

Circumventing the intermediaries for economic empowerment of small farmers in Punjab, India

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The Indian agricultural marketing system is highly complex due to the agro-climatic diversity and the large number of agri-products produced in the country by several smallholders. Direct marketing was an innovative policy initiative at the end of the 20th century for saving farmers from exploitation by middlemen, especially commission agents. However, the success of this model has remained limited and now the policy-makers have to reinnovate measures to ensure better prices for the small farmers. This note is partly based on the national consultation meeting of experts organized on-line by the ICAR-Agricultural Technology Application Research Institute, Ludhiana, Punjab, India, on 21 June 2021. A critical analysis of the extent, nature and improvements needed in the existing measures targeted to ensure remunerative prices to small farmers, with special reference to Punjab, has been presented. The higher producer's share in the consumer's price as the undisputable standard of farmers' welfare is an outdated concept, as the farmers are getting higher net price by selling their produce in export and distant markets. However, state-of-the-art technological developments are necessary for managing the marketing process more efficiently by the small farmers.

Background

The agricultural marketing system in India is greatly influenced by the large number of small and marginal farmers producing small amounts of marketable and marketed surplus of a large number of agricultural products. The number of marginal farmers in India having less than 1 ha land holding was 100.25 million (68.5%), and small farmers having land holding between 1 and 2 ha was 25.8 million (17.6%), out of the total 146.5 million farm households in 2020 (<https://eands.dacnet.nic.in/PDF/At%20a%20Glance%202019%20Eng.pdf>). Interestingly, the number of farm holdings and proportion of marginal holdings in the total farm holdings have been increasing over the years. Hence, we have different challenges and realities than those present in the developed countries.

To market the uneconomical smaller lots, the smallholder farmers are forced to sell their produce to the local traders or commission agents who work as aggregators on behalf of wholesale traders¹. All problems of agricultural marketing for these smallholders such as higher marketing cost, sale to the forwarding agents at throw-away prices, lack of negotiation power in the market and exploitation by the middlemen through unreasonable charges and delayed payment system, start from this point. These aggregators often offer unremunerative prices for the produce of the smallholder farmers. To address this issue more effectively, Farmers Producer Organizations (FPOs) or Farmers Producer Com-

panies (FPCs) have been conceptualized, planned and initiated.

Due to huge diversification in the agro-climatic conditions and cropping systems, there are several marketing channels for different agricultural products through which small quantities of such products are sold². Consequently, there are a large number of middlemen present in the whole gamut of agricultural marketing in India (e.g. village traders, kutchra arhatiyas, pucca arhatiyas, brokers, wholesalers, retailers, moneylenders, etc.), who derive their livelihood by enhancing the gap in the producer's share and the price paid by the consumers^{3,4}.

These large number of middlemen in the agricultural marketing system do not add corresponding value to the process of agricultural marketing. Massive qualitative and quantitative wastage and frequent mismatch between demand and supply in the short and long run have been observed, especially in horticultural crops, under Indian conditions^{5,6}. The infrastructure in Indian agricultural markets has not grown at the same pace as agricultural production in the country⁴. This underdevelopment of market infrastructure is a major source of exploitation by traders in informal as well as formal agricultural markets⁷.

By and large, the smallholder farmers have been finding it easier to produce horticultural crops than to sell them at remunerative prices⁸. Commission agents lend money and trap farmers for extracting their farm surplus⁹. However, the measures suggested in the repeated three Farm Acts 2020, can change the situation.

Several solutions have been suggested by the experts to make agricultural marketing convenient for smallholder farmers. Bringing more markets under regulation and enforcing stricter measures to ensure improved functioning of such markets are the most significant ones¹⁰. Recently, the Government of India has shown commitment to enhance farmers' income. Value addition of farm produce and getting higher market price have been two important components of this goal¹¹.

A consultation meeting of marketing experts from India was organized on-line on 21 June 2021, by the ICAR-Agricultural Technology Application Research Institute, Ludhiana, Punjab. The opinions and suggestions of the experts are also discussed in this note.

Growth of horticultural sector in India

The horticulture sector in India grew rapidly during 1995–96 and 2019–20. Fruit production in the country grew at an attractive compound annual growth rate (CAGR) of 4.41% during this period, whereas the CAGR of vegetable production was still higher at 4.54%. This is an indicator of higher demand for horticultural products in the country on account of the rising population as well as their higher per capita consumption over time. However, the price spread in the marketing channels of fruits and vegetables is increasing fast, and the benefits of higher prices paid by the

consumers are not adequately transferred to the producers.

