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Ind. Jn. of Agri. Econ.
Vol.71, No.3, July-Sept. 2016

Institutional Innovations for Smallholder Development: A Case Study of Agri-Franchising in Bihar

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ABSTRACT

The low crop yields, increasing costs of cultivation, and the low price realisation have been important concerns in smallholder agriculture like that of India. Institutional innovations are important for inclusive agricultural development in India as they go beyond products and technology and are about ways of doing things. Contract farming has been studied as an institutional innovation in agribusiness but not agri-franchising though it is also an innovation in the field of agribusiness as it is about reaching farmers differently. This paper examines the effectiveness and inclusiveness of agri-franchising with the help of a case study from Bihar which is based on interviews with the franchisor (GAPL), its franchisees and a primary survey of its buying farmers and non-buying farmers in Bihar's two districts - Vaishali and Muzaffarpur - where it has substantial presence. It is found that the Dehaat (franchised outlet) farmers in general were larger than their non-Dehaat counterparts both in owned and operated land holdings. Very few farmers (9 per cent) reported that they could cut down the cost of cultivation due to the Dehaat based extension. But, more than 92 per cent farmers reported an increase in yields. The extension contribution of Dehaat is noteworthy as is its role in smallholder market linkage for output in the context of abolition of APMC Act in the state.The functioning of the Dehaat centres and the farmers uptake of it shows that the new channels can lead to more informed farmer level input use and realisation of higher prices in the smallholder context.

Keywords: Agri franchising, Agribusiness, Contract farming, India.

JEL: Q13, M13.

I

INTRODUCTION

The low yields, increasing costs of cultivation, and the low price realisation in small holder agriculture has been important concerns. This applies to all stakeholders, including private corporate sector involved in marketing of agricultural inputs and buying of farm produce. Small farmers in India are in dire stress due to low farm yields, unstable market prices and lack of various other support mechanisms in the presence of increasing costs of cultivation. The only way to help such farmers is to either help cut down their costs of production and marketing, provide stable and remunerative market access to improve price realisation or increase yields; or a combination of these measures. Therefore, there is a role for innovations, institutions, and institutional innovations in achieving inclusive agricultural development in the context of Indian agriculture.

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The author would like to thank the founders/office bearers and staff of Farms & Farmers (F&F) and the GAPL particularly Manish Kumar, Co-founder F&F, and GAPL franchisees for their support for fieldwork and Gurvir Singh for research assistance for the case study.

A novel idea implemented in a particular way can be considered an innovation if it is new in the context, even though it may not be new to the world (IICA, 2014, p.3). There are many types of innovations like technological, social, product, process, marketing, and organisational, and institutional innovation is one type. Institutions include both organisations and institutions and formal and informal 'rules of the game'. Institutions shape human interactions and, therefore, efficiency and productivity, and institutional innovations drive development. There could be path dependence in institutions (Ebbinghaus, 2005) versus innovations in institutions. Institutional innovations could be in land system, labour system, social systems and organisation of activity-production and marketing, including market and policy reforms, and innovations could take place in a top down or bottom up manner. Institutional innovations entail a change of policies, standards, regulations, processes, agreements, models, ways of organising, institutional practices, or relationships with other organisations, so as to create a more dynamic environment that encourages improvements in the performance of an institution or system to make it more interactive and competitive (IICA, 2014, p.4).

Major concerns in institutional innovations include: they generally take place outside the formal system to begin with; there is very little policy support before proven; market, social, or environmental entrepreneurship drivers of innovations; exclusion from and inclusion in institutional innovation which depends on type of crop, place, technology, market, and/or type and nature of organisation of activity; sustainability, and scale up of such innovations (Totin *et al*., 2012).

Contract farming has been studied as an institutional innovation in agribusiness (Vande Velde and Maertens, 2014), but not agri-franchising though it is also an innovation in the field of agribusiness (Stankovic, 2014) and has been proposed as an alternative to contract farming which fails for various reasons as there are low levels of involvement of the grower most of the time and possibilities of default on produce delivery and payments, besides short term contracts (Rudolph, 1999).

Agribusiness or agricultural franchising is quite new globally as well as in India, though it is quite commonly used in other businesses like fast food, hotel and other service industries where service quality is crucial to maintain brand equity. Major examples in food sector include: Subway, KFC, and Sankalp and Jumbo King. Franchising accounted for a significant percentage of gross domestic product (GDP) as well as employment in some countries like Australia, USA and Brazil ranging from 4-10 per cent of GDP and 2-6 per cent of employment in 2012. In India, it is still less than 2 per cent of GDP and less than 1 per cent of employment (KMPG and FAI, 2013). Franchising has emerged as an important alternative to other modes of market entry and presence like conventional distribution and own stores in farm supply sector as it helps scale compared with mainstream conventional distribution system and is lower cost compared with own or Company Owned Company Operated (COCO) stores (Table 1). As against COCO model, franchising offers low investment risk for franchisee, low incentive for free riding for both, low firm specific assets investment, and higher level of repeat business. For the franchisor, it offers capital for expansion, and better management by franchisee than employees (Brickley and Dark, 2003). Franchising helps franchisors spread faster in markets, achieve higher turnover, establish brand presence and leverage local resources and skills for growth of the brand without taking all the risks on their own. On the franchisee side, the advantages of franchising include access to credit, technology, market, marketing, and higher turnover (Fosu, 1989).

TABLE 1. A COMPARATIVE VIEW OF FRANCHISING AS A CHANNEL

Distribution channel > Parameter (1)	Conventional distribution (2)	COCO (3)	Franchising (4)
Cost/investment	Low	High	Medium
Scale up	Fast	Slow	Fast
Quality control	Low	High	Medium
Last mile reach	Low	Low	High
Ease of undoing	Low	High	Medium
Market risk	Low	High	High
Free riding	Medium	Low	High
Shirking	Low	High	Low
Quasi rent appropriation	Medium	Low	High

Source: Developed by author.

