



Impact of private advisory service (Pas) in backward and forward linkages of horticultural crops

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Abstract

The study was conducted in the year 2019-20 in Chitra durga district of Karnataka state. Total sample size of 120 farmers taking Private Advisory Services (PAS) were selected as respondents by using Simple random sampling procedure. The study aims to understand impact of PAS given by private agencies in backward and forward linkages about horticultural crops. The deviation was observed before and after obtaining advisory services in nearly two-third (64.17%) of respondents with respect to practices like selection of appropriate PPCs, herbicide application (62.50%) and appropriate methods followed for pest and disease management (57.50%). The less deviation was observed in method of harvesting, mixed cropping system, storage facility and packing of produce. Farmers adopted recommended practices given by Private Advisory Service Agencies (PASA) in both backward and forward linkages. The farmers need to be oriented towards cost-effective production technologies for better returns.

Keywords: privatization, backward, advisory services, linkage, impact

Introduction

Indian agriculture is diversifying towards high value nutritive commodities, mainly the fruits, vegetables, milk, meat and fish products. Karnataka is one of the most progressive states with great potential for horticulture development. The state is blessed with ten distinct agro-climatic regions that are ideal for growing variety of fruits and vegetables throughout the year. Horticulture sector contributes 40 per cent to the state's overall revenue. This accounts for 17 per cent of the GDP of the state (Hrt.stat.2019)^[1]. Horticulture has taken a front line position in State agriculture and the sector is rising at the fast rate. Horticulture farmers require a diverse range of information to support their farm enterprises. Information is needed not only on best practices and technologies for crop production, which the traditional public-sector extension system provided during the green revolution, but also information needed about postharvest aspects including processing, marketing, storage and handling. To keep up the momentum of growth, a careful economic evaluation of inputs like seeds, fertilizers, irrigation sources, pesticides, harvesting methods etc. (backward linkage) and grading, packing, storage, transportation, marketing etc. (forward linkage) are of considerable importance. With the intent to provide timely and quality advice to farmers and to create differentiation in serving farming community, some of the private actors like Input dealers and seed/input companies', etc. provide free/fee based advisory services to farmers on crop production, procurement and use of various inputs such as seed, fertilizer, pesticide which include both backward and forward linkages. To assess the impact of these private actors, particularly input dealers and input

Companies on the services provided in the backward and forward linkage aspects of horticulture crop growers the present study was conducted.

Privatization

Privatization of agricultural extension service (PAES) is the service provided by extension staff employed in the field of agriculture and related aspects (Saravanan, 1999)^[2].

Privatization is an act of reducing the role of government or enhancing the role of the private sector in an activity or ownership assets (Savas, 1987)^[3].

Private advisory service (PAS)

PAS is a system involved a broad spectrum of market and non-market entities. Private extension agents are expected to provide useful technical information about new technologies that can improve the income and welfare of horticultural farmers.

Private advisory service agencies (PASA)

PASA are defined as the private institutions and agencies involved in delivering organized way of information services about crop production technologies for domestic and commercial purposes of farmers.

Backward linkage

It is defined as the working relationship between horticultural crop growers and agencies/organizations/individuals involved in supporting horticultural crop production activities.

Forward linkage

It is defined as the working relationship between horticultural crop growers and agencies/organizations/individuals involved in supporting horticultural post-production activities.

The main objective of present investigation is to elicit the impact of PAS on backward and forward linkages in horticulture crops.

Materials and Methods

The present study was conducted during the year 2019-20. The study was conducted in Chitradurga district of Karnataka state as more dry land horticulture crops are grown in the district. The

district comprises six taluks among them three taluks were selected, *i.e.*, Chitradurga, Challakere and Hiriyur taluks. The villages selected using the criteria of availability of maximum number of farmers cultivating horticulture crops. Total of 120 respondents were randomly chosen from the selected 12 villages who were growing selected horticulture crops *viz.*, Onion, Chilly, Pomegranate, Papaya and taking advisory services from private agencies particularly local trained people and private companies. The data was collected using pre-tested interview schedule. The data collected was analyzed using SPSS computer software.

