

Full Length Research Paper

Engaging agro dealers in agricultural extension service and value chain development: An Approach to Modern farm advisory services.

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The paper is based on M.Sc. study conducted in Karnataka state attempting to investigate the potential of private sectors and their capabilities in offering extension services as part of their input marketing. It was assumed that increasing private agribusiness firms born during the time of green revolution of India have directly or indirectly involved in the farm business (including input supply and advisory services). The study aimed at identifying extension activities of private agro dealers who in one way or the other involved in input delivery, advisory services, post-harvest storage, agro processing and value added product marketing. Besides, their roles in collection, documentation, and transfer of knowledge related to production and marketing was emphasized in the study. While identifying the major activities performed, the approaches and methods used by private extension providers was identified. This is supposed to help improve the public extension services and/ or design privatization of extension services in countries like Ethiopia whose extension system has been threatened for decades for the reason of efficiency. This was due to the fact that private sectors, in most cases, were found most effective in the delivery of agricultural production technologies. The study indicated the better performance of private sectors in transfer of technologies. Even if it is not yet mature for substantial withdrawal of public supported extension, some methods can be adopted from experiences of private sectors to be used as an alternative mechanism to the public extension systems. From the investigation, three basic methods vis; methods of input delivery, systems of motivating clients and channels of input supply were found to best apply for the public supported services in farm production and marketing. Majority (70%) of private technological input dealers reported of operating input supply activities through sales transaction only. The remaining (30%) expressed that they go for different form of supply, besides sales of inputs; such as contractual farming, product procurement agreement, and share cropping. Three advantages were stated in using the above methods. One is, facilitating companies' product selling, secondly, it enables easy acquisition of agricultural products from farm for exporting; thirdly, it helps agribusiness firms to create more farmer customers. Similar study confirms that private sector enterprises involved in extension activities as a contractual agreement with small and medium size farmers in the provision of inputs. They are playing an important role in the transfer of technologies and advancement of agricultural development through contractual arrangements with farmers. A number of methods have also been used in motivating farmers towards a given technology. Among these, the use of field assistants and marketing agents as advocates, demonstrations of inputs, distribution of publications/ leaflets and other supplementary materials. These methods have been used differently under different conditions. The third most important method of technological input delivery to be learned from private sectors' experiences was the marketing channels for input supply (forward channel) and product acquisition (backward channel). Accordingly, four channels were identified. Channel-II was found to be the most effective and popular in the system. Sixty five per cent of the dealers reported of performing their task through channel-II. The channel involves the company-wholesalers-retailers-farmers. These findings are indications for emerging alternative paradigm that assumes market based solutions and privatization of extension services that has become effective. This alternative model also leads a farm business service that goes beyond extension provision to complement provision of credit and marketing assistance needed to make farmers profitable. On top of that, private actors are with a capacity to support farmers on the value chain development and improvement of the competitiveness of selected value chain. Engaging private agro dealers in extension system for supporting the improvement of public extension services and/or thinking a reform model for privatization of the system is found to be development agenda of the day.

Keywords: Private sector, privatization, agro dealers, contract farming, efficiency, public extension.

INTRODUCTION

An ever increasing population continues to make the race between human and his food supply. This necessitates the need for adequate delivery systems for agriculture input, food production and grain marketing in the value chain system. Agricultural sector in particular is tightened with the imbalance between the food demand and supply. To this end, various ideas and beliefs are emerging towards solving the overwhelming problems of the world in agriculture. The public oriented extension service was the pioneer facing the challenges of agricultural dynamism. But the increasing inability of governments to adequately fund its extension system and reluctance in some case to go for reform based on the service demand by the producers' community is the real force behind the search for alternative approaches such as "cost sharing" and "Privatization". As a result, of the increasing demand for efficiency, private agencies are emerging to bridge the service gaps in agricultural production and marketing. In their activities, private extension service providers are making efficient use of communication channels for reaching the farming community (Nirmala, 2000). According to Nirmala, India has the largest extension system in the world with over 200,000 paid agricultural extension personnel catering to farming and all allied needs. Adam Gerstenmier (2015) recommends expanding the networks of agro-dealers in order to improve availability and access to inputs in rural areas. This gradually leads to privatization of the service provision.

