



Impact of family farming:

A case of vegetable cultivation under Farmer FIRST Programme

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The continuous decline in the farm size is making it difficult to make a comfortable living from conventional agriculture for marginal and small farmers. Vegetable cultivation is potential candidate to help these farmers to make a way towards prosperous living. Despite the potential benefits of this enterprise, marginal and small farmers hesitate to opt for vegetable cultivation due to its technical and managerial obstacles for an individual farmer. But the family approach can be a ray of hope in this regard through which farmers can accumulate the economic and social resources to harness full advantage of vegetable cultivation. This article highlights the story of a such joint family of Sh. Vinder Singh, who emerged as the torch bearer of family approach in vegetable cultivation. With the adoption of high yielding varieties/hybrids, low cultivation technique, hybrid seed and nursery production of vegetable crops, his family was able to multi-fold their income (about ₹2.64 lakh/acre) and also became exemplary of family cohesiveness for community.

Keywords: Family farming, Upliftment, Vegetables

THE increasing trend of urbanization, expansion of industrialization and looming population has shrivelled the arable land day-by-day, hence thriving the number of small and marginal farmers, annually. This phenomenon has also affected the income of the farmers. Although the farmers are either small or marginal but they have the image to retain all the related agricultural machinery. The small or marginal farmers having joint families which have all the primary sources for operating agro-operations may ramp up their income with the adoption of diversified farming instead of conventional system and they can be the moon-light for the other farmers of the adjoining area. The vegetable cultivation although is not so easy to operate but when family support and guidance of the agricultural experts is integrated, then it may be profitable.

The prime story in this regard has been vindicated by the joint family in village Chatha Nanhera adopted by Farmer FIRST Project in block Sunam district Sangrur who has diverted their conventional agriculture to vegetable cultivation which has improvised their net-income for their livelihood consequently diverting some village farm families towards this occupation. The members of this joint family namely Sh. Vinder Singh (54 years), Sh. Major Singh (59 years) and Sh. Khusia Singh (52 years) occupying 8 acres of their own land, have credited a moral name in the area with the

adoption of vegetable cultivation with their enthusiasm and robust mind-set.

Sh. Vinder Singh's team has created contacts with the scientists of the Farmer FIRST Project since its implementation in village Chatha Nanhera during 2017, from where he got acquainted with agricultural trainings to proliferate his farm income instead of watching any job in the public sector. His family has got trainings in honey bee keeping, dairy farming, hybrid seed production of vegetable crops under this project and Sh. Vinder Singh himself got nurtured with four months training of food processing from Punjab Agricultural University, Ludhiana. They planted 1 acre of hybrid chilli CH-27 during 2017 to divert some area from rice-wheat rotation with some part of demonstration under this project. They earned net income of ₹1,87,400 from green and red chilli produce of 116 quintals after selling in the open market at Sunam as compared to the conventional rotation which may be of ₹36800/acre at that time. This encouraged them to increase the area to 2 acres during 2018 from which they had output of 4 times more than rice-wheat system and this picture directed them to the way of commercial farming. During 2017, Sh. Vinder Singh got training in the hybrid seed and nursery production of chilli from Farmer FIRST Project scientists and initiated this programme during 2018 at his field. At the first stage, Sh. Vinder Singh & his family

produced chilli hybrid CH-27 nursery from 5 kg seed in an area of 750 m² and approached to the chilli growers for planting. They earned net-income of ₹1,80,000 with investment of ₹70,000 from nursery production and integrated this entrepreneur with their on-going agriculture occupation system.

Desiring to adopt new techniques developed in agriculture, they applied the low-tunnel technique to produce advance vegetables after being acquainted with the training under Farmer FIRST scientist guidance in an area of 0.5 acre during winter 2018 as a trail. They used 2 soot thick iron wires and 100 gauges or 20 micron poly-sheet to raise the tunnels and planted early capsicum, summer squash and cucumber under these tunnels during the month of November–December, 2018. They had to tackle many problems due to the lack of experience and off-season cultivation and had to work hard, but feeling of the early production of vegetables encouraged them and they earned net income of ₹1,25,000 from all these crops. Demonstrations of low-tunnels and drip irrigations had also been conducted with the support of FFP project to encourage the farmers to show the way of income generation. The triple income as compared to the wheat crop has endeavoured them to increase the area under low-tunnel vegetables in 6 acres. They also diverted 2 acres area from rice to early cauliflower and rainy (*kharif*) season cucumber. Drip irrigation system and plastic mulching technique had also been installed in 7 acres during 2019 with the objective to use irrigation water efficiently, prevent weeds and mitigating the

insect-pest attack resulted to improve the yield as well as quality of the produce. With the adoption of these techniques, they had planted 1.5 acres of muskmelon hybrid variety Bobby and watermelon hybrid variety Janat and Manat from which the net-income of ₹4.3 lakh was obtained with the investment of ₹85000 during 2018–19 and it encouraged to scale up the area under these crops. They elaborated that the success of this diversified system depends upon the knowledge and experience in respective field, regular contacts with agri-experts, prominent marketing and patience to bear the loss because of the un-assured vegetable prices in the market, incidence of insect-pests and inclement weather. The detailed report of the diversified and conventional farming and economics for the last three years (2019–20, 2020–21, 2021–22) has been given in the Table 1.