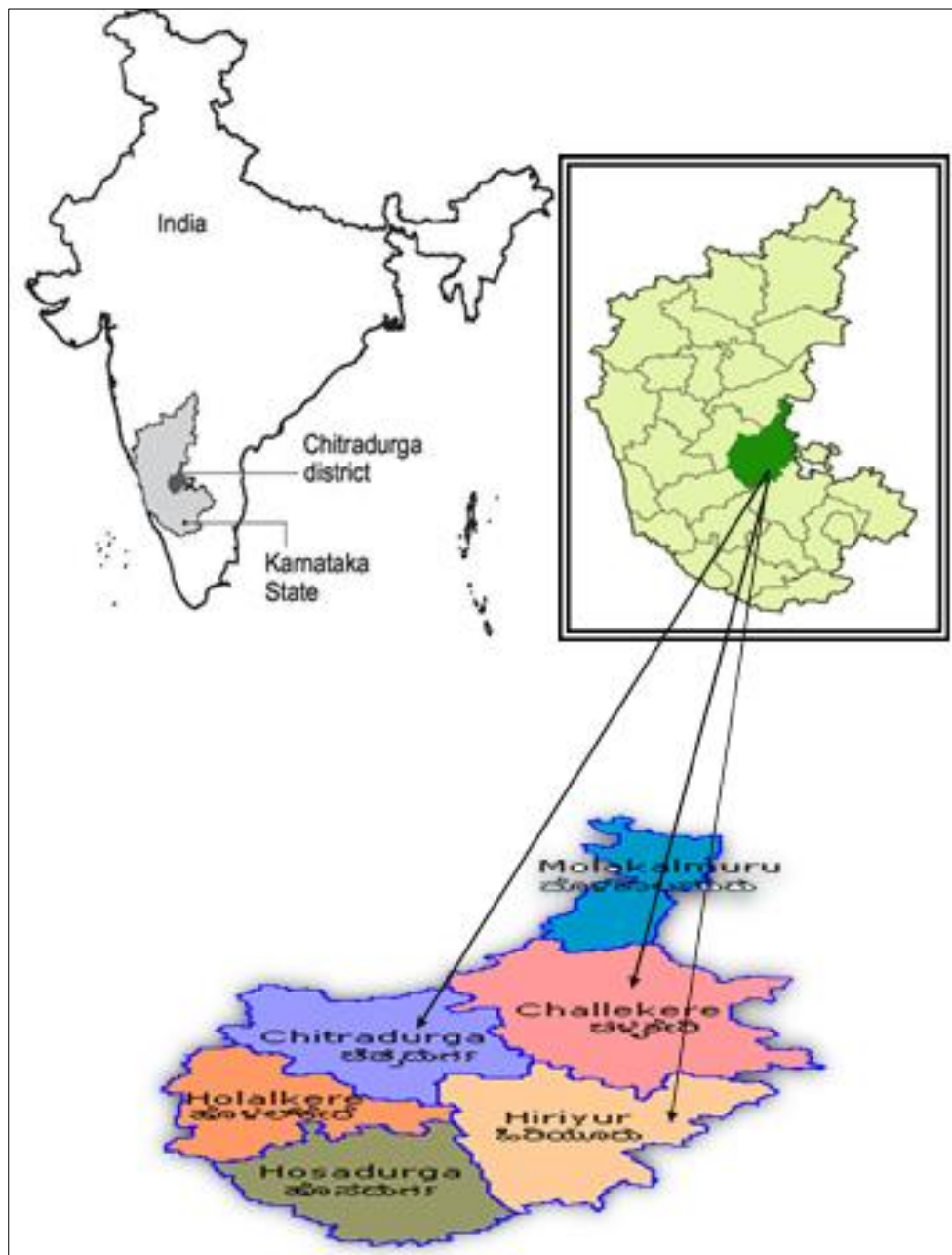


Fig 1: Map Showing the Study Area

Impact of private advisory services

Impact of PASA on farmers was measured with the help of the procedure developed for the study. Different cultivation practices