Agricultural markets in Punjab

Punjab has a large network of primary agricultural markets (1390) along with the Apni Mandis or farmers' markets (488), where farmers directly sell their produce to the consumers. Recently, the Government of Punjab has initiated the ATMA Kisan Bazars (weekly markets) and ATMA Kisan Huts (regular shops) for enabling farmers to sell their produce directly to the consumers. Now the state has passed a separate legislation to make contract farming easy in order to provide an additional option to the farmers for selling their produce without the involvement of middlemen.

Linking farmers to the markets

Farmers can be linked to the markets through local traders, retailers, aggregators, cooperative societies/FPOs/FPCs/self-help groups (SHGs), agro-processors, exporters and contract-farming entities. However, identification of profitable markets for the farmers is a big challenge, and farmers should be educated about the niche markets (general), organic-produce markets (specific), trade fairs, export marketing, demand-creation techniques, brand-building and adding value to their farm produce for getting better prices. The capacity of linking agency, mutual trust among farmers, linking agency and linked entity, availability of finance, scaling-up capabilities and professional withdrawal of linking agency are important for the success of the entire process. Last but not the least, the vibrancy of the policy environment, legal/regulatory issues, the necessary infrastructure and institutional environment such as NGOs, KVKs, line departments, etc. play an imperative role in making this a successful model. However, several studies indicate that the transaction cost of linking smallholder farmers to the market is high¹¹⁻¹³. Taking into consideration its pertinence and imperativeness, the linkage of smallholder farmers to the market should be ensured through concerted efforts of policy-makers as well as implementing agencies¹⁴.

Enhancing pricing power

The pricing power of small farmers needs to be enhanced by promoting traceability of origin of the farm produce for ensuring

food safety (and for empowering the real farmers in farmers' markets), identification of niche products and their potential markets (with capacity-building and adequate hand-holding of farmers), promotion of brand-building (encouragement for maintaining quality standards), attractive packaging (with traceability and brand information) and processing (for mitigating price risk by processing of produce and using FPOs for selling). However, possibilities of increasing the number of outlets per FPO should be explored for pursuing this objective with more robustness.

Punjab has 2.29% of the Indian population and contributes 2.67% of vegetable production and 1.96% of fruit production to the national total. Some commodities like kinnow, pear, potatoes and green peas are produced in higher proportions for selling in other states (Table 1). Tomatoes are generally sold by the farmers in Apni Mandis in small proportions due to their perishability and the existing marketing pattern of this product. Hence, farmers should be encouraged to adopt the processing of tomatoes to earn higher price in local as well as export markets, and escape the ill-effects of market gluts. ICAR-Central Institute of Post-Harvest Engineering and Technology (CIPHET), Ludhiana, Punjab Agricultural University (PAU), Ludhiana, and Punjab Horticultural Post-Harvest Technology Centre (PHPTC), Ludhiana can play a decisive role in facilitating this.

The role of sorting, grading and packaging in generating better net profits for farmers is well known. Onions and potatoes, generally sold exclusively and not along with other vegetables, are also directly sold by the farmers at attractive prices in small proportions (Table 1). However, such farmers should be encouraged to sort and grade the produce before attractively packaging them (in suitable quantity denominations) for getting higher price in the market.

Green peas (0.8%) and cauliflower (1.2%) are commonly sold by the farmers along with other vegetables in Apni Mandis; but, only in small proportions (Table 1). Provision of better facilities in the markets will encourage more farmers to sell their produce for higher profits in such markets. Better sorting/grading of peas and cling wrapping of cauliflower (for prolonging freshness, and avoiding discolouration and bruising after harvesting) can go a long way in enhancing net price realization by the farmers.

The Punjab Marketing Board, with the help of KVKs, can sensitize and educate

farmers on the latest developments and requirements in relation to processing, sorting, grading and packaging of various horticultural products.

Creating a favourable market environment

The creation of a favourable market environment is important in order to ensure the economic empowerment of small and marginal farmers. This can be done through precise market intelligence inputs (a robust infrastructure for high-quality market intelligence on perishable and semi-perishable horticultural products is the need of the hour in India), making smart harvesting tools available to smallholder producers (to ensure minimum post-harvest loss and better price for kinnow, guava, mango, pear and litchi in Punjab), and quality marketing infrastructure in the form of state-of-the-art transport, cold storage and packhouses¹⁵.

A national-level, free-of-cost on-line trading platform for agricultural products of small and marginal farmers, similar to marketmirchi.com, needs to be developed for linking farmers/FPOs/FPCs/SHGs to the bulk buyers like government-run hostels, midday meal programme, function organizers, etc. The possibility of developing such platforms with the help of NABARD or other agencies can be explored.

