	Crop Name	Project Support Area (in Ha.)	Production achieved through Project support (Qtl.)	Area sown with own resources (Ha.)	Production achieved from self sown area (Qtl.)	Total Production Achieved (Qtl.)	Quantity sold (Qtl.)	Value of Sold Production (Rs. in Lakh)	Sale Point	
		Turmeric	0.266	4.75			4.75	4	0.4	Vikasnagar	
		Onion			0.6	55	55				
Mohna	Mohna	Pea	2.24	118	14.75	1412	1530	1490	44.7	Sahiya/ V.Nagar	
		Tomato	2	579	0.5	114	693	650	16.25	Sahiya/ V.Nagar	
		Potato			6	1000	1000	800	12.1	Vikasnagar	
		Ginger	0.143	10	1.85	170	180	130	6.5	Vikasnagar	
		Frenchbean	0.48	20	4.82	430	450	446	13.38	Vikasnagar	
		Turmeric	0.516	18.75			18.75	18	1.8	Vikasnagar	
		Onion			1.2	100	100				
Sawra	Sawra	Pea			16	1440	1440	1400	42	Sahiya/ V.Nagar	
		Tomato	2	583	7.75	2439	3022	2922	73.05	Sahiya/ V.Nagar	
		Potato			3	600	682	677	10.155	Vikasnagar	
		Ginger	0.4	28	12.6	1142	1170	870	43.5	Vikasnagar	
		Frenchbean			5	450	450	445	13.35	Vikasnagar	
		Turmeric	0.71	13.5	0	0	13.5	13	1.43	Vikasnagar	
		Onion			0.6	60	60				
Kandad	Kandad	Pea			1.4	119	119	109	3.27	Sahiya/ V.Nagar	
		Tomato			1	310	310	302	7.55	Sahiya/ V.Nagar	
		Potato			3	450	390	366	5.5	Vikasnagar	
		Ginger	0.24	17	1.56	136	153	113	5.65	Vikasnagar	
		Frenchbean			1.4	80	280	278	8.34	Vikasnagar	
		Turmeric	1.334	25.75	0	0	25.75	24	2.64	Vikasnagar	
		Onion			0.8	54	54				
Kandad	Indroli	Pea			6	540	540	525	15.75	Sahiya/ Vikasnagar	
		Tomato			3	960	960	940	23.5	Sahiya/ Vikasnagar	
		Potato			2.5	500	500	496	7.44	Vikasnagar	
		Ginger	0.2	14	3.8	346	360	260	13	Vikasnagar	
		Frenchbean			4.5	405	405	400	12	Vikasnagar	
		Turmeric			0.2	6	6				
		Onion			0.6	55	55				
Sujau	Sujau	Pea	0.8	44	4.2	136	180	173	5.19	Vikasnagar	
		Tomato	0.8	233	0.2	367	600	580	14.5	Vikasnagar	
		Potato			2	390	610	580	8.5	Vikasnagar	
		Ginger			3	270	270	200	10	Vikasnagar	
		Frenchbean	0.48	19	0.52	61	80	79	2.37	Vikasnagar	
		Turmeric			0.2	5	47				
		Onion			0.6	50	50				
TOTAL			26.63	4549.75	209.11	25208.5	30483.8	27746	857.120		
UNIT KWANSI											
Lakha- mandal	Lakha- mandal	Pea	0.48	26	9.52	874	900	870	26.1	Sahiya	
		Tomato			4.8	1488	1488	1438	37.388	Sahiya	
		Potato			1	150	150	140	2	Sahiya	
		Ginger			1	90	90	65	3.25	Sahiya	
		Frenchbean			4.5	382.5	382.5	379	11.37	Sahiya	
		Turmeric	0.516	10.25			10.25	9	0.99	Vikasnagar	

GP	RV	Crop Name	Project Support Area (in Ha.)	Production achieved through Project support (Qtl.)	Area sown with own resources (Ha.)	Production achieved from self sown area (Qtl.)	Total Production Achieved (Qtl.)	Quantity sold (Qtl.)	Value of Sold Production (Rs. in Lakh)	Sale Point
		Onion			0.4	38	38			
Dhaura-pudiya	Dhaura-pudiya	Pea	1.2	65	0	43	108	105	3.15	Vikasnagar
		Tomato	1.04	300	3.46	1140	1440	1390	34.75	Vikasnagar
		Potato			1.5	240	240	235	3.2	Vikasnagar