The outcome of this privatization effort however depends to a large extent on the strategies and approaches used, the prevailing sociopolitical and economic situations and also on the regulatory impediments to the private sector development. Of late, the privatization of public agricultural extension services has been one of the important additions to the international experimentations. Even, since long years the efficacy of public extension services has been reported disappointing in transfer of agricultural technologies (Rogers, 1987). On the other hand, the demand of market oriented and modern system of agriculture significantly calls for the involvement of private agribusiness firms. This has given the room for private firms to take part in the system, playing an efficient role compared to the public sector (Van den Ban, 1996).

The preference of farmers and extension personnel regarding extension services is also linked to the services of private sectors (Sarvanan and Shivalinge Gowda, 1999; Hanchinal, 1999). Their effective performance could be attributed to their commitment, effectiveness of the method they use and other contextual variables that best define the firms. Hence, in order to improve the existing public extension services it is advisable to adopt the methodologies exploited by private extension service providers. To this end, this study was designed to identify the major activities rendered by private firms in farm production and marketing and investigate the methods used by the firms (companies) in accomplishing their activities.

METHODOLOGY

An ex-post-facto research design was used for the study in order to identify the major and complementing activities performed and services rendered by private sector; and to see the methods used by the sectors in accomplishing their tasks. Dharwad, Belgaum, and Haveri districts of Karnataka state in India, were the target areas for the study. The areas were purposively selected because of the following reasons. In one case, the districts are potential for diversified crop production; secondly, large number of private sectors involved in the extension services and supply of agricultural inputs were found operating in the areas widely. Furthermore, seed producing private companies are operating in the area since the last 15 years involving farmers on contractual mode. As a result of this, available private firms have been selected taking into account the legal registration of the private firms, jurisdiction of their operation, year of experience in the business and renewal of investment license

In an attempt to measure the extent to which private sectors perform the extension activities and the types of extension activities commonly performed were identified by the judges and ranked for relevance. This was to make the condition suitable for comparing the functioning of the different private firms *vis a vis* the public defined activities. Finally, the activities were ranked by the respondents using pair wise matrix. Following the matrix ranking, test for relevance and reliability of the ranking were applied using Kendal's Coefficient of concordance (ranking correlation). The correlation result was further tested for consistency of the ranking using the Chi-square formula. Based on the tests, frequency matrix was constructed to calculate frequency score for each activity and effectiveness of each method used.

RESULT AND DISCUSSION

The result of this study is categorized into three major components based on the private sectors' business in agriculture and related activities. One is the way they deliver inputs and technological information, the second is the method of motivating farmers for sustainable partnership and the third method of operation goes to the channel that private firms use in distributing inputs to farmers. The different types of private sector agro dealers engage in extension activities as a part of their business. The extension activities by input suppliers typically involve information about both a firm's products as well as general information related to the product category (chemicals, plant diseases, seeds quality characteristics, etc).Detail explanation has been given into three major components.

Methods of input delivery

Majority of the firms or input dealers (70.00%) reported of operating the activity of input supply through sales transaction only. Few in number (30.00%), as indicated in table 1, expressed that they goes for different form of supply besides direct sales. This includes contractual farming with farmers, product procurement agreement (arrangement), and on the basis of sharecropping. They also use combination of methods whenever necessary.

Sale as a means of input supply: Most of the input dealers indicated input supply by way of sales as most widely used method. This could be by cash payment and/ or on credit basis. Basically, the aim of most private firms is making profit through supply of technological inputs. But according to Umali and Schwartz (1994), the firms provide complementary informational extension services to promote sales of their products, to ensure the product's proper use and to preserve the firm's market share. When demand for inputs like improved seed and fertilizer grows, it sparks innovative approaches within input supplying companies competing for farmers' preference. Companies which began with a focus on seed of a single crop usually add several others within a few years. The net result has been exponential growth of the private seed industries (AASR, 2013). Likewise, such competition began to offer new fertilizers with locally-formulated blends of nutrients that give better results than standardized formulations.