Export marketing of agro-commodities not only helps the concerned farmers to get higher net income, but also strengthens positive sentiment about enhanced demand and better prices in the domestic market for that commodity. There is scope for enhancing the export of kinnow, kinnow products and tomato products from Punjab. Similarly, there is potential for exporting seed potato from Punjab to the neighbouring countries having similar agro-climatic conditions¹⁶, as seed-potato production in the state has greatly improved in the recent past¹⁷. The Punjab-Marketing Board and APEDA could develop strategies and plans for strengthening the export of these commodities.

Innovative thinking is an output of capacity-building and incentivization to innovate. This culture should be encouraged in a big way in the country, as the Indian economy has now developed to the level where further development will largely be driven by innovations¹⁸. To cite an example, processing of by-products is imperative as production of the main produce might not be sufficient for the smallholder farmers in

Table 1. Status of production and marketing of fruits and vegetables in Punjab, India

Crop (Punjab's share) (%)	Status of marketing and strategies/initiatives needed for improvement
Kinnow (>80%) (orange including kinnow (23.69))	Not sold in Apni Mandis; 0.5% directly sold to consumers; exclusive kinnow outlets; smart harvesting tools, improved grading, waxing, packaging and cling tray packing in consumer preferred numbers.
Guava (4.83)	Generally purchased by pre-harvest contractors; 0.3% directly sold to consumers; main focus on local markets; smart harvesting tools; post-harvest bruising can be controlled by cling tray-packing in consumer preferred quantities.
Mango (0.53)	Generally purchased by pre-harvest contractors; no data were available on direct marketing; NA; smart harvesting tools; sold locally.
Pear (21.37)	Generally purchased by pre-harvest contractors; NA; smart harvesting tools; sold in adjoining states.
Litchi (6.14)	Generally purchased by pre-harvest contractors; NA; main focus on local markets; smart harvesting tools; cool chain.
Potato (5.01)	Seed potato: Sold throughout India; NA; Punjab produces about 90% of national seed potatoes; great potential of exporting to neighbouring countries. Early potato (katchha alu): Sold in North East India; 0.1% directly sold to consumers; perishable; sold in all markets in northwestern India up to Delhi; market intelligence can save farmers from heavy losses. Processing quality potato: Sold directly to Pepsi Co, potato chips plant at Channo, Punjab similar to direct marketing; largely under contract farming.
Green peas (12.84)	Sold in all markets in NE India; 0.8% directly sold to consumers; better cleaning, sorting and packaging in consumer preferred quantities.
Cauliflower (3.91)	Sold in Punjab and adjoining states; 1.2% directly sold to consumers; cling packaging to avoid bruising and discolouration after harvesting.
Tomato (1.13)	Sold in Punjab and adjoining states; 0.7% directly sold to consumers; state-of-the-art processing for export and delayed domestic selling.
Onion (0.92)	Rarely sold by farmers; 0.4% directly sold to consumers; better cleaning, sorting and packaging in consumer preferred quantities; market intelligence.

Figures in the parenthesis reflect the share of Punjab in the national production based on data obtained from <https://www.indiastatagri.com>. Estimates of direct sale to consumers are derived from the data in Kaur²²; however, there are no reasons/developments to assume that the proportion might have significantly changed over time.

India. Further, the comparison of the nutritional status of the superfood quinoa with the Indian nutria-cereals clearly indicates the significance of marketing strategies and approaches for making a product truly international¹⁹.

Strengthening direct marketing

Apni Mandis were introduced with an aim to eliminate middlemen from the marketing process of small and marginal farmers by providing them with a place for selling their produce directly to the consumers. However, with the passage of time, the enthusiasm of farmers diminished due to difficulty in managing the production as well as marketing processes simultaneously, the inability to complete the buyers' purchase basket due to the limited number of commodities with them, inability to cope with adverse conditions in the market and incidences of some farmers purchasing produce from APMC mandis for selling in the Apni Mandis, thus defeating the basic objective of this innovative initiative. However, various issues and constraints related to Apni Mandis need to be addressed.

The weekly ATMA Kisan Bazaars (2018 onwards) and regular ATMA Kisan Huts (2011 onwards) were initiated by the Government of Punjab on the premises of the

District Agricultural Office by providing better facilities and market infrastructure to their registered farmers and self-help groups. Before the COVID-19 restrictions in early 2020, there were four such markets functioning in the state (with permanent structures and well laid-out stalls) along with about a dozen regular huts. After the restrictions are lifted, these markets/huts are expected to be further opened in other districts/cities of Punjab.

The roadside display model of direct marketing has been used by many farmers, but due to inadequate technical and institutional support, the intended results are not seen in many of the cases. Branded chain of roadside display outlets should be promoted for maintaining quality standards as well as for attracting and retaining the customer's interest in this type of buying experience.