		Ginger			1.3	110.5	110.5	80.5	4.025	Vikasnagar
		Frenchbean			5	400	400	395	11.85	Vikasnagar
		Turmeric	0.516	10.5			10.5	10	1.04	Vikasnagar
		Onion			0.5	40	40			
Kandoi-bondur	Kandoi-bondur	Pea			10	900	900	865	25.95	Vikasnagar
		Tomato	1.6	463	0	0	463	431.6	10.79	Vikasnagar
		Potato			3	580	580	577	8.655	Vikasnagar
		Ginger			1.5	120	120	90	4.5	Vikasnagar
		Frenchbean	0.4	16	3.4	326	342	336	10.08	Vikasnagar
		Turmeric	0.388	7			7	6.5	0.71	Vikasnagar
		Onion			0.3	28	28			
Chhultad	Chhultad	Pea			6.6	561	561	541	16.23	Vikasnagar
		Tomato			3	870	870	840	21	Vikasnagar
		Potato			1	180	180	150	1.98	Vikasnagar
		Ginger			4	300	300	220	11	Vikasnagar
		Frenchbean			2.5	200	200	196	5.88	Vikasnagar
		Turmeric	0.388	7.5			7.5	7	0.77	Vikasnagar
		Onion			0.4	36	36			
Kunna	Kunna	Pea			6.6	594	594	579	17.37	Vikasnagar
		Tomato			1.65	511.5	511.5	461.5	11.5375	Vikasnagar
		Potato			2.5	450	450	410	5.3	Vikasnagar
		Ginger			3.3	280.5	280.5	210.5	10.525	Vikasnagar
		Frenchbean			1	85	85	84	2.52	Vikasnagar
		Turmeric	0.323	6	0.5	14	20	5.5	0.6	Vikasnagar
		Onion			0.4	28	28			
Myuda	Myuda	Pea			10	900	900	870	26.1	Vikasnagar
		Tomato			4	1240	1240	1200	30	Vikasnagar
		Potato			6	1140	1140	1134	17.01	Vikasnagar
		Ginger			3	240	240	180	9	Vikasnagar
		Frenchbean			4.37	349.6	349.6	345.6	10.368	Vikasnagar
		Turmeric	0.323	6.25	0.2	6	12.25	6	0.6	Vikasnagar
		Onion			0.2	15	25			
Meghad	Meghad	Pea			7.2	612	612	592	17.76	Vikasnagar
		Tomato			3.6	1116	1116	1076	26.9	Vikasnagar
		Potato			1.2	290	290	287	4.305	Vikasnagar
		Ginger			4.1	96	96	71	3.55	Vikasnagar
		Frenchbean			0.6	32	369	365	10.95	Vikasnagar
		Turmeric	0.323	6	0.3	7	13	5.5	0.605	Vikasnagar
		Onion			0.2	18	18			
Kandichamagatha	Kandichamagatha	Pea	1.04	58	7	342	2280	2210	66.3	V.Nagar/ D.Dun
		Tomato	1.6	472	2.5	820	2128	2058	51.45	V.Nagar/ D.Dun
		Potato			2	390	390	350	4.8	V.Nagar/ D.Dun

GP	RV	Crop Name	Project Support Coverage Area (in Ha.)	Production achieved through Project support (Qtl.)	Area sown with own resources (Ha.)	Production achieved from self sown area (Qtl.)	Total Production Achieved (Qtl.)	Quantity sold (Qtl.)	Value of Sold Production (Rs. in Lakh)	Sale Point	
		Ginger			2	85	1008	758	37.9	V.Nagar/ D.Dun	
		Frenchbean			0.8	42	255	252	7.56	V.Nagar/ D.Dun	
		Turmeric	0.388	7.25	0.4	6	13.25	6.5	0.71	Vikasnagar	
		Onion			0.3	28	28				
Punah Pokhri	Punah Pokhri	Pea	1.2	67	17.8	1643	1710	1660	49.8	V.Nagar/ D.Dun	
		Tomato	2.8	820	2.3	659	1479	1429	35.725	V.Nagar/ D.Dun	
		Potato			3.5	610	610	600	8.4	V.Nagar/ D.Dun	
		Ginger	0.333	23	5.067	409	432	332	16.6	V.Nagar/ D.Dun	
		Frenchbean	0.48	21	4.52	429	450	445	13.35	V.Nagar/ D.Dun	
		Turmeric	0.323	6	0.4	7	13	5.5	0.66	Vikasnagar	
		Onion			0.4	37	37				
Sidibadkoti	Sidibadkoti	Pea	1.04	57	3.46	339	396	376	11.28	V.Nagar/ D.Dun	