Contractual farming: This is the way in which private enterprises act as a contractor or concessionary and tying with farmers for the sake of resource (land or labor). It was the back ward linkage that private firms establish with farmers by contracting farmers' land and labor for seed production. The firms who make contractual arrangement also deliver material inputs in the form of sales. This finding is in line with the report by Sharma (1999) on the role of private agro processing firms in Punjab and Andhra Pradesh. In the report, it was indicated that the contractual farming system benefits both parties (the farmers and business firms).

The firms provide extension services related to inputs and management practices after entering into "buy back" agreements with fruit and vegetable growers. This contractual farming with private firms was reported to be the means of advancing poor farmers who cannot afford to buy inputs in cash. Similar result was reported by Cary and Wilkinson (1992) that in most countries, private sectors are playing important role in the transfer of technologies and the advancement of agricultural development through contract arrangements with farmers. Contractual arrangement being the modern extension approach implemented by private firms, it is found appropriate with poor farmers. Carney (1998) reported that Chile and China have already moved to this new contractual extension arrangement. This arrangement is widely used as a new strategy for delivering extension messages in the study area. According to Crowder and Anderson (1992), this strategy is believed to shift the delivery of extension services from public orientation to private service providers.

Share cropping: This is the agreement between farmers (land owners) and private input dealers in which both share the cost as well as the profit of the produces at time of harvest. It is usually done for exporting materials (like production of high value crops). In this form, farmers take inputs from private firms and do all the necessary labor works as per the agreement signed with the two. The firms provide all production inputs. The farmers perform all activities with their labor. In any case, the costs of labor (farmers') and input (the firm's) are with equivalent estimation. The advantage to the firm is acquisition of quality product for further processing and/ or marketing. Alike the cost and benefit, the partners also share unanticipated production risks.

Product procurement agreement: In the product procurement agreement, the firms provide production inputs with all the necessary package of recommendation in the form of credit/ or on some percent down payment. The agreement is in such a way that farmers are obliged to sale their farm produce on harvest only to the dealer with whom he made an agreement (i.e the one who gave him inputs). In most of the cases, private dealers extend credits for such kind of special arrangements. The advantage to farmers in this case is that, the farmer will not have to worry about the storage and marketing; moreover, he/she is free from risks associated with lack of market. This form of agreement with the agro dealers shifted farmers' orientation from "produce and sale" to "produce for sale" Irrespective of the specific details on each of the above methods, product procurement agreement has the following advantages:

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1. It facilitates the sales of the company's inputs (seeds, fertilizers, chemicals and farm implements) to farmers
2. It enables companies to easily get agricultural products for export or other marketing and processing activities.
3. It enables the firms to create more number of farmer customers.
4. Farmers easily sale their produces at reasonable price. They will have no worry about where and to whom to sell.

These methods of dealing with input delivery were found to be an initial phase in designing most appropriate means for private extension services provision, other than a mere selling of inputs. In order to enhance the potential advantage of each of the methods for input supply, combinations of the most relevant and effective ones are also used. This finding has conformity with the experience of Chile and China whose contractual extension arrangement was found appropriate for private enterprises operation in the prevailing situation of their agriculture sector (Carney, 1998). In the study area contractual agreement was arranged for resource poor landholding farmers. But resource rich farmers can make a direct purchase from the companies/ firms whose complementary farm advisory services are advantage for the producers.

Generally speaking, the role of agro dealers and private actors in farm production through improving input access witnessed that seed and fertilizer supply is leading to growing agricultural outputs and productivity of smallholder farmers (Sanchez, 2015). This is the point to think of the best way to engage private agro dealers in agricultural extension service provisions. This is an approach to modern farm advisory services.