An agribusiness franchise can be defined as “a right, permission, or license (often established by contract) granted by an agribusiness firm (called the franchisor or franchising company) to another agribusiness firm (called the franchisee) for the latter to distribute, manufacture, and/or use the trade name of the former’s products and services usually in a specified territory assigned to the latter firm by the former firm” (Fosu, 1989, p.96). A franchise agreement includes: obligations of both parties, initial/later fees and mode of payment, identified/specified territory, specified duration, termination of agreement procedures, post termination confidentiality and procedure of arbitration. The basic features of a franchise include: ownership by franchiser of some idea/name/process/equipment, etc., grant of a license for the use/exploitation of such facility to the franchisee, rules of the game of concerned business between the two, and payment of royalty by the franchisee. It is different from an agent who is a person or agency with expressly given authority to act on behalf of the principal and there is no separation of agent from the principal in the eyes of the third parties. The agents do not take title to goods and can work for more than one party (principals). On the other hand, a franchise is a principal-to-principal relationship and franchisees usually do not deal with competing products. Thus, a franchisee is also different from a distributor who is an independently owned and financed business which is given certain distribution rights by the supplier for a specified product in a vendor-purchaser relationship and is not obliged to maintain only vendor's products/services unless it is exclusive distribution arrangement.A distributor takes title to goods supplied by the principal. Franchising format can be a distribution franchise, product manufacture franchise, trade name or brand franchise, service franchise or business format franchise or a mixture of these types depending on the specific case.

That agribusiness sector, including farm production services, is a relevant sector for franchising, that too business format franchising, has been argued well in a paper by Rudolph (1999) wherein he argues that it (agriculture) meets the necessary and the sufficient conditions for application of franchising strategy. The necessary conditions include: limited growth potential of an individual franchisee due to technological limits, availability of large number of potential franchisees to choose from the more suitable ones, existence of some feasible managerial and administrative function for franchising out for economies of scale and high switching cost, possibility of decentralised decision making for leveraging its benefit compared with a vertically integrated system, credit worthiness of franchisor in the presence of lack of it among franchisees, and irrelevance of idiosyncratic investments. On the other hand, additional or sufficient conditions include: possibility of multiplying learning effects and creation of competitive advantage through transfer of management skills and technology, pre-selecting the most talented franchisees to achieve dynamic competition, access to credit markets for franchisor, and use of franchising as a countervailing power to oligopolistic market power of the downstream players which are also met in the agribusiness sector (Rudolph, 1999).

There are only a few studies in other contexts (Africa and South Asia) which examine the performance of franchising in sub-sectors of agribusiness i.e. cattle feed (Fosu, 1989; McKague and Siddiquee, 2014) or document experience of designing and delivering a franchise system for hydroponic greenhouse business (Walliser, 2011).

In this perspective, this paper explores the various franchising models in the agro-input sector in India and examines their performance from secondary sources. It then profiles and analyses the Green Agrevolution Private Limited (GAPL) –an agri start-up's franchising model and its inclusiveness and effectiveness with the help of primary survey of its buying farmers and non-buying farmers in Bihar's two districts (Vaishali and Muzaffarpur) where it has substantial presence. Section II details out the methodology adopted for the case study, Section III analyses the South Asian and the Indian experience of agri-franchising, Section IV explores the GAPL model and Section V assesses the effectiveness and inclusiveness of the GAPL model. The final section concludes the paper with some policy implications.

II

METHODOLOGY

To begin with, the franchiser, i.e., GAPL was contacted and its founders and managers were interviewed over two days including a field visit to learn the spread of operations and the franchising model. Then, a few franchisees were selected and interviewed for understanding the franchise model and the franchisee perceptions of it. Table 2 below shows the profile of all the franchise centres (Dehaats) of the GAPL and Table 3 shows the profile of those interviewed for the case study. In order to assess the effectiveness of GAPL franchise operations and their inclusiveness, 95 farmers were interviewed across the two districts (44 in Vaishali and 51 in Muzaffarpur) which comprised those buying from franchisee outlets as well as those buying from other sources. Of the total, 56 (59 per cent) were franchise buyers and other 39 (41 per cent) non-franchise (non-Dehaat) buyers. This was similar across the two districts which were covered for this study (Table 4). Forty per cent, 42 per cent and 15 per cent each were marginal, small, and semi-medium farmers while 1 per cent medium farmers that too only in Muzaffarpur (only one farmer).

TABLE 2. DETAILS OF THE GAPL'S DEHAAT CENTRES IN BIHAR IN LATE 2014

Sr. No. (1)	Name of Dehaat (2)	District (3)	Started in (4)	No. of villages (5)	No. of farmers (6)	Average landholding (acres) (7)	Major crops (8)
1.	Ambara	Muzaffarpur	2013	14	271	2.69	Wheat, Paddy, Watermelon, Litchi
2.	Bishanpura	Vaishali	2014	20	303	1.55	Vegetables
3.	Bibipur	Vaishali	2013	26	155	3.53	Litchi, Mango, Vegetables
4.	Chhitri	Muzaffarpur	2014	14	299	2.6	Litchi, Paddy Wheat
5.	Gopalpur	Vaishali	2014	12	58	4.83	Vegetables
6.	Jafarpur	Vaishali	2013	68	360	2.7	Litchi, Vegetables
7.	Kanti	Muzaffarpur	2013	40	305	3.74	Wheat, Paddy, Maize, Litchi
8.	Pokhraira	Muzaffarpur	2013	11	206	2.25	Wheat, Paddy, Litchi, Mango
9.	Sitamarhi	Sitamarhi	2014	20	499	1.09	Paddy, Vegetables
10.	Hasanpur	Samastipur	2014	25	459	4.46	Wheat, Maize, Litchi, Vegetables
11.	Vaishali	Vaishali	2012	93	1153	2.43	Wheat, Paddy, Vegetables, Baby Corn
Total				343	4068	2.41	

Source: GAPL, Patna.

TABLE 3. A PROFILE OF FRANCHISEES OF GAPL

District (1)	Block/Village (2)	Year of start (3)	Education (4)	Operated land holding (5)	No. of tubewells owned (6)
Muzaffarpur	Ambara	2013	Graduate	2 (2)*	2
Muzaffarpur	Chhitri	2014	Higher secondary	3 (3)	1
Muzaffarpur	Pokhraira	2013	-Do-	3 (1)	0
Vaishali	Vaishali	2011	Graduate	1 (3)	1
Vaishali	Bibipur	2013	Post-Graduate	5 (5)	2

Source: Primay survey.
*Figures in parentheses are owned land.

TABLE 4. DISTRIBUTION OF SAMPLE FARMERS BY DISTRICT, FARM SIZE CATEGORY AND BUYER CATEGORY

		Dehaat		Non-Dehaat		Total	
District	Farm size category	Number	Per cent	Number	Per cent	Number	Per cent
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Muzaffarpur	Marginal	12	23.53	9	17.65	21	41.18
	Small	12	23.53	9	17.65	21	41.18
	Semi-medium	5	9.8	3	5.88	8	15.68
	Medium	1	1.96	0	0	1	1.96
Vaishali	Marginal	9	20.45	8	18.18	17	38.63
	Small	11	25	8	18.18	19	43.18
	Semi-medium	6	13.64	2	4.55	8	18.19
Total	Marginal	21	22.11	17	17.89	38	40.00
	Small	23	24.21	17	17.89	40	42.11
	Semi-medium	11	11.58	5	5.26	16	16.84
	Medium	1	1.05	0	0	1	1.05

Source: Primary survey.