followed by the horticulture farmers were grouped under two different headings as backward and forward linkages with 23 and 13 statements, respectively. The respondents were investigated

about whether they followed/unfollowed the enlisted practices before and after the intervention of PASA. Responses of farmers was recorded on 2 point scale *i.e.*, Yes (or) No and are given 1 and 0 scores, respectively. The summation of the scores (Before and after scores) were taken as pre and post – test scores and Paired t-test was applied to the scores in SPSS software to get the results.

Results and Discussion

The results of present research study have been presented on the basis of analysis of data using suitable statistical tools and techniques and in relation to the specific objective of the research study.

Impact of PAS on different cultivation practices of backward and forward linkage

Impact on backward linkages

It could be observed from the results of Table 1 that deviations occurred in the backward linkage practices. Deviation was observed in nearly two-third (64.17%) of respondents with respect to practices like selection of appropriate PPCs, 62.50 per cent of deviation was observed in herbicide application, more than half 57.50 per cent of deviation was observed in appropriate methods followed for pest and disease management and 55.00 per cent of deviation observed in micronutrients application. These practices are important part of the crop production. If farmers doesn't take the advisory services to solve these problems from relevant advisory agencies, it will be a fish out situation for the horticultural farmers. Hence, a greater deviation was observed for above said practices. No deviation was observed with respect to multi cropping system, land leveling and bed preparation aspects and only 6.67 per cent deviation was observed in method of harvesting and mixed cropping systems. The probable reason might be that farmers might not faced problems in these practices. Due to unavailability of technologies in scientific method of harvesting, farmers did not had information in this aspect. Therefore less deviation was observed. Further, less deviation was found in mono-cropping system in their production system, it might be the reason there was no deviation observed in Multi-cropping system.

Impact of forward linkages

Table 1 also reveals information about deviations of forward linkage practices. The major deviation (36.67%) was observed about obtaining expected yield/acre. The reason for this result may be that, majority of the farmers follow new technological

adoptions. It gives higher returns if farmers adopt relevant technologies. Deviation in selection of appropriate market was observed in 28.33 per cent farmers with respect to forward linkage. The probable reason for this may be to get remunerative price for their produces, all the farmers obtained information on better marketing. Hence, the four horticulture crop growers were showed the same market experience. Further, 20.83 per cent deviation was observed in collection of market information before selling the produce. The reason might be that all the farmers face problems in selling of their produce. To solve marketing problems the PASA were involved in providing suitable marketing information to sell farmers produces at right place. No deviation was observed with respect to use of cold storage facilities. The probable reason may be that no farmers were interested to keep the harvested commodities in cold storages and there was no cold storage facility in the close vicinities. That may be the reason there was no deviation in this aspect. The results were also showed no deviation about use of online trading. The reason for this may be all the farmers were selling produce through traditional marketing system and not showed interest in online trading.

Impact of PAS on backward and forward linkages of different horticultural crop growers

The data in Table 2 shows the impact of PAS on backward and forward linkages in selected horticultural crops. The data reveals that major impact could be seen in Pomegranate crop as the mean score before taking PAS (9.95) has increased to 17.10 after consulting PASA. Mean score of Chilli growers was increased from 10.02 to 16.35. With respect to mean scores of Papaya growers it was increased from 11.82 to 16.73. Whereas, in case of Onion growers it was increased from 12.37 to 15.80. It was very interesting to see that in all the four horticultural crops impact from before consulting PASA to after consulting PASA were significant at one per cent. It was found that there was a limited number of private advisory service providers and there was a huge gap between farmers and extension personnel leads to scarcity in availability of skilled extension personnel in public extension system. To narrow this gap, PASA doing remarkable work in solving the problems of horticultural crop growers. The farmers who were cultivating the selected four horticultural crops were depended on availing backward and forward linkage services in crop production and in each of the production stages significant changes had been observed before and after obtaining the technical information by the farmers. The results are conformity with the research findings of Sahana (2013) [4].