		Tomato	2.8	825	3.3	944	1769	1719	42.975		
		Potato									
		Ginger	0.333	23	5.667	457	480	380	1.9	V.Nagar/ D.Dun	
		Frenchbean	0.48	22	1.52	160	182	180	5.4	Vikasnagar/ Dehradun	
		Turmeric	0.556	10.25	0.4	8	18.25	9.5	1.1	Vikasnagar	
		Onion			0.4	38	38				
Bijnu	Bijnu	Pea	0.8	45	2.2	225	270	245	7.35	Sahiya	
		Tomato	2.4	715	0	0	715	700	10.375	Sahiya	
		Potato			2.5	460	460	447	6.705	Sahiya/ V.Nagar	
		Ginger	0.334	24	2.526	204.8	228.8	168.8	8.44	Sahiya/ V.Nagar	
		Frenchbean	0.4	16	1.4	146	162	160	4.8	Sahiya/ V.Nagar	
		Turmeric	0.278	5.75	0.2	3	8.75	5	0.55	Vikasnagar	
		Onion			0.5	45	45				
Bijnu	Chunoti	Pea	0.24	15	8.76	795	810	710	21.3	Sahiya	
		Tomato	2.4	709	0.75	204.5	913.5	873.5	21.8375	Sahiya	
		Potato			2.5	460	460	458	6.2	Sahiya/ V.Nagar	
		Ginger			3.3	240	240	190	9.5		
		Frenchbean					280	275.5	8.265	Sahiya/ V.Nagar	
		Turmeric	0.278	5			5	4.5	0.45	Vikasnagar	
		Onion									
TOTAL			26.853	4731.75	214.67	27117.9	36706.65	34186.5	916.316		
UNIT SAHIYA											
Chaneu	Chaneu	Pea	1.76	102	9.24	888	990	965	28.95	Sahiya	
		Tomato	2.2	650			650	600	15.6	Sahiya	
		Potato									
		Ginger	0.267	19	5.533	503	522	402	20.1	Sahiya	
		Frenchbean	0.4	17	1.8	159	176	174	5.22	Sahiya	
		Turmeric	0.387	7.25			7.25	7	0.77		
		Onion									Sahiya
Chaneu	Khoi	Pea	1.52	88	4.48	452	540	525	15.75	Sahiya	
		Tomato	1.2	355	1.05	320	675	655	16.375	Sahiya	
		Potato									
		Ginger			4	360	360	280	14	Sahiya	
		Frenchbean	0.4	16	5.85	546	562	555	16.65	Sahiya	

GP	RV	Crop Name	Project Support Coverage Area (in Ha.)	Production achieved through Project support (Qtl.)	Area sown with own resources (Ha.)	Production achieved from self sown area (Qtl.)	Total Production Achieved (Qtl.)	Quantity sold (Qtl.)	Value of Sold Production (Rs. in Lakh)	Sale Point	
		Turmeric									
		Onion	0.857	85			36	34	0.803	Sahiya	
Dilau	Dilau	Pea	1.28	72			72	70	1.45	Sahiya	
		Tomato	0.6	173	2	250	320	310	7.75	Sahiya	
		Potato									
		Ginger			10	800	800	600	30	Sahiya	
		Frenchbean	0.48	22			22	20	0.5	Sahiya	
		Turmeric	0.065	5			5	1	0.09		
		Onion			0.8	112	112	50	0.6	Sahiya	
Dilau	Sainj	Pea			4.2	378	378	368	11.04	Sahiya	
		Tomato								Sahiya	
		Potato									
		Ginger	0.267	19	2.933	253	272	222	11.1	Sahiya	
		Frenchbean	0.4	18	1	108	126	124	3.72	Sahiya	
		Turmeric	0.188	3.5			3.5	3	0.3		
		Onion									
Supau	Supau	Pea	0.72	40	6.38	599	639	619	18.57	Sahiya	
		Tomato	1.6	464	0.4	14	620	600	15	Sahiya	
		Potato									
		Ginger			2	189	189	139	6.95	Sahiya	
		Frenchbean	0.4	17	1.1	118	135	133	3.99	Sahiya	
		Turmeric	0.387	7.5			7.5	7	0.77		
		Onion	0.428	40	0.8	70	110	70	0.84	Sahiya	
Supau	Kisau	Pea			10	1000	1000	970	29.10000	Sahiya	
		Tomato	1.6	467	0.4	133	600	580	14.5	Sahiya	
		Potato									
		Ginger			0.75	67	67	51	2.55	Sahiya	