Farmers have been using other innovative ways of directly selling their produce to the consumers through their visits to affluent residential colonies, delivery to the personally linked consumers, delivery to the social network group members and to the consumers directly visiting the farms for purchasing agri-products of their interest.

Direct marketing of agricultural produce is generally beneficial to farmers for the commodities which are produced in lesser

quantities than the local demand. For the agri-commodities which are produced in higher quantities than the local consumption, farmers can get higher net price even in the distant markets²⁰. Direct marketing provided the highest net price to the farmers when only the local marketing channels were compared^{21,22}. Hence, direct marketing might not be the most profitable option for smallholder farmers and a higher producer's share in the consumer's rupee as an indicator of farmers' welfare is not an undisputable standard.

Direct marketing model for kinnow

The innovative initiative of establishing Coconut Cafes on the highways in Karnataka²³ needs to be emulated by Punjab by opening of Kinnow Corners. These outlets can be specifically for kinnow and its products as Punjab is the sole producer of kinnow in the country, which contributes nearly two-thirds to the total fruit production in the state. Kinnow is mainly sold as fresh juice or fresh fruit in India. However, large a number of kinnow products such as 100% pure packed juice, ready to serve (RTS) drink (10% fruit part, 10% TSS) nectar (20% fruit part, 15% TSS), jam, jelly, marmalade, squash (25% fruit part, 40% TSS), burfi, syrup (25% fruit part, 60%

TSS), juice powder (spray-dried) for reconstruction, essential oil, beauty products, floor disinfectant/cleaner, etc. (pers. commun., Vikas Chopra, Department of Food Science and Technology, PAU, Ludhiana), are either not known or have less demand. The proposed establishment of Kinnow Corners under the technical support of PHPTC, Ludhiana; NABARD; ICAR-CIPHET, Ludhiana; Punjab Agro; PAU, Ludhiana and the Department of Horticulture, Punjab is expected to create fresh demand for kinnow in India.

Way forward

The Indian agricultural marketing system with its typical specificities has different realities and solutions than those applicable to the developed world. More than 125 million farm families in India, being small and marginal, are unable to efficiently market their produce, especially horticultural products. Although the Government of India and various state governments have supported these farmers through various initiatives such as direct marketing avenues, a lot needs to be done considering the present developments and needs of such farmers. Some important suggestions on the subject are mentioned below:

- (1) Linking farmers to potential markets requires adopting a host of measures. Development of a robust and free-of-cost trading platform can prove to be a game-changer for smallholder farmers.
- (2) FPOs are still evolving and need to acquire much stronger dimension as aggregators, processors and marketing agents of such farmers.
- (3) The Indian economy is at the take-off stage and frugal innovations will lead its future development process. Innovations in various marketing functions such as sorting, grading, packaging, labelling, handling, storage and transportation are the need of the hour.
- (4) A robust market intelligence system has tremendous potential of saving farmers from marketing risks by providing timely price signals to them.
- (5) We can guide our export strategies by taking the quinoa case study of export promotion through professional positioning into consideration.

- (6) Strengthening, renovating and promoting direct marketing infrastructure in the country is imperative to support smallholder farmers.
- (7) Enforcement to ensure traceability of source of production has a long-lasting impact on food safety and empowerment of the real farmers in the direct markets.
- (8) With the help of FPOs, the small and marginal farmers can go beyond the conventional norm of welfare maximization by ensuring a higher producer's share in the consumer's rupee, as higher net income can be generated through distant and export marketing.

Conflict of interest: The authors declare no conflict of interest.

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ACKNOWLEDGEMENTS. We acknowledge the intellectual inputs of Drs P. Chandra Shekara (MANAGE, Hyderabad), Nachiket Kotwaliwale (ICAR-CIPHET, Ludhiana), T. K. Behera (ICAR-IIVR, Varanasi), Sudha Mysore (Agri-Innovate India, New Delhi), Sukhpal Singh (IIM, Ahmedabad), K. Srinivas (IPTM, ICAR), V. Pandey (ICAR), H. S. Dhaliwal (PAMETI, Ludhiana), B. V. C. Mahajan (PHPTC, Ludhiana), Ramesh Mittal (NIAM, Jaipur), J. M. Singh (PAU, Ludhiana), Alka Singh (IARI, New Delhi), Shalander Kumar (ICRISAT, Hyderabad), Anjani Kumar (IFPRI, New Delhi), Shiv Kumar (ICAR-NIAP, New Delhi), S. Jayashekhar (ICAR-CPCRI, Kasaragod), H. S. Sidhu (GBDGNS Foundation, Ludhiana), Bhavani Shankar (NABARD, Mumbai) and Ms Pragati Gokhale (marketmirchi.com) during the on-line national consultation meeting.

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