III

AGRIBUSINESS FRANCHISING IN SOUTH ASIA AND INDIA

In Pakistan, Syngenta- an agricultural input company mainly into seeds and pesticides since 1972 with 22 per cent market share in 2010 has moved to the franchise system called *Naya Savera* (new dawn) from traditional dealer based selling of farm inputs.It has three categories of franchisees based on the scale of potential business in the area. The franchisee is provided a fixed commission of 8 per cent on the retail price and an additional 2 per cent for achieving sales targets at the end of the year, company support in promotion, has to comply with policy guidelines and has to contribute in providing advisory service to the farmers. The company started with 300 franchise outlets in 1997 and reached 700 by 2010. It has completely done away with the conventional dealers to sell Syngenta products. Even Bayer has moved into franchise system in Pakistan with its *Sohni Dharti* (beautiful land) stores as has FMC with its *Sunehra Daur* (golden age) stores (Riaz, 2010).

In Bangladesh, CARE international adopted micro-franchising to provide sustainable access to affordable and quality dairy inputs as a part of its efforts to build a dairy value chain of the poor rural households. It roped in 20 local upcoming feed and veterinary medicine shop owners (some run by its trained livestock health workers and others being dairy farmer community based feed shops) as micro-franchisees based on their proximity to its dairy project farmers, viability and potential growth of their existing business, and willingness to become franchisees under a common brand name- *Krishi Utsho* (agro source). CARE provided initial and annual refresher business training, distribution links with major feed and vet pharma companies, systems for inventory control and book keeping, attractive store design, common brand name and marketing assistance. The franchisees were allowed to sell to non-CARE project farmers to achieve economies of scale and financial viability. Some shops were owned by women livestock health workers and such trained worker shops also offered veterinary services as part of their services. The franchisees signed a formal written contract under which they had to pay an initial franchisee fee and a monthly fee and they were offered commission on sales of various products. The franchisor (CARE) also charged a commission to feed and vet pharma companies to cover its staff costs to some extent. The franchising arrangement led to 30 per cent increase in the turnover of these shops within six months. There are other potential services like sale of fodder seeds, forage cutting machines, on the spot lab analysis, financial services access, internet access and purchase of milk from dairy farmers which can also be taken up by franchisees to enhance their incomes from such shops (McKague and Siddiquee, 2014).

In India, there have been only a few experiments in agribusiness franchising in the recent past by some corporate agencies, both private and public, and small agri start-ups in India. These include: Indian Farmers' Fertiliser Co-operative (IFFCO) which franchised businesses like rake handling, transportation, and warehousing of fertilisers to 1307 Primary Agricultural Co-operative Societies (PACS), Mahindra Shubhlabh Services Limited (MSSL) which had more than 50 franchised outlets as one stop solutions for farmers mostly through *arthiyas* (commission agents) or large agro input dealers, National Agricultural Co-operative Marketing Federation (NAFED) – a government of India run co-operative agency) with 2,000 franchisees across eight states of India for selling of inputs especially fertilisers (supplied by IFFCO) and seeds, with 1,400 of them in Uttar Pradesh alone in early 2000s (Subramani, 2003), Tata Chemicals which by 2011, had 32 COCO hubs (Tata Kisan Vikas Kendras- TKVK, a mother center) and 681 franchised Tata Kisan Sansars (TKSs) covering 2.7 million farmers across 22000 villages across 88 districts (Kaegi, 2015), and a small private potato supply chain specialised company (Sidhhivinayak Agri Processing Private Limited (SAPPL)) which set up a network of 26 franchisees that provide farm input supply and produce buyback service to smallholder potato growers (Singh, 2013) (Table 5).

The franchise models differ in terms of franchisor entity, nature of franchisees, terms and conditions, and commodities and businesses undertaken ranging from large companies to small companies and co-operatives and startups as franchisors. On the other hand, franchisees are also varied in their size ranging from small farmers to formal firms and entities. The SAPPL franchise model was found to be more effective, as it is decentralised unlike the MSSL model, and does not rely only on existing institutions like the IFFCO model. It reached right upto village or village cluster level with 14 franchisees in one district unlike the single district based franchisee of MSSL. It did not rely on sub-franchisees to interface with the farmer. Further, unlike NAFED, it did not ask for minimum purchases. Also, NAFED and IFFCO franchises are more like exclusive dealer arrangements as they deal only with some farm inputs supplied by the franchisor. Further, SAPPL model covers both input and output sides of the value chain, at least of potato crop, unlike NAFED or

IFFCO which focus only on farm inputs (Table 5). For more details of these models and their assessment see, Singh (2014).

TABLE 5. A PROFILE OF VARIOUS FRANCHISE MODELS IN INDIA

Player > Major franchising aspect (1)	NAFED (2)	IFFCO (3)	TCL (4)	MSSL (5)	SAPPL (6)
Type of persons roped in as franchisee	Unemployed youth/ex-servicemen	PACS	existing agribusiness entities like input traders or output handlers	Farm input sellers/output traders/commission agents	Farmers/small input traders
Duration of contract	One year	Not known		Three years	Not specified
Initial fee/royalty /commission	Yes	No	An investment of Rs. 75, 000 and working capital Rs. 0.3 million by franchisee	Yes-both	Yes
Exclusive business	Yes	Yes but non-competing products allowed		No	No
Input linkage	Yes	Yes		Yes	Yes
Output linkage	No	No		Yes	Yes
Dispute resolution	Yes	N.A.		Yes	No

Source: Singh, 2014.

IV

GAPL AND ITS FRANCHISEE PROFILE

An agribusiness start up to facilitate farmers with better inputs and extension and markets in Bihar in India (GAPL) has used franchising model under which it runs 11 outlets/centres called Dehaat across four districts, which cater to a total of 4000 farmer members (who pay Rs. 200 annually each) with each in a 10-12 km. radius with services like soil sample analysis, crop selection, and technical support during the season and marketing of produce. Farms and Farmers (F&F) registered as a society since 2011 has its commercial arm, Green Agrevolution, which was set up in February 2012 and undertakes marketing and processing of farm output (Kumar, 2013). GAPL deals with Dehaat centres and sale and purchase of agri inputs and other commercial activities. The aim of GAPL is to provide ‘seed to market’ services to growers through the block level outlets called Dehaat which provide information about agricultural practices, prices, supply inputs and handle farmer produce besides providing extension. They target all three aspects of farmer enterprise – yield, cost and output price by undertaking all services related to crop production and its disposal through the franchised outlets called Dehaat which also offer services like soil testing, seed supply, irrigation, extension, market outlet, information about government schemes, contract farming and any other farmer related information. The company has already handled crops like litchi, paddy, baby corn, maize, mustard, and wheat for helping farmers with markets for their produce. It commits to offer higher than market price and make timely payment to the farmer for their produce with 50 per cent on the spot and rest within 15 days of purchase. A total 20 salaried employees work for F&F and GAPL with 8 regular employees and 12 in different projects of the two agencies.