		Frenchbean			0.1	9	9	8.5	2.55	Sahiya	
		Turmeric	0.387	7			7	6.5	0.71		
		Onion			0.8	85	85	50	0.6	Sahiya	
Ara	Ara	Pea			17.5	157.5	1575	1525	45.75	Sahiya	
		Tomato	2.8	825	7.2	2175	3000	2920	73	Sahiya	
		Potato			1	210	210	208	3.12	Sahiya/ V.Nagar	
		Ginger	0.466	33	2.534	237	270	200	10	Sahiya/ V.Nagar	
		Frenchbean	0.48	22	2.52	248	270	265	7.950	Sahiya	
		Turmeric	0.516	9.75			9.75	9	1.08	Sahiya	
		Onion	0.714	66			66	55	0.66	Sahiya/ V.Nagar	
Timra	Timra	Pea	1.2	69	2.4	255	324	314	9.42	Sahiya/ V.Nagar	
		Tomato	2	584	0.25	91	675	655	16.375	Sahiya/ V.Nagar	
		Potato									
		Ginger			6.4	576	576	456	22.8	Sahiya/ V.Nagar	
		Frenchbean			0.1	9	9	8.5	0.255	Sahiya	
		Turmeric									
		Onion	0.571	55			55	38	0.45	Sahiya/ V.Nagar	
Panjiya	Panjiya	Pea			6	540	540	520	15.6	Vikasnagar	
		Tomato	0.8	238	0.2	62	300	290	7.250	Sahiya	
		Potato									

GP	RV	Crop Name	Project Support Coverage Area (in Ha.)	Production achieved through Project support (Qtl.)	Area sown with own resources (Ha.)	Production achieved from self sown area (Qtl.)	Total Production Achieved (Qtl.)	Quantity sold (Qtl.)	Value of Sold Production (Rs. in Lakh)	Sale Point	
		Ginger			8	640	640	480	24	Vikasnagar	
		Frenchbean	0.48	22	2.52	218	240	237	7.110	Vikasnagar	
		Turmeric	0.222	5			18	4.5	0.45	Vikasnagar	
		Onion									
Panjiya	Chapnu	Pea	1.04	60	1.26	124	184	177	5.31	Vikasnagar	
		Tomato	0.72	213	2.58	777	990	960	24	Vikasnagar	
		Potato									
		Ginger			3	240	240	180	9	Vikasnagar	
		Frenchbean	0.4	18	1.6	142	160	158	4.740	Vikasnagar	
		Turmeric	0.258	5			5	4	0.44	Vikasnagar	
		Onion			0.5	70	102	99	1.188	Vikasnagar	
Vyasbhood	Vyasbhood	Tomato			2	600	600	580	14.5	Vikasnagar	
		Ginger			1	80	80	60	3	Vikasnagar	
		Frenchbean			0.5	40	40	39.5	1.185	Vikasnagar	
		Turmeric	0.556	11			11	10.5	0.99	Vikasnagar	
		Onion	1.43	130			130	30	0.504	Vikasnagar	
Vyasnahri	Vyasnahri	Potato			2	500	500	497	3.479	Vikasnagar	
		Ginger			0.02	1.7	1.7	1.3	6500	Vikasnagar	
		Frenchbean			8.5	722.5	722.5	715.5	21.465	Vikasnagar	
		Turmeric	0.278	5			5	4.5	0.54	Vikasnagar	
		Onion	0.714	68			68	54	0.64	Vikasnagar	
		Tomato			8.3	2490					Vikasnagar
		Potato									
Haripur	Haripur	Ginger									
		Frenchbean			1	80	80	79	2.37	Vikasnagar	
		Turmeric	0.278	6			6	5	0.55	Vikasnagar	
		Onion			1	100					Vikasnagar
		Pea			1		90	87	2.610	Vikasnagar	
		Tomato			2.3	690	690	670	16.75	Vikasnagar	
		Potato									
Kalsi	Kalsi	Ginger			0.3	24	24	18	0.9	Vikasnagar	
		Frenchbean			1.6	136	136	134.5	4.035	Vikasnagar	
		Turmeric	0.278	5.25			5.25	5	0.6	Vikasnagar	
		Onion	0.286	25			25	18	0.21	Vikasnagar	
TOTAL			31.387	5114.25	132.26	15040.2	22791.45	20952.3	7094.869		
GRAND TOTAL			84.87	14395.75	556.04	67366.6	89981.9	82884.8	8868.305		

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