Table 1: Impact of PAS on different cultivation practices of backward and forward linkage

SL. NO	Practices	Frequency		Deviation	Percent deviation
		Before	After		
Backward Linkage Services					
1	Land levelling	120	120	0	0.00
2	Bed preparation	53	53	0	0.00
3	Information about good seed source	94	115	21	17.50
4	Seed /seedling treatment	6	32	26	21.67
5	selection of good seeds/Planting material	39	58	19	15.83
6	Application of basal dose of fertilizer(during sowing)	102	119	17	14.17
7	Use of Bio-fertilizers	5	29	24	20.00
8	Use of right quantity of fertilizers	86	104	18	15.00
9	FYM application	69	100	31	25.83

10	Multi cropping	0	0	0	0.00
11	Mixed cropping	35	43	8	6.67
Irrigation method followed					
12	a. Flooding	33	10	23	19.17
	b. Drip /sprinkler irrigation	86	102	16	13.33
13	Mulching	16	28	12	10.00
Weeding method followed					
14	a. Manual	71	43	28	23.33
	b. Herbicide application	24	99	75	62.50
15	Selection of appropriate PPCs	37	114	77	64.17
16	Appropriate spraying techniques /methods followed	89	107	18	15.00
17	Use of crop nets	12	12	0	0.00
18	Appropriate methods followed for pest and disease	27	96	69	57.50
Management					
19	Growing of trap crops	18	53	35	29.17
20	Organic practices followed	4	13	9	7.50
21	Micronutrients application	36	102	66	55.00
22	Followed scientific method of Harvesting	112	120	8	6.67
23	Support for availing credit facilities	0	52	52	43.33
Forward Linkage Services					
1.	Obtained expected Yield/acre	49	93	44	36.67
2.	Grading of produce	65	80	15	12.50
3.	Packing of produce	104	115	11	9.17
4.	Packaging of produce	18	31	13	10.83
5.	Appropriate type of transportation used	88	97	9	7.50
6.	Use of Storage facilities	5	12	7	5.83
7.	Use of Cold Storage facilities	0	0	0	0.00
8.	Collection of market information before selling the produce	71	96	25	20.83
9.	Sought opinion about the price of the produce from various sources	67	90	23	19.17
10.	Processing of the produce	0	0	0	0.00
11.	Selling produce to the local markets	107	87	20	16.67
12.	Selection of appropriate market	64	98	34	28.33
13.	Use of online trading.	0	0	0	0.00

Table 2: Impact of private advisory services on backward and forward linkages of different horticultural crop growers n =120

Sl. No.	Crops	Mean scores		Paired t- value
		Before	After	
1	Onion	12.37	15.80	3.580** (p=0.001)
2	Chilli	10.02	16.35	5.010** (p<0.001)
3	Pomegranate	9.95	17.10	7.250** (p<0.001)
4	Papaya	11.82	16.73	5.734** (p<0.001)

*Significant at 5%, ** Significant at 1%, NS - Non significant

In conclusion, the present study revealed that there was high demand for PASA (Private Advisory Service Agencies) by horticultural farmers; they are in the interest of obtaining PAS in order to improve their practices in the production and post-harvest aspects. Demand for plant protection, plant nutrition and agronomic practices were high. The farmers were adopted recommended practices in both backward and forward linkages. The intensive awareness programs like motivational and capacity building programs on innovative horticulture production activities need to initiate. Lack of storage facilities, lack of knowledge on post-harvest technologies and marketing, lack of processing units were the important problems encountered by horticultural farmers with respect to forward linkage. In order to overcome these problems, the government should take initiative to create the facilities to farmers in their vicinities. The multidisciplinary expert system should intervene for better management of horticultural crops. The Horticulture department, KVK, NGOs, private organizations, input dealers etc., together

need to orient farmers towards cost-effective production technologies for better returns to horticultural crop growers.

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