

**EFFECTIVENESS INDICATORS OF PUBLIC, PRIVATE, AND NGOs' AGRICULTURAL
EXTENSION PROGRAMS IN KARNATAKA STATE, INDIA**

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ABSTRACT

Considering a pluralistic extension scenario, a research study was conducted to determine the effectiveness of public, private and NGOs extension programs in three districts of Karnataka State, India. Based on judges' relevancy ratings, an index has been developed made up of 21 indicators in input, process, and outcome level. To measure the extension program's organizational effectiveness, information was collected from 210 clientele and 150 extension personnel covered by public, private, and NGOs' agricultural extension organizations like Farmers' Contact Centres (FCCs), Agri-Business Firms (ABFs), Agricultural Consultancies (ACs), and Non-Governmental Organizations (NGOs). Research findings reflect that the NGOs and agricultural consultancies extension service programs ensures regular contact, adequate, and useful agricultural extension service, accountable, committed, and highly performing extension personnel, better organizational performance, and high clientele satisfaction. Based on the findings, it is recommended that the strengths of NGOs and agricultural consultancies need to be inculcated in the public extension system through public-private-NGOs partnership programmes.

INTRODUCTION

In, recent years, 'pluralistic extension' is widely recognized in most countries, including India, and the 'monopoly' of public extension has been slowly diminishing from the 1990's with the emerging elements of privatization and diversification in the supply of extension services (Saravanan, 1999). To accelerate agricultural development, public extension in different states of India introduced new innovative extension approaches. Further, changing agriculture from mere subsistence farming to commercialized farming, the entry of people from industrial sector, non-professional agriculturalists, the educated elite, and others to take up agriculture has led to the demand of timely and technically sound advice with reliable market-oriented agricultural extension service. This situation paved the way for emergence of agricultural consultancies and agri-business firms in the dissemination of the agricultural technology (Saravanan, 2001). Correspondingly, the NGOs involvement is being increasingly recognized in the process of technology transfer among resource poor, small, and harsher agricultural environments. Emergence of a pluralistic extension scenario demands comparison of extension organizational effectiveness to formulate future extension approach and reorient the extension systems (Saravanan, 2005). Reform requires analysis of current performance of extension activities so as to determine the system's strengths and weaknesses and is the first step towards establishing a strategic vision of the reform measures to be taken (Rivera and Alex, 2004).

Purpose of the Research Study: Concerns for operational efficiency and depleting fiscal support for the public extension requires encouragement, sharing of responsibilities, integration, and building of competency among public, private, and NGOs extension services. Further, to arrive at a meaningful conclusion on the most effective extension approach and to formulate the future extension strategy, there is a need to generate more information on public, private, and NGOs extension (Sulaiman and Sadamate (2000). Hence, a research study was conducted to determine the effectiveness of public, private and NGOs extension organizational programs.

METHODOLOGY

Locale of the study: The research was conducted in Chitradurga, Kolar, and Tumkur districts of Karnataka State, India, during the year 2002 to 2003.

Selection of extension organizations, extension personnel and farmers: Based on purposive and random sampling methods, extension personnel of public, private, and NGOs' agricultural extension organizations, and farmers themselves have been included for the study as shown in Table 1 below.

Table 1. Selected public, private, and NGOs' agricultural extension organizations and sample size in three districts of Karnataka State, India during the year 2002 to 2003.

| Public, private and NGOs' extension organizations | Extension personnel sample size | Clientele Sample size |
|--|--|------------------------------|
| Public extension Farmers' Contact Centers | 60 | 60 |
| Private extension Agri-Business Firms | | |
| 1. Hindustan Lever Limited (HLL) | 3 | 6 |
| 2. Global Green Co. Ltd. | 11 | 22 |
| 3. Unicorn Ltd. | 12 | 24 |
| 4. PEPSICO: India Holdings Pvt. Ltd. | 4 | 8 |
| | 30 | 60 |
| Agricultural Consultancies | | |
| 1. Rallis Kissan Kendra – A TATA Enterprise | 11 | 22 |
| 2. Vaishnavi Farm Services: Agricultural Consultants and Agro-Chemical Suppliers | 4 | 8 |
| | 15 | 30 |
| Non- Governmental Organizations (NGOs) | | |
| 1. Bharat Agro-Industries Foundation (BAIF) Institute for Rural Development –Karnataka (BIRD-K) | 14 | 28 |
| 2. Mysore Resettlement and Development Agency (MYRADA) | 7 | 14 |
| 3. OUTREACH: Volunteers of Rural Development | 6 | 12 |
| 4. PRAYOG: Centre for Agricultural and Rural Development | 3 | 12 |
| | 30 | 60 |
| Total sample size: | 345 | |