GAPL went in for franchisee model as against COCO model as after two years of operations, it found that it could not reach all the farmers on its own. Even though its Dehaats are lower cost, it believes that outsiders cannot do good business in rural areas. Local people trust only locals and employee mentality will not work in such situations especially if it has to manage lower cost operations and still make impact and be viable. It earns less but also has less trouble due to franchisees. Scalability was an issue but training Dehaat operators and sharing profits with them has helped.

It sold only on cash to farmers though there was a need for financial linkage as farmers were not able to buy on cash from Dehaat. In May-June 2014, it started supply of bio-inputs. Only seeds were supplied earlier. No chemical fertilisers are supplied because of government licensing regulations and a general shortage of these inputs in the peak season. This made it difficult for it to handle it. GAPL is going step by step to scale up its market by introducing seeds first, then bioinputs and then chemical inputs. GAPL is promoting organic farming by organising monthly training/seminars for farmers at each Dehaat centre, and helping them to get all bio-inputs (some with government subsidy). Funding was the first issue not to introduce the chemical products in the beginning, and then government licensing issues came up. The biggest obstacle for company operations is the funding. F&F also started working with a government project related to livelihood generation for rural BPL (below poverty line) women named *Ganga ke Maidani Bhaagon me Mehla Sashaktikaran* (Women empowerment in the plains of the Ganges) through NABARD. Initially, it worked on creating SHGs and their bank linkage. Dehaat started helping women in growing vegetables with scientific method. They also introduced goat rearing for women members. Dehaat centres run this project with the help of NABARD. There are 2000 women members working with this project from two districts (1000 from each district with 500 each in vegetable farming and goatery each). The Dehaat model is also being replicated in Nepal with a prize won by the agency. It has promoted a Producer Company each in honey, litchi and vegetables.

All 11 Dehaat centres in 2013-14 were franchises with GAPL. Each franchisee runs only one Dehaat centre or outlet. Most of the Dehaat centers are operated from the franchisee's own premises to reduce the operational cost. A Dehaat center covers an area of 5 kms. around it for its operations. Within this radius, normally 15-20 villages are covered for Dehaat operations. Each Dehaat covers many villages like Vaishali caters to 93 villages though many of these are local settlements, not revenue villages. Each village has 15-25 Dehaat farmers on an average ranging from only 5-6 farmers to many dozen farmers each. A basic criterion for every Dehaat is to cover up to 500 farmers around it but the area and number of villages may vary depending on the density of population. Price of inputs is decided by GAPL to control and check whether Dehaat operators are selling at the determined price. Three Dehaats have the license to sell agri inputs, while other non-licensed Dehaat centres are only working as intermediaries to supply the inputs to the farmers from GAPL. Dehaats are catered to and monitored by the Centre coordinator who looks after all 10 Dehaats. A centre co-ordinator can take care of 20 Dehaat though that will affect the number of visits to Dehaat. Vaishali is the first center which is operated by three salaried employees- one Nodal Officer, One Dehaat Co-ordinator and one office boy. Old Dehaat centres need more care as farmer members and volumes are higher there as against new ones. The products are dispatched to them or they pick up from the centre. Farmers demand quality products and those are supplied accordingly though GAPL also promotes better quality products proactively. Each Dehaat is visited weekly by the coordinator who also participates in farmers' meet and visits farmers when there is a problem. There is a product exchange and movement across Dehaats when there is shortage of some of them. The promotion is carried out by the Dehaat operator and also by word of mouth by farmers who are already members of the Dehaat.

Soil testing is carried out on payment basis at the rate of Rs. 60 per sample with the help of agricultural universities or *Krishi Vigyan Kendra* (KVK) labs. GAPL could have sold more inputs, if not doing services like soil and water and extension. But, GAPL focuses on multiple services to give complete solutions to the farmers.

In 2013-14, its turnover was Rs. 3 million. Agri input sales were 15-20 per cent of the total revenue. Seventy five per cent of revenue was from output handling and 5 per cent from consultancy. Its share in total cost of input use at farmer level is 10-20 per cent wherever it operates. It is also into wheat and paddy seeds and other inputs as many farmers only grow that and it wants to attract them through these crop dealings to begin with. More paying are agri input sales but perishables like litchi are even more profitable than agri inputs. Dehaat operator preferences make/decide the portfolio of activities in each centre. No outlet has input sales of more than 30 per cent of the total. Vegetable seeds are a big deal in some centres. But, input sales cannot grow as percentage of total revenue as output is more in volume and high value. If services are charged, input would be still lower in percentage. The focus is on value chain, not just input selling.

F&F profiled the farmers with more information before they were enrolled as members. The F&F farmer registration fee was Rs. 100 per season which used to be Rs. 100 per year earlier. The members numbered 4000 in late 2014. Besides, there were non-members who did not buy many inputs but there were 1000 such non-members who sold their output and 2000 such farmers use F&F training and helpline facilities. Members were given preference in sale of inputs and purchase of output and were organised into farmer clubs. The farmers were enrolled with information on their address, personal details, photo and their occupation and given a code and registration number. The form was signed by both the farmer and the agency representative. It also had information on a farmer's sources of inputs like seed, income from farming, number of cattle, place of sale of produce and the agency, occupation other than farming, interest in other occupations and technologies, source of irrigation, whether s/he got soil tests done, was member of any farmer club or SHG, practiced organic farming, had received any training, was willing to try new crops or tried new farming methods and whether had ever tried it, whether leases in land and if so, how much and whether he was aware of the government schemes. The details of cropping pattern were also obtained and for each crop, source of seed, yield and place of sale of produce and price received were also sought for each season. Information on horticulture is sought separately in terms of area, number of tress, and marketing channel and price obtained for these produce.