Their average net-income was ₹2.34, 2.64 and 2.93 lakh/acre for the year 2019–20, 2020–21 and 2021–22, respectively which accounts for an average of ₹2.64 lakh/acre i.e. 3.5 times more than rice-wheat cropping pattern. They have gained good average price of ₹24/kg for rainy (*kharif*) season cucumber and ₹21/kg for early cauliflower hence got lucrative returns. The income of the sale from the agro-chemicals store of ₹7–8 lakhs is additional than the agriculture income. Every visiting farmer has the desire to adopt this pattern but due to such hard work, busy schedule, daily marketing, costly and expensive seeds and structure, many of the farmers are unable to do so even though they want to. They described their achievements with innovations

Table 1. Detailed report and economics of last three years (2019–20, 2020–21, 2021–22)

Crop/Season	2019–20		2020–21		2021–22	
	Area (acres)	Net-income (lakhs)	Area (acres)	Net-income (lakhs)	Area (acres)	Net-income (lakhs)
A. Kharif/Summer						
Rainy season cucumber: Var. Nazia/ Meharban (2021)	1.5	2.9	1.5	3.75	1.25	2.35
Early cauliflower; Var. Karishma/ Kavita (Ashu wali)	0.5	0.7	0.5	0.85	0.75	0.96
Paddy: Var. PR-126/Basmati	6.0	2.8	6.0	2.83	6.0	3.17
Total		6.4	Total	7.43	Total	6.48
B. Rabi/Winter						
Cucumber (Razni/Rucha) + Chilli (Veerji/Sahiba) under low-tunnels	1.5	3.1	1.5	4.25	1.25	4.72
Capsicum (Indra)	1.0	1.8	1.1	3.8	1.1	4.55
Bottle gourd (Pb. Komal) + Peas (Pb.89)	0.5	1.2	1.0	1.56	0.75	1.38
Sponge gourd + Summer squash (King)/Karela	0.5	0.8	0.4	0.64	0.75	0.97
Muskmelon (Bobby) under low-tunnels	1.0	1.57	0.75	1.21	1.25	2.65
Watermelon (Janat/Manat)	1.0	1.25	0.5	0.75	0.75	0.83
Peas (Pb.89)	1.0	0.55	-	-	-	-
Nurseries: Onion (PRO-6 & 7) Chilli (CH-27, Veerji)	0.5	1.75	0.5	1.22	0.5	1.30
Wheat: HD 3086	1.0	0.31	1.0	0.30	1.5	0.27
Total		12.33	Total	13.73	Total	16.67
Total annual net-income		18.73		21.16		23.15



PAU experts interacting with the farmer



Field inspection by the farmers

of multiple-cropping system, application of drip and mulching technology, low-tunnel technique and fertization system for nutrient application which have improvised their vegetable production. There is need for good practices and experience for successful cultivation of early cauliflower and rainy season cucumber as the mulching is must during rainy season to grow cucumber to protect it from the attack of white fly. They shared their experience to practise chiselling and deep ploughing before planting of vegetable crops as this facilitates the leaching and drainage of excess water during rainfall. Regarding marketing, they have direct and good relations with the commission agents in the nearby markets of Patran, Sunam and Malerkotla and their produce is preferred on priority basis in the market. They sort, grade, weigh and pack the produce and transport to these markets without any accompany with the produce as they have good faith in each other. These brothers have their own obligations for the proper operation of the management as Sh. Vinder Singh is responsible for planning, managing the inputs and marketing, and Sh. Major Singh has mandate of vegetable production, picking, sorting, grading and packing while Sh. Khusia Singh has been engaged in agro-chemicals store in addition to his field activities. They have a message for the small and marginal farmers that although vegetable production is still expensive and cumbersome but more outcomes may be achieved than conventional agriculture after getting trained in this system.

Community impact

These brothers have gained social recognition and are generating impact at community level. Sh. Vinder Singh and his brothers have been honoured with the reputed awards at the Kisan Melas and agricultural diversification award in recognition of their achievements and also achieved many crop-produce competition prizes. Apart from being a member of Fruit and Vegetable Production Committee of PAU, Ludhiana, he is also a founding member of the Punjab Naujawan Kisan Sanstha, Sangrur. Experts from Punjab Agricultural University associated with Farmer FIRST Project also have conducted outreach to the farmers in

their fields and organised farm trainings and field days. They have generated the employment providing work to two permanent men throughout the year and 4-5 women for the 10 months in vegetable fields. More than 10 farmers from their village have initiated the vegetable cultivation in their fields after making visit to their farm and discussions with these progressive farmers. The nearby village farmers are also routinely visiting their farm to discuss their problems. FFP team also took initiatives of making field documentaries to mobilize the mass through their success story.

SUMMARY

Family farming approach blended with the zeal to move forward and scientific orientation, and proper guidance from the experts can illuminate the future of a family. This was proved by Sh. Vinder Singh and his family, who achieved great success into the field of vegetable cultivation. They started their journey of vegetable production after coming in the contact with Farmer FIRST Programme team from Punjab Agricultural University and got acquainted with agricultural trainings to proliferate their farm income. As vegetable production is not an easy task and further being having small land holding, they opted for the family farming approach to accumulate their resources and division of the obligations. They started their journey of vegetable production from the 0.5 acre area and had to face numerous problems, but overcame these with their family cohesiveness and timely advice from FFP team. As a result, currently they are cultivating various vegetables such as chilly, Watermelon, Muskmelon, Karela, Sponge gourd, Peas, Bottle gourd, Capsicum and Cucumber etc and have adopted advanced cultivation techniques such as low tunnel cultivation, drip irrigation, hybrid seed production. They fetched about ₹2.64 lakh/acre i.e. 3.5 times more than rice-wheat cropping pattern. Apart from their own upliftment, they also became the torch bearer for other farmers.

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