Measurement of the Extension Organizational Effectiveness

Extension effectiveness indicator is a pointer or evidence, which helps to measure the extent of attainment in input, process, and impact level. Twenty eight extension effectiveness indicators were identified by referring to Seepersad and Henderson (1984), Misra (1997), and Sulaiman and Sadamate (2000). Based on judges' relevancy ratings, 21 indicators on input, process, and outcome level have been selected and an overall extension effectiveness index has been developed by using those selected 21 indicators (Saravanan, 2003). Results were expressed in an indicator wise index followed by input, process, and outcome level and overall effectiveness index. Indicators have been quantified using structured schedule, summated rating scales, index,

formula, and standard procedure. To arrive at a common measurement unit, the following formula has been used on each indicator.

$$\text{Index} = \frac{\text{Actual score on a particular indicator}}{\text{Maximum possible score on particular indicator}} \times 100$$

RESULTS AND DISCUSSION

Table 2. Effectiveness indicators of public, private, and NGOs agricultural extension organizations in three districts of Karnataka State, India 2002-2003 (n=345)

(Table 2 continued for 4 pages)

| Sl. No. | Effectiveness indicators | Public extension FCCs (n=120) | Private extension | | NGOs (n=90) |
|---|--|-------------------------------|-------------------|--------------|-------------|
| | | | ABFs (n=90) | ACs (n=45) | |
| I | INPUT LEVEL | | | | |
| | 1. Total expenditure intensity (Rs./ha/year) (salary + expenditure on extension activities) (<i>Total expenditure incurred by an extension organization per hectare of net cropped area</i>) | 4.81 | 832.27 | 222.39 | 980.17 |
| | Total expenditure intensity index | 0.49 | 84.91 | 22.69 | 100 |
| | 2. Expenditure intensity on extension activities (Rs./ha/year) (<i>Expenditure incurred by an extension organization on extension activities per hectare of net cropped area</i>) | 0.082 | 77.51 | 49.17 | 250.91 |
| | Expenditure intensity on extension activities index | 0.033 | 30.89 | 19.60 | 100 |
| | 3. Clientele contact intensity (hr/clientele/year) (<i>Number of actual contacts an organization makes with their clientele in an year and expressed in the number of hours</i>) | 0.31 | 7.36 | 6.23 | 0.74 |
| | Clientele contact intensity index | 4.21 | 100 | 84.65 | 10.05 |
| | 4. Extension personnel: cultivator ratio (<i>Ratio between the number of extension personnel and the number of target population covered by the organization in their operational area</i>) | 1:1819 | 1:13 | 1:26 | 1:1061 |
| Extension personnel: cultivator ratio index | 100 | 0.73 | 1.41 | 58.33 | |
| Input level index | 26.18 | 54.13 | 32.09 | 67.10 | |