It also bought back non-chemical produce like water lemon from the farmers at a premium and sold in local market. It also promoted and bought a new paddy variety with buy back arrangement. It supplied grain produce to processors like Godrej for feed (maize) and to some exporters. The prices paid to farmers were *mandi* price based. It had Nectar brand to sell honey and *makhan*a (fox nut).

It recognised that the variety of inputs needs to be increased for scale up and higher market share. Its focus is on the service for every need of a producer and based Dehaat revenue on input sales as that was more assured market. Cattle feed was an important input as every farmer had some animals. It has been able to leverage government subsidy for farmer training through Agricultural Technology Management Agency (ATMA) and has received 30 per cent subsidy on cold chain facility, besides crate subsidy for vegetable farmers from National Horticulture Mission (NHM) under the Union government's vegetable initiative. It is of the view that it needs to attract more corporates for better viability.

4.1 *The GAPL Franchisee Model*

There are some minimum conditions for choosing a franchisee like integrity and commitment besides capability to run the franchise. Therefore, there is age specification for a franchisee, educational qualification (10th or 12th pass) with five year vocational experience, non-political but good social reputation besides ability to deal with people and some experience of running an enterprise or working with a rural business for at least one year. There should not be another Dehaat in 10 sq. km. area near the franchised Dehaat. The agreement seeks that franchisee would provide space for setting up the Dehaat and, if hired, pay rent for it. The franchisee is to promote Dehaat among farmers and make them members, convey farmer need for various services like input supply, extension and sale of produce to the company office bearers and also monitor the crops grown by farmers from time to time. He would also organise farmers into farmer clubs or SHGs of 10-15 each and hold their meetings weekly or fortnightly and help solve their farming related problems or approach the company (franchisor) for the same.

A member farmer would maintain a card in which all transactions with farmer members by Dehaat would be recorded on a regular basis by the franchisee. The renewal of these cards annually was also franchisee responsibility and all old cards were to be deposited with the company. All the products/services to be sold from the Dehaat outlet were to be with the permission from the company (GAPL) and the list of products/services to be transacted was to be jointly decided by the franchisee and the company and was renewable from time to time. The sale of any product/service was to be with a receipt to the farmer or any other receipt or sale was to be with bill/invoice only. The company was to decide the prices of all products sold from the Dehaat outlets. All profits from Dehaat were shared between the company and the Dehaat franchisee on mutually agreed basis depending on the product or service but generally franchisee was to get at least 75 per cent of profits. All sales returns could be made only within a week of delivery to the franchisee if the company had been informed of it.

The company would help franchisee in getting access to finance for better running of it but it did not promise it in anyway. Each franchise would stick to the outlet working hours after mutually agreeing on it failing which franchise could be withdrawn. All supplies to franchisee were made on 50 per cent advance payment and the rest 50 per cent within seven days after delivery of products. The franchisee was to provide all the Dehaat connected farmer related information to the company on a regular basis and had to participate in all meetings organised by the company. He was to follow all instructions given by the company. The franchise was withdrawn if the franchisee undertook any unauthorised activities, sold any product or service without approval, misbehaved with farmers, cheated farmers, participated in any political activities, or did not achieve targets continuously for three months. If he was found to do any financial misappropriation, then franchise was withdrawn and legal action taken. The company was to provide all promotional materials to the Dehaat outlet and train the franchisee in English language, computer operations and accounting and provide hands on training at another Dehaat. In the first four months, the franchisee was to work under an induction program of the company on a pilot project on successful completion of which the franchise was granted.

Earlier franchisees paid only Rs. 10,000 and input supply was on credit which led to problem of loan recoveries, but new Dehaat franchisees pay Rs. 50,000 as security of which Rs. 25000 is used to provide inputs on credit. They can run the business from home also. Formal outlet is not a must. There is a formal franchise agreement with Dehaat operators. Profits are shared with Dehaat operators depending on the activity and all franchises have similar terms. In paddy, each Dehaat gets per tonne commission on procurement. There is no progressive payment system to encourage better performance as of now. New and old Dehaats were treated the same way. It was just based on the number of farmers served and volumes sold or bought. Inventories at Dehaat level were very low. The inputs were sold to them on cash basis but a return was guaranteed within a week, if not sold. Nodal office had more inventories but not Dehaat which had only inventory for a week or less. 5-7 per cent of sold materials were returned and these were sold to other outlets.

The franchisees were fairly educated with graduate or post graduation in majority cases and all had attended one week Dehaat training to begin with. They reported working from 8 hours to as many as 14 hours for their business. All of them were land owners and operators and had tubewell owned in most cases, except one. Only two had tractors. Though they grew predominantly wheat and paddy but some of them did grow new and high value crops like green gram, maize, potato and other vegetables (Table 3).

Most of the franchisees had tried introducing new inputs in the last season except one and this ranged from 5-20 products and these were there last year as well, and as many as 20-100 farmers had bought such products in each case. Further, all of them had purchased output and had bought one-three crops each either directly or under a contract farming arrangement for the franchisor who in turn sold it to the ultimate buyer. They also claimed that the price paid to the farmers under such an arrangement was higher than the market prices in all cases. No franchisee undertook water testing. All provided advice on use of fertilisers/crop protection/agri machinery, field demo/trails of farm inputs, information about innovative/improved methods of agricultural practices, information about government schemes (subsidies), technology, information about output price and marketing/sales support for output and only one had taken farmers for exhibition visit/agricultural fair.

All franchisees sold 4 or 5 products which included seeds, bio-fertilisers, bio-pesticides, biofungicides and plant growth promoters. Seeds were the most common products with all or at least four selling them followed by biopesticides and Plant Growth Promoters (PGPs), and bio-fungicide being the least common among franchises with four selling one such product each.

V

FARMER LEVEL ASSESSMENT OF FRANCHISE OPERATIONS

Most of the interviewed farmers were marginal or small among both categories given the profile of farmers in Bihar in general. The farmers in Bihar are generally smallholders, with 92 per cent operating less than two hectares. But, Dehaat farmers in general were larger than their non-Dehaat counterparts both in owned and operated land holdings. Whereas overall owned land on an average was 3.33 acres, it was 3.71 acres for Dehaat buyers and 2.78 acres in case of non-Dehaat farmers. Further across districts, it was 3.48 acres for Dehaat versus 2.63 acres for non-Dehaat in Muzaffarpur and in Vaishali, it was 3.98 acres versus 2.96 acres respectively. Operated holdings came out to be 3.63 acres on an average but 3.89 acres and 3.27 acres for Dehaat and non-Dehaat categories respectably. Muzaffarpur had even larger departure from average of 3.62 acres with Dehaat going up to 3.91 acres and non-Dehaat 3.2 acres with that in Vaishali being 3.87 acres and 3.35 acres respectively with overall average size being 3.65 acres. This also shows some amount of leasing in practice which is about 9 per cent of total operated land (Table 6). In general, Dehaat farmers cultivated more area under high value crops like fruits, vegetables, potato and maize than their non-Dehaat counterparts. Further, small farmers in general had larger proportion of their area under vegetables than the other categories though their absolute average area was smaller than those grown by other categories and this held across districts.