Table 1: Different ways of agricultural input supply

Methods of supply	Proportion of respondents (%)
1. By direct sale only	70
2. Sales and form of contractual farming	10
3. Sales and product procurement agreement	10
4. Sales and as a share cropping	5
5. Sales, contract, product procurement	5

1. Farmers' motivating factors

Five major means of motivating farmers were identified which could be used by different categories as per the importance and effectiveness attached to each of the method. As depicted in table 2, using field assistances as an advocate has scored more and used frequently by seed firms (S), chemical dealers (C), and dealers of combination of seed and fertilizer (SF). This might be because of the nature of the inputs. Inputs separately dealt would demand more information than being sold with respective recommendations. Others, those dealers who deal simultaneously with combination of inputs, prefer giving samples as per the scientific recommendation. They also conduct on-farm demonstrations to help farmers observe the performance of the materials (e.g seeds, chemicals).

Those input dealers who were operating with combination of all inputs as seeds, chemicals, fertilizers and farm implements (SCFI) use distribution of leaflets and use of local innovators to motivate other farmers. This may be attributed to the problem of treating different inputs simultaneously. In a nut shell, use of field assistants, conducting on-farm demonstrations and giving samples were found to be the three major top scoring methods used by the private extension service providers in motivating farmers towards their business.

Table 2: Method of motivating farmers by different categories of inputs dealers

Means of Motivating farmers	Sum total scores for different categories					Total
	S	C	SC	CF	SCFI	
1. Using field assistant	9	7	15	8	8	47
2. On-farm demonstrations	8	6	17	6	9	46
3. Giving samples	7	6	17	7	8	45
4. Using local innovators	7	5	12	7	9	40
5. Distribution of leaflets	8	4	14	6	9	41

S = Seed companies, C = Chemical companies, SC = Seed and chemical dealers, CF = Chemical and fertilizer dealers, SCFI = Seed, chemical, fertilizer and farm implement

2. Input Marketing Channels

Five types of channels were identified in agricultural input delivery scheme. Among these, channel-II was found to be popular through which most of the dealers (65.00%) perform agricultural input marketing. This channel involves; *Company* → *Wholesalers* → *Retailer* → *Farmers*. Twenty per cent of the firms indicated that their business transaction was as described in channel-I. The rest 15.00 per cent expressed as they were using combination of channels being determined by the marketing condition of the time. Channels-III, and channel-IV were found to involve no dealers in the transmission of inputs to the users.

Table 3: Marketing Channels used by private agencies

Marketing Channels	Percentage of private firms operating in the channel
1. CHANNEL-I	20
2. CHANNEL-II	65
3. CHANNEL-III	0
4. CHANNEL-IV	0
5. Combination of any of the above	15

Under any situation, the involvement of middlemen/ intermediaries in the system could not be ignored. Even if some channels were simple and others relatively complex based on the involvement of different intermediaries, it had its own advantage. A study by Mundinamani (1993) on farmers' marketing channel found that even the longer channel could be economical in transmission of produces for specific items. Hence, irrespective of the simplicity/ or length of the channels, the input delivery could be effective.

The attempt of the firms to use the combination of channels is based on its relative advantage over the use of a single channel in the marketing system. In all the channels, the parties involved are private bodies except in channel-III, which involves office of Department of Agriculture (DoA), which represents the public sector. This channel is effective during the time when the government subsidizes some inputs for selected or specially targeted farm families.