| | | | | | |
|---|---|-------|-------|-------|-------|
| II | PROCESS LEVEL | | | | |
| | 1. Extension activity Extension agency-Frequency, Adequacy, Usefulness (FAU) Index <i>(Number of contacts made by extension personnel to their clientele and adequacy, and usefulness of disseminated information)</i> | 78.74 | 76.67 | 98.78 | 92.50 |
| | 2. Involvement of clientele and extension personnel | | | | |
| | a. Extension service commitment of clientele <i>(The degree, to which a farmer has a strong belief and acceptance of extension services, is willing to exert considerable amount of benefit from the extension service and has a strong desire to continue with the extension service)</i> | 56.10 | 58.67 | 75.11 | 77.22 |
| | b. Organizational commitment of extension personnel <i>(The extent to which an extension officer has a strong belief and acceptance of organizations goals and values is willing to exert considerable effort on behalf of the organization and has a strong desire to stay in the organization)</i> | 57.67 | 62.22 | 75.56 | 82.22 |
| | c. Client accountability of extension personnel <i>(The degree of responsibility of the extension officer to serve the interest of the clientele)</i> | 63.89 | 53.33 | 66.67 | 61.11 |
| | 3. Reaction level | | | | |
| | a. Willingness to pay for extension service <i>(The degree of desirability of farmers to pay for extension service. It is expressed in terms of number of farmers and rupees willing to pay per season)</i> | | | | |
| | a. 1. Percentage of clientele | 36.67 | 45.00 | 100 | 45.00 |
| | a. 2. Rupees | 30.64 | 31.42 | 100 | 37.94 |
| | b. Job satisfaction <i>(The degree to which an extension officer is satisfied or dissatisfied about various dimensions of extension job)</i> | 63.33 | 71.11 | 77.78 | 64.45 |
| | 4. Extension personnel performance level | | | | |
| | a. Job performance index <i>(The degree to which an extension officer accomplishes the task assigned to him in terms of quality and quantity)</i> | 48.34 | 61.11 | 84.45 | 70.01 |
| | b. Job competence index <i>(Sufficiency or adequacy of the abilities or qualities possessed by a job incumbent which aid him in achieving the intended results)</i> | 53.34 | 66.67 | 86.67 | 81.11 |
| | 5. Organizational performance level | | | | |
| a. Organizational climate index <i>(The perception of extension officer about his work place, facilities, co-workers and work culture)</i> | 56.66 | 60.00 | 68.33 | 86.67 | |

| | | | | | |
|------------|---|--------------|--------------|--------------|--------------|
| | b. Guidance and supervision index (The regular counseling and advice received by the extension personnel from those in the upper hierarchy in connection with professional growth and technical matters) | 57.22 | 77.78 | 77.78 | 72.22 |
| | c. Facilities and resources index (The availability of men, money material and methods at the extension personnel's disposal which aid in successful accomplishment of work assigned) | 62.22 | 83.33 | 53.33 | 82.23 |
| | d. Communication index (The authenticity, clarity, and brevity of the message received by the extension officer regarding different agricultural information from different sources) | 51.11 | 70.56 | 70.55 | 66.67 |
| | Process level index | 48.64 | 61.02 | 79.53 | 68.79 |
| III | OUTCOME LEVEL | | | | |
| | Client satisfaction (The degree of satisfaction of the client with respect to relevancy, quality, usefulness and customer (client) service of the extension programs) | | | | |
| | a. Extension service Relevancy index (The degree of relevancy of extension service to the clientele) | 38.11 | 50.56 | 80.00 | 60.00 |
| | b. Extension service Quality index (The degree of professionalism of extension personnel and their extension service) | 72.78 | 47.22 | 61.11 | 73.34 |
| | c. Extension service Usefulness index (The extent of usefulness of extension service to the clientele) | 56.66 | 40.00 | 73.33 | 94.44 |
| | d. Extension agency Customer service index (The nature of interaction between clientele and extension personnel) | 62.78 | 41.99 | 63.33 | 81.11 |
| | Client satisfaction index / Outcome level index | 57.58 | 44.94 | 69.44 | 77.22 |
| | Over all organizational effectiveness index | 44.13 | 53.36 | 60.35 | 71.04 |

Total expenditure intensity: Table 2 reveals that the NGOs were spending more on salary and other extension activities, which is due to the fact that NGOs were spending more on watershed area development, poverty alleviation programmes, agro-horti-forestry system, and livestock development programmes. Further, NGOs were concentrating on smaller areas and getting more financial assistance from international and national organizations. Hence, they were utilizing more financial resources for salary and conducting extension activities. The NGOs were providing critical inputs to the clientele free of cost or subsidized rates. Expenditure intensity was comparatively more because of smaller cultivable area coverage by the NGOs. Agri-business

firms were also spending more on per hectare of land area, which was, due to the fact that they were concentrating in a very small area with more extension personnel. Agri-business firms were more particular about the quality of the produce; hence, extension personnel were visiting very regularly. This contributed towards high expenditure for the organization. Further, other than the regular visits, they were conducting a few extension activities.

Expenditure intensity on extension activities: The NGOs were spending more for educational activities, mainly due to the fact that NGOs were conducting a larger number of extension activities than were other extension organizations. Whereas, Farmers' Contact Centres spent the least amount for educational activities because, only two or three demonstrations were held per season.