TABLE 6. DISTRIBUTION OF FARMERS BY DISTRICT ANDOWNED AND OPERATED LAND HOLDING CATEGORY

Category> District, category, no. of farmers in each district and type, area share and average land operated (owned) (1)	MF (2)	SF (3)	SMF (4)	MF (5)	Total (6)
Muzaffarpur	29 (21)	13 (21)	8 (8)	1 (1)	51 (51)
Land (in acre)	42.75 (38.5)	54.5 (81.5)	49.5 (51.5)	13 (13)	159.75 (184.5)
Average	1.47 (1.83)	4.19 (3.88)	6.19 (6.44)	13 (13)	3.13 (3.62)
Dehaat buyer	15 (12)	9 (12)	5 (5)	1 (1)	30 (30)
Land (in acre)	22.5 (21.75)	38.5 (50)	30.5 (32.5)	13 (13)	104.5 (117.25)
Average	1.5 (1.8)	4.28 (3.2)	6.1 (6.5)	13 (13)	3.48 (3.91)
Non-Dehaat buyer	14 (9)	4 (9)	3 (3)	0 (0)	21 (21)
Land (in acre)	20.25 (16.75)	16 (31.5)	19 (19)	0 (0)	55.25 (67.25)
Average	1.45 (1.86)	4 (3.5)	6.33 (6.33)	0 (0)	2.63 (3.2)
Vaishali	18 (17)	18 (19)	8 (8)	0 (0)	44 (44)
Land (in acre)	28.75 (30.75)	71.75 (75)	56.5 (55)	0 (0)	156.75 (160.75)
Average	1.6 (1.81)	3.97 (3.95)	7.06 (6.87)	0 (0)	3.56 (3.65)
Dehaat buyer	8 (9)	12 (11)	6 (6)	0 (0)	26 (26)
Land (in acre)	13.5 (16)	46.5 (42.5)	43.5 (42)	0 (0)	103.5 (100.5)
Average	1.69 (1.79)	3.87 (3.86)	7.25 (7)	0 (0)	3.98 (3.87)
Non-Dehaat buyer	10 (8)	6 (8)	2 (2)	0 (0)	18 (18)
Land (in acre)	15.25 (14.75)	25 (32.5)	13 (13)	0 (0)	53.25 (60.25)
Average	1.52 (1.84)	4.17 (3.06)	6.5 (6.5)	0 (0)	2.96 (3.35)
All	47 (38)	31 (40)	16 (16)	1 (1)	95 (95)
Land (in acre)	71.5 (69.25)	126 (156.5)	106 (106)	13 (13)	316.5 (345.25)
Average	1.52 (1.82)	4.06 (3.91)	6.62 (6.66)	13 (13)	3.33 (3.63)
Dehaat buyer	23 (21)	21 (23)	11 (11)	1 (1)	56 (56)
Land (in acre)	36 (37.75)	85 (92.5)	74 (74)	13 (13)	208 (217.75)
Average	1.56 (1.8)	4.05 (4.02)	6.7 (6.7)	13 (13)	3.71 (3.89)
Non-Dehaat buyer	24 (17)	10 (17)	5 (5)	0 (0)	39 (39)
Land (in acre)	35.5 (31.5)	41 (64)	32 (32)	0 (0)	108.5 (127.5)
Average	1.48 (1.85)	4.1 (3.76)	6.4 (6.4)	0 (0)	2.78 (3.27)

Note: Figures in parentheses are for operated land.

But, in general, Dehaat farmers had lower cropping intensity than the non-Dehaat counterparts across both the districts. One reason for this could be the higher area under fruit crops which were perennial or annual crops. But, across both the categories, marginal and small farmers had a higher cropping intensity than that of other categories (Table 7). This is quite expected as small farmers are more intensive cultivators of their smaller plots.

TABLE 7. DISTRICT AND FARMER CATEGORY WISE CROPPING INTENSITY

District/Category (1)	Gross sown area (2)	Net sown area (3)	Cropping intensity (4)
Muzaffarpur	416.5	184.5	2.26
Dehaat	254.5	117.25	2.17
Non-Dehaat	162	67.25	2.41
Marginal farmers	99	38.5	2.57
Small farmers	193.5	81.5	2.37
Semi medium farmers	106	51.5	2.06
Medium farmers	18	13	1.38
Vaishali	377.25	160.75	2.35
Dehaat	230.5	100.5	2.29
Non-dehaat	146.75	60.25	2.44
Marginal farmers	80.25	30.75	2.61
Small farmers	176	75	2.35
Semi medium farmers	121	55	2.20
Total	793.75	345.25	2.30
Dehaat	485	217.75	2.23
Non-Dehaat	308.75	127.5	2.42
Marginal farmers	179.25	69.25	2.59
Small farmers	369.5	156.5	2.36
Semi medium farmers	227	106.5	2.13
Medium farmers	18	13	1.38

More than half of the farmers (combined) bought farm inputs on credit, however, this practice was a bit more common among farmers in Vaishali than those in Muzaffarpur. Dehaat farmers were more interested in using cash sources than non-Dehaat farmers in Muzaffarpur. About 60 per cent of Dehaat farmers bought using both cash and credit and most of them were marginal and small farmers (Table 8).

Only 10.7 per cent of the farmers faced shortage of agri-inputs at Dehaat and the major shortage was that of seeds. However, the instances of shortage were relatively more in Vaishali (19 per cent farmers)) than in Muzaffarpur (3 per cent). More than 80 per cent of the Dehaat farmers in both the districts were aware of the company behind Dehaat. Small farmers could be ranked first regarding this awareness followed by marginal and semi-medium farmers across both the districts. Only 10 per cent of the Dehaat farmers (combined) faced shortage of agri-inputs. However, this figure was double in case of Vaishali (19 per cent) and most of the farmers facing this shortage were marginal farmers and the reason they mentioned was non-availability of specific variety of input.