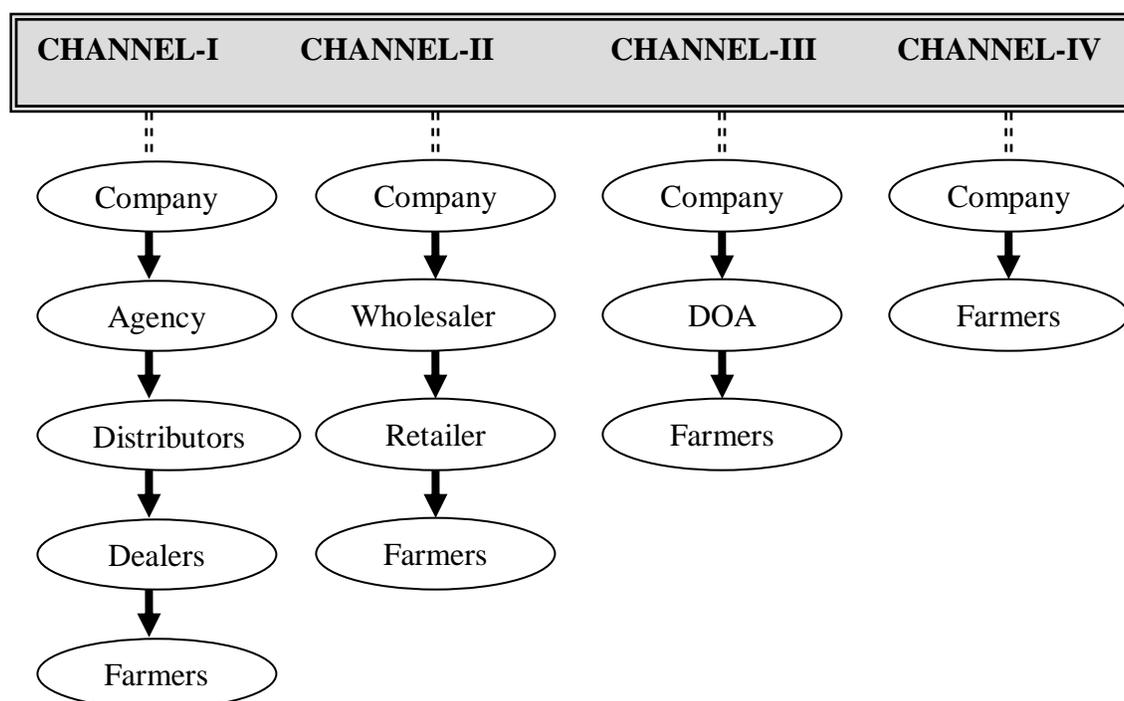


Figure 1: Schematic diagram of the marketing channels used by private firms supplying agricultural input

CONCLUSION

The global wrestling in today's agriculture is to bring up modernization of the sector and improving the life standard of farmers. This calls for transition from resource based to technology based system of agriculture which underlies the demand and supply of agricultural information (Umali and Schwartz, 1994). This issue has widely been the concern of research and extension. In this scenario, greater responsibility is still on the agricultural extension sector, since it is the vital conduit of new agricultural information and technologies to farmers as well as back to research and policy forum. The trend of shift from just production to commercialization of agriculture coupled with the cost consciousness of farmers forced the extension services delivery to be more efficient and demand-driven. Farmers' orientation that shifted their production planning from "Produce and sale" to "Produce for sale" demanded cost consciousness market orientation of the farm business. In this case, it is hardly possible for public government to treat all farmers together in this sense of commercialization. Instead the private sectors affiliated in the business of agricultural input delivery are emerging to treat farmers according to their status and demand for technologies and advisory services. An experience of India as discussed in this paper is a good model for most developing countries to improve their extension system through adopting the effective methodologies of private sectors in the extension service provision.

The success factor for the performance of service providing agencies in agricultural extension is the methods used to supply inputs, to motivate farmers, and the effectiveness of channels they use to transmit inputs. Hence, from this study, the effective strategies and approaches used by the private firms if adopted will yield effective extension tool for improvement of the public oriented services. It also gives baseline information for attempts to design best models for public and private partnership in agricultural development; while ensuring the utmost role of private agro dealers in agricultural extensions and farm advisory services. These findings are indications for emerging alternative paradigm that assumes market based solutions and privatization of extension that has become effective and sustainable for development. This paradigm is found to lead farm business service that goes beyond extension provision to complement provision of credit services and marketing assistance needed for micro farm enterprises to be profitable. On top of that, private actors' are in a capacity to support farmers on the value chain development. This study commends that such farm business assistance is primarily the responsibility of private sector actors. Engagement of agro dealers in the system not only ensures improved farm productivity, but also improves competitiveness of selected value chain for marketable commodities. The readiness and positive attitude of farmers for agricultural sector commercialization supports these recommendations, which contributes to a reform model for privatization of the system.

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