Clientele contact intensity: Agri business firms' extension personnel were spending more time with clientele because of the Agri-business firms were more particular about the quality of the produce and they also were concentrating on a few clientele only. Hence, extension personnel were visiting regularly to the clientele fields to ensure appropriate nursery preparation to harvest standards. Agricultural consultancies extension personnel were also very regularly visiting the clientele fields for advisory services and conducting group meetings and demonstrations, which increased their contact hours with the clientele. Further, consultancies having plant protection chemicals and fertilizer shop attracted the farmers for purchasing and getting advisory services regularly. Whereas, NGOs and Farmers' Contact Centers extension personnel were covering large numbers of clientele making them to spend less time with individual clientele.

Extension personnel: cultivator ratio: The Farmers' Contact Centers' extension personnel were concentrating on wider geographical area when compared to private extension organizations. Hence, the extension personnel to cultivator ratio was very high (One extension officer was available to cater the agricultural extension service needs of 1819 farmers). In NGOs, even though they were concentrating on smaller geographical areas, the extension personnel to cultivator ratio was high, because fewer numbers of extension personnel were working in NGOs (One extension officer was available to cater the agricultural extension service needs of 1061 farmers). Interestingly, agri-business firms and agricultural consultancies were concentrating on a very limited number of clientele. Hence, the extension personnel to cultivator ratio was

very low (One extension officer was available to cater to the agricultural extension service needs of 13 and 26 farmers, respectively).

Extension Agency Frequency- Adequacy- Usefulness: The Extension Agency Frequency- Adequacy- Usefulness index was highest in agricultural consultancies and NGOs. The clientele of agricultural consultancies and NGOs had frequent contact with the extension personnel and clientele were getting adequate and useful technical information.

Extension service commitment: The clientele of public extension (Farmers' Contact Centers) showed the lowest extension service commitment index, which is due to lack of timely information and input supply, less accountability of public extension personnel, the blanket nature of recommendations, and absence of extension personnel during office hours makes the clientele become less committed to the service. A similar trend was also noticed in agri-business firms, which is due to the fact that extension personnel of agri-business firms generally concentrate only on contract crops like gherkin and tomatoes. Further, the extension personnel did not have an agricultural technical background and they were less trained to provide advice on other crops. Agricultural consultancies and NGOs had high level of extension service commitment index, which is mainly due to high accountability and committed service of the extension personnel. Extension services are need based and client specific. In agricultural consultancies, clientele were paying for the extension services and hence they were demanding appropriate service to increase their farm income.

Organizational commitment: The Farmers' Contact Centers and agri-business firms' extension personnel had low organizational commitment. This was due to the public extension personnel's dissatisfaction with their promotional policy and lack of team spirit. Whereas, lack of job security and less salary makes agri-business firms extension personnel become less committed towards the organization. The extension personnel of agricultural consultancies and NGOs had high level of organizational commitment index, which is the result of only a few individuals owning consultancies and recognition for good work makes them more committed towards the organization. The NGOs service-oriented approach was one of the reasons for the high level of organizational commitment among their extension personnel

Accountability to clientele: The Farmers' Contact Centers and agri-business firms had the lowest level of client accountability index. Farmers' Contact Centers extension personnel had high job security and their remuneration was not connected with client accountability. Hence, they became less accountable. Whereas, extension personnel of agri-business firms concentrated only on a few contract crops and they were not bothered about overall development of farmers. Agricultural consultancies had a high level of client accountability index, mainly due to the fact that their survival depended on quality and responsibility in providing extension services. Overall development and success of farmers was very much linked with their remuneration and the survival of their organization. Hence, they were very much accountable to clientele. Generally, NGOs extension personnel were service oriented, worked in a favourable organizational climate, and the working culture of NGOs makes them more accountable to the clientele.

Willingness to pay for extension service: The willingness to pay for extension service index was highest in agricultural consultancies because all the agricultural consultancies' clientele were already paying for the extension service and they also were willing to continue fee-based consultancy service. Further, there was a general tendency that a majority of the public and private extension clientele were willing to pay more for private extension compared to public extension. This was due to the expectation of clientele that if they are paying for private extension, it ensures timely advisory services and payment positively linked with performance of private extension. Further, it is the matter of survival of private extension and they need to satisfy the clientele with appropriate supply and services. Further, it is expected that, if farmers are paying for the services what they receive, they get the ownership rights of appropriate advisory services and it forces the extension personnel to provide information for which farmers feel a need. Private extension tries to utilise the available resources efficiently in the client system. It ensures quality extension service and creates value for the service. (Saravanan and Veerabhadraiah, 2003)

Job satisfaction: The Farmers' Contact Centers had the lowest job satisfaction index. This was due to the fewer promotional opportunities for extension personnel, lack of recognition, incentives and encouragement for good work, as well as the fact that high bureaucracy in a public extension organization makes extension personnel become less satisfied. Private extension organizations had a high level of job satisfaction index, which is due to the recognition and encouragement for good work that makes them more satisfied. However,

private and NGOs extension personnel had the least satisfaction with job security, salary, and promotional policy.