Eighty two per cent of the non-Dehaat farmers knew about Dehaat and of those who knew, 46 per cent visited the Dehaat outlets (Table 9). However, the Dehaat awareness was higher among non-Dehaat farmers in Vaishali. Among those who knew about Dehaat, the most frequent were marginal farmers followed by small and medium holders in both the districts. However, of those who visited the Dehaat, small holders were more prominent than marginal and semi-medium holders across both the districts. Of those who visited, about one-third farmers found the Dehaat products spurious and this observation was higher among Vaishali farmers than that among

TABLE 8. DISTRICT AND FARMER CATEGORY-WISE (DEHAAT AND NON-DEHAAT AND FARM SIZE) DISTRIBUTION OF FARMERS BY TERMS OF PURCHASE

District no. of buyers and percentage in total		Category of farmers						Category of Dehaat farmers									
		Dehaat farmers		Non-Dehaat farmers		Total		Marginal farmers		Small farmers		Semi medium farmers		Medium farmers		Total	
		Cash	Both cash and credit	Cash	Both cash and credit	Cash	Both cash and credit	Cash	Both cash and credit	Cash	Both cash and credit	Cash	Both cash and credit	Cash	Both cash and credit	Cash	Both cash and credit
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Muzaffarpur	No.	12	18	12	9	24	27	6	6	3	9	2	3	1	0	12	18
	Per cent	23.53	35.29	23.53	17.65	47.06	52.94	20	20	10	30	6.67	10	3.33	0	40	60
Vaishali	No.	10	16	8	10	18	26	4	5	5	6	1	5	0	0	10	16
	Per cent	22.73	36.36	18.18	22.73	40.91	59.09	15.38	19.23	19.23	23.08	3.85	19.23	0	0	38.46	61.54
All	No.	22	34	20	19	42	53	10	11	8	15	3	8	1	0	22	34
	Per cent	23.16	35.79	21.05	20	44.21	55.79	17.86	19.64	14.29	26.79	5.36	14.29	1.79	0	39.29	60.71

Muzaffarpur ones. About 10-16 per cent farmers across both the districts could not find the products they visited for.

TABLE 9. DISTRICT –WISE AND CATEGORY-WISE DISTRIBUTION OF NON-DEHAAT FARMERS BY AWARENESS ABOUT DEHAAT, VISITS TO DEHAAT AND REASONS FOR NON-PURCHASE FROM DEHAAT

Awareness, visit and reasons >	Aware		Visited		Reasons for not buying from Dehaat	
Category and district	Yes	No	Yes	No	Spurious products	Products not available timely
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Muzaffarpur	15	6	8	7	6	2
Percentage	71.43	28.57	38.10	33.33	28.57	9.52
Marginal farmers	6	3	2	4	2	0
Percentage	28.57	14.29	9.52	19.05	9.52	0
Small farmers	5	2	4	1	2	2
Percentage	23.81	9.52	19.05	4.76	9.52	9.52
Semi medium farmers	4	1	2	2	2	0
Percentage	19.05	4.76	9.52	9.52	9.52	0
Vaishali	17	1	10	7	7	3
Percentage	94.44	5.56	55.56	38.89	38.89	16.67
Marginal farmers	8	0	3	5	2	1
Percentage	44.44	0	16.67	27.78	11.11	5.56
Small farmers	7	1	5	2	3	2
Percentage	38.89	5.56	27.78	11.11	16.67	11.11
Semi medium farmers	2	0	2	0	2	0
Percentage	11.11	0	11.11	0	11.11	0
All	32	7	18	14	13	5
Percentage	82.05	17.95	46.15	35.90	33.33	12.82
Marginal farmers	14	3	5	9	4	1
Percentage	35.90	7.69	12.82	23.08	10.26	2.56
Small farmers	12	3	9	3	5	4
Percentage	30.77	7.69	23.08	7.69	12.82	10.26
Semi medium farmers	6	1	4	2	4	0
Percentage	15.38	2.56	10.26	5.13	10.26	0

Each farmer was visited at least three time in a crop season by the Dehaat staff. About 43 per cent of the farmers had their soil tested. Relatively, Dehaat farmers were found to be more inclined towards soil testing across both the districts. About 32 per cent farmers in Muzaffarpur got their soils tested whereas the corresponding figure for Vaishali was 57 per cent. Dehaat, as a soil testing agency, was a preferred destination in Vaishali than in Mazaffarpur. Of those who got their soils tested in Muzaffarpur, only 8 per cent found it beneficial whereas this figure was 18 per cent in Vaishali. Probably, Dehaat soil testing system was more credible than that of a government department. About 40 per cent of the farmers had a membership of a Dehaat farmer group and a large proportion of that was composed of marginal and small farmers. More than three times of the farmers in Vaishali (61 per cent) had this membership when compared to Muzaffarpur (20 per cent). However, in both the districts, the semi-medium farmers were the least interested in Dehaat farmer group membership. More of marginal farmers in Muzaffarpur were members of this group whereas in Vaishali, small farmers had a higher membership rate.

Very few farmers (9 per cent) reported that they could cut down the cost of cultivation through the intervention of the Dehaat extension. The instances were a bit more common in Vaishali. However, the landholding size had no significant effect on it. Of those, who reported reduction in cost of cultivation in Muzaffarpur, all cited "proper utilisation of resources" as a reason whereas, as a compete contradiction, everyone in Vaishali attributed it to use of new techniques.

More than 93 per cent farmers reported an increase in yields though this number was a bit lower in Muzaffarpur (87 per cent) when compared to Vaishali where all farmers reported an increase. In most cases, this increase was upto 15 per cent and those who reported an increase in yields between 15-30 per cent, were located in Vaishali only. The prevalence of these phenomena was more common among marginal and small holders compared to that among semi-medium and medium farmers. About one-fifth of the farmers in both the districts confirmed that the Dehaat could help them in crop selection and this help worked more in case of Kharif crop selection. Smallholders (9 per cent) could benefit more from this advice than marginal and semi-medium farmers (5 per cent) though the level of dissemination varied across districts as marginal and smallholders had benefited equally in Vaishali. During both the seasons and across both the districts, this help was taken by more farmers during the last season than this season.

About one-third of the farmers attended training by F&F and it was more about Kharif crops. Small farmers were the largest group to get the training followed by semi-medium and marginal farmers. Twenty six per cent of farmers, who attended the training mostly at the Dehaat centres, reported that it was on new crop varieties whereas 12 per cent found it on new cropping techniques. The cases of training were higher in Vaishali (50 per cent) than in Muzaffarpur (27 per cent). In Muzaffarpur, more of marginal and small holders got that training whereas in Vaishali, it was more prevalent among small and medium holders. About 43 per cent of the farmers received marketing/sales support from Dehaat with small holders being the largest group followed by marginal and semi-medium.In both the districts, small holders formed the largest group enjoying that support, though in Muzaffarpur, they were followed by marginal farmers and in Vaishali, by semi-medium ones (Table 10).