Job performance: The Farmers' Contact Centres had low level of job performance index mainly due to the limited activities in the areas of planning, educational supply and service, supervision and evaluation. Whereas, extension personnel of agri-business firms had a limited role in planning and in educational activities. The high level of job performance index in the agricultural consultancies and NGOs resulted from a larger number of educational activities that were conducted for the benefit of farmers.

Job competence: The Farmers' Contact Centres and agri-business firms had the lowest level of job competence index. This was related to the lack of adequate recent technical knowledge, guidance, lack of communication channels and lack of opportunities for self-development of extension personnel that existed. Whereas, agricultural consultancies and NGOs had the highest level of job competence index due to the extension personnel motivation, team spirit, encouragement, guidance, and accessibility of required technical knowledge makes them more competent.

Organizational climate: The organizational climate index was lowest in the FCCs and Agri-business firms. The extension personnel of Farmers' Contact Centres and agri-business firms expressed the presence of a less favourable organizational climate mainly due to strict rules, procedures and policies. Further, less flexibility and strict supervision from superiors, and lack of team spirit among co-workers made them to feel that a less favourable organizational climate existed. Whereas, in the private consultancy and NGOs' extension personnel enjoyed flexibility in work, and team work, co-operation among colleagues, which made them express favourable organizational climate.

Guidance and supervision, facilities & resources and communication: The Farmers' Contact Centers had the lowest guidance and supervision, facilities and resources, and communication index. The Farmers' Contact Centres extension personnel had expressed low and medium level of satisfaction for guidance and supervision, which was due to the supervisory level functionaries, who are not perceived as having much enthusiasm and motivation. Further, the public extension supervisory level extension functionaries had more office work and official tours. In contrast to this, private extension personnel expressed medium and high levels of satisfaction

for guidance and supervision because in private extension, supervisory level functionaries were also more motivated and very much committed for the service. Private extension personnel were providing required inputs for clientele, conveyance for fieldwork, facilities and resources for conducting demonstrations. In both public and private extension organizations extension personnel were satisfied with organizational communication patterns.

Client satisfaction: The overall client satisfaction index was highest in NGOs followed by Agricultural consultancies, Farmers' Contact Centers, and agri-business firms. The clientele of NGOs expressed a high level of relevancy, quality, usefulness and customer service. In contrast to this, a majority of the Agri-Business Firms' clientele have opined that there existed a low level of relevancy, quality, usefulness, and customer service. Whereas, Farmers' Contact Centers and Agricultural Consultancies clientele have expressed low level of customer service. Further, results revealed that more than two-fifths of clientele of NGOs and agricultural consultancies clientele had a high level of satisfaction. But, a great majority of agribusiness firms' clientele and more than two-fifths of Farmers' Contact Centers clientele had low levels of satisfaction (Saravanan and Veerabhadraiah, 2003).

CONCLUSIONS

To make the agricultural knowledge information system more effective, the strengths of NGOs and agricultural consultancies need to be inculcated in the public extension system through public-private-NGOs partnership programmes. To enhance the effectiveness of the public extension system, client-specific extension services need to be given instead of blanket recommendations. Performance based incentives to public extension personnel need to be introduced for better organizational commitment and accountability. The grass roots extension planning and implementation system needs to be practiced through the decentralization of activities in public extension system. The public extension personnel need to concentrate on an optimum number of farmers for effective extension services delivery. The innovations of private and NGOs extension such as Self Help Groups (SHGs), women leadership, single window delivery, information and communication technologies (ICTs) and environmental extension education could be integrated with the overall agricultural knowledge delivery system. The Governments have an important responsibility to integrate

pluralistic actors with the agricultural knowledge information delivery system through public-private-NGOs partnership programmes.

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