Across both the districts, seed was found to be the primary reason among farmers to be associated with the Dehaat. For more than 60 per cent of the farmers in both the districts, seeds remained the prime attraction. However, more of semi-medium farmers in Vaishali than in Muzaffarpur were attracted towards Dehaat due to seeds. Better seeds and bioinputs, and better seeds and new information were the second and the third most sought after services.

TABLE 10. DISTRICT AND CATEGORY WISE DISTRIBUTION OF DEHAAT FARMERS BY TYPE OF BENEFIT OF WORKING WITH DEHAAT

Benefit type > District/Category (1)	Better seeds (2)	New information (3)	Marketing support (4)	Better seeds and bio inputs (5)	Better seeds and new techniques (6)	Better seeds and new information (7)	Better seeds and marketing support (8)
Muzaffarpur	20	1	1	3	2	1	2
Percentage	66.67	3.33	3.33	10	6.67	3.33	6.67
Marginal farmers	10	1	0	0	1	0	0
Percentage	33.33	3.33	0	0	3.33	0	0
Small farmers	8	0	1	1	1	0	1
Percentage	26.67	0	3.33	3.33	3.33	0	3.33
Semi Med farmers	2	0	0	2	0	1	0
Percentage	6.67	0	0	6.67	0	3.33	0
Medium farmers	0	0	0	0	0	0	1
Percentage	0	0	0	0	0	0	3.33
Vaishali	16	1	0	5	0	4	0
Percentage	61.54	3.85	0	19.23	0	15.38	0
Marginal farmers	5	0	0	2	0	2	0
Percentage	19.23	0	0	7.69	0	7.69	0
Small farmers	6	1	0	3	0	1	0
Percentage	23.08	3.85	0	11.54	0	3.85	0
Semi med farmers	5	0	0	0	0	1	0
Percentage	19.23	0	0	0	0	3.85	0
All	36	2	1	8	2	5	2
Percentage	64.29	3.57	1.79	14.29	3.57	8.93	3.57
Marginal farmers	15	1	0	2	1	2	0
Percentage	26.79	1.79	0	3.57	1.79	3.57	0
Small farmers	14	1	1	4	1	1	1
Percentage	25	1.79	1.79	7.14	1.79	1.79	1.79
Semi medium farmer	7	0	0	2	0	2	0
Percentage	12.50	0	0	3.57	0	3.57	0
Medium farmers	0	0	0	0	0	0	1
Percentage	0	0	0	0	0	0	1.79

VI

CONCLUSIONS AND POLICY IMPLICATIONS

GAPL went in for franchisee model as against COCO model as after two years of operations, it found that it could not reach all farmers on its own. Even though its Dehaats were lower cost, it is believed that local people trust only locals and employees' mentality would not work in such situations especially if it had to manage lower cost operations and still make impact and be viable. It earned less but also had less trouble due to franchisees. Scalability was an issue but training Dehaat operators and sharing profits with them was desirable.

The farmers in Bihar are generally smallholders with 92 per cent operating less than two hectares. But, Dehaat farmers in general were larger than their non-Dehaat counterparts both in owned and operated land holdings. About 60 per cent of Dehaat farmers purchased inputs using both cash and credit and most of them were marginal and small farmers. Only 10 per cent of the farmers faced shortage of agri-inputs at Dehaat and the major shortage was of seeds. However, the instances of shortage were relatively more in Vaishali than in Muzaffarpur. More than 80 per cent of the Dehaat farmers in both the districts were aware of the company behind Dehaat. Of those who knew, 46 per cent visited the Dehaat outlets. However, this prevalence was higher among non-Dehaat farmers in Vaishali. Among those who knew about Dehaat, the most frequent were marginal farmers followed by small and medium holders in both the districts. However, of those who visited the Dehaat, small holders were more prominent than the marginal and semi-medium holders across both districts and of those who visited, about one-third farmers found the Dehaat products spurious and this observation was higher among Vaishali farmers than Muzaffarpur ones.

Very few farmers (9 per cent) reported that they could cut down the cost of cultivation due to the Dehaat extension. But, more than 92 per cent farmers reported an increase in yields. About one-fifth of the farmers in both the districts confirmed that Dehaat could help them in crop selection and this help worked more in case of *kharif* crop selection. About one-third of the farmers attended training by F&F and it was more in case of *kharif* crops. Small farmers were the largest group to receive the training followed by semi-medium and marginal farmers. About 42 per cent of the Dehaat farmers received marketing/sales support from Dehaat with small holders being the largest group followed by marginal and semi-medium (in equal numbers).

The above summary of findings of franchise operations and their farmer level impact shows that the franchise model is working but needs improvement for more effective farmer level impacts especially on small farmer livelihoods. The extension contribution of Dehaat is noteworthy as extension is more by default than by design in the mainstream agri input marketing channels (Kaegi, 2015). On the other hand, in the context of abolition of APMC Act in the state, Dehaat is making an important contribution by facilitating a new and more direct market linkage for small farmers in new and high value crops which need prompt handling.

The functioning of the Dehaat centres and the farmer uptake of it shows that new channels can lead to more informed farmer level input use and realisation of higher prices in smallholder context. But, as revealed by GAPL case study, the shortage of capital to scale up such innovative initiatives remains an issue. It is here that investment support for agri startups is needed and the startup fund can be channelised to such innovative agencies. Further, as the Ministry of Agriculture recently made a degree in agricultural sciences mandatory to obtain a farm input distribution license, such agencies can fill the space and step in larger numbers to provide more effective and timely extension backed by farm input supply and output handling services.

Further, large agri input agencies can be encouraged to work with such small scale yet promising players to give them support in distribution and new product handling as they have more qualified staff and can educate farmers about new products adequately. Further, agro input subsidy should be delinked from input sale and rather be given for creation of market for more sustainable farm input products so that marketing and selling pressures do not come in the way of creation of markets for new products for sustainability.

Another inference from the Bihar case study is that despite all the failures of many large scale agencies in delivering total solutions to farmers, the objective remains important and it is crucial to find new ways of meeting this need as it is only through market oriented farm production and its handling that smallholders can stay put in and earn a decent livelihood from farming. On the other hand, producers' agencies need to work with such initiatives to lower the cost of operations and get a win-win situation for all involved, especially in arrangements like franchising. Such players can leverage the government schemes for such producer collectivisation and handholding for some time and for building local platforms for better market interface so far as timely, quality and cost effective agro input delivery is concerned.

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