Commodity Based Associations – Offering Potential for Farmers' Prosperity

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Abstract

The paper analyses the impact of Commodity Based Associations (CBAs), grassroot level autonomous registered bodies established around a single enterprise, on income enhancement, employment generation and social status of the member producers. The results revealed that, the mean annual net income of the members before their participation in CBAs was Rs. 55,171 which rose to Rs. 70,378 after their membership. The mean annual employment generation was 390.28 mandays and 437.20 mandays during pre and post formation of CBAs, respectively. The mean social status score of CBA members before their participation was 7.80 while it was 15.08 after their membership. Indian farmers are facing many problems such as decreased profit margin, lack of employment, poor market linkages, etc. on account of issues like continuous fragmentation of land holdings, emergence of nuclear family system, steep increase in cost of production and others. This has led to large scale migration particularly of farm youth to urban areas. Findings suggest that producers associations have the potential to help farmers overcome many challenges and continue in farming through enhanced income, better living and ensured food security.

Keywords: Commodity Based Associations, impact, annual net income, employment generation and social status

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Introduction

The Green Revolution has been the cornerstone of India's agricultural achievement transforming the country from food deficiency to self-sufficiency during 1960s. Thereafter, the agriculture sector in India has been successful in keeping pace with the ever increasing food demand of the growing population. Food grain production has increased more than five folds since 1950s from 51 million tons to 277.49 million tons during 2017-18 (Anon, 2018) whereas the population has increased about four folds from 36 crores to 135 crores during the corresponding period. In spite of this achievement, the living conditions of farmers have declined continuously. Given the choice, a large chunk of farmers want to leave farming and look for opportunities in non-agriculture sectors. As per 59th round of National Sample Survey on the Situation Assessment Survey of farmers (2003), 40 per cent were of the farmers households were of the opinion that, given a choice, they wanted to look for vocation in non-agricultural sectors. Migration of farm youth in India was 45 per cent, leaving many Indian villages as old age homes. In the days to come, if no corrective measures are taken for the development of farmers, the number of farmers looking for non agriculture vocations is likely to increase. Therefore, it is appropriate and timely to know why farmers are loosing interest in farming and come up with appropriate remedial measures to help them continue in farming.

The increase in population, subdivision and fragmentation of land holdings due to breakdown of joint family system encouraging conversion of semi-medium and medium group of farmers into group of small and marginal farmers, resulted in un-economic land holdings (Singh, 2012). As a result, the growth of agriculture considerably slowed down. Both the labour productivity as well as land productivity have fallen by half in the last three decades and capital-labour ratio has doubled in agriculture (Behera, 2012). The decrease in production, increase in cost of production and bare minimum increase in Minimum Support Prices have made the agricultural activity unremunerative. As a result, indebtedness in agriculture has increased (Mahajan, 2015). The New Agricultural Technology has not made any significant impact on the conditions

of rural labourers. All indicators related to the well being of rural labourers have suggested that New Agricultural Technology has worsened the lives of rural labour instead of improving (Jha, 1997). The cumulative effect of all these factors has adversely affected farmers' interest and confidence in farming. In this backdrop, the Rural Bio-Resource Complex (RBRC) Project was implemented by University of Agricultural Sciences, Bangalore during 2005-2010 with the support of the Department of Biotechnology (DBT), Government of India to address the aforesaid issues in evolving lasting solutions to the farmers' problems by promoting need based producers associations. The present paper aims at analyzing the impact of CBAs on annual income, employment and social status and to find out the relationship between the selected traits of CBAs members with three major aspects considered for impact evaluation i.e. income, employment and social status.

Rural Bio-Resource Complex (RBRC) Project

The Department of Biotechnology (DBT), Government of India launched Rural Bio-resource Complex (RBRC) project on a pilot basis at five selected centers across the country and one such centre was provided to the University of Agricultural Sciences (UAS), Bangalore. The project was conceptualized during 2004 by a team of interdisciplinary scientists with a view to revisit the existing agricultural development strategies and to suggest a model for enhancing income and living standard of farmers. The project was implemented in Tubagere Hobli of Doddaballapur taluk in Bangalore Rural district of Karnataka State, covering 8340 farming and non-farming families spread over 75 villages, from April 2005 to March 2010. Baseline information was collected from all the families before the project implementation to know the status and opportunities for sustainable development.

The project envisaged to enhance the income and standard of living of people by promoting integrated farming system as well as addressing end to end issues. The project has formulated five pronged development strategies namely; (1) Promotion of capsule of sustainable technologies, (2) Providing effective information support system, (3) Ensuring quality critical inputs and custom

hire services of farm machineries, (4) Effective functional linkage with various institutions, (5) Market empowerment.

Efforts were made to implement the above defined strategy along with diversification towards sustainable options during the first year of the project resulting in enhancing the production and productivity. There were a series of deliberations on the scientific marketing of all the produce such as grading, packing, branding and linking to the market. It was realized by the end of the first year that the produce could not be marketed profitably by the small and marginal farmers. Even large farmers found it difficult to market their produce efficiently for various reasons like exploitation by middlemen, heavy overhead expenditure, lack of storage facilities and long distances to travel.

Marketing has always been one of the weak links mainly due to size of land holdings. However, recently some successful examples have emerged where farmers have come together in groups to market their produce efficiently. There are so many successful examples of farmers coming together in groups like Grape Growers in Maharashtra but such initiatives are mostly operating in isolation due to lack of support and proper policies of the Government. In this context, the project took the initiative to promote CBAs in the project area. There were a series of deliberations involving all the stakeholders. There were further discussions on the feasibility of the associations for individual enterprises. Finally, the concurrence of the university and funding agency was obtained to start CBAs on selected enterprises from the beginning of 2007.

Commodity Based Associations (CBAs)

Commodity Based Associations are the grassroot level autonomous registered bodies established around a single enterprise or a group of related enterprises to offer end to end solutions to a group of producers in order to improve production efficiency, minimize cost of production, facilitate value addition and enhance the profit margins. These associations are essential where a large number of producers are taking up a particular intervention/enterprise in a given locality/region with reasonable surplus produce for sale. The CBAs will address a majority of the issues related to backward and forward linkages which is a prerequisite for profitable farming.

The CBAs enable farmers to demand rightful services from concerned institutions, profitable use of farm machineries, adoption of shared labour concept, undertake value addition and processing of the produce, create additional employment opportunities for the farmers, develop leadership qualities and professionalism in marketing by farmers, help to improve bargaining power, network and share experiences.

Methodology

The study was conducted in purposefully selected Tubugere Hobli of Doddaballapur taluk in Bangalore rural district of Karnataka state. A total of 250 members from ten CBAs established under Rural Bio-Resource Complex Project were selected based on proportionate random sampling technique. To know the relationship between the characteristics of farmers and the impact of CBAs, correlation and regression analysis was used.

In order to quantify the impact of CBAs, three dependent variables namely; annual income, employment and social status were considered. Sixteen independent variables used for analysis were age, education, farming experience, family dependency ratio, land holding, social participation, cosmopoliteness, management orientation, deferred gratification, achievement motivation, innovativeness, mass media participation, participation in training programme, extension participation, farm scientist contact and contact with extension agency.

Impact of CBAs on Annual Net Income

The annual income was operationally defined as the total annual net income realized in rupees due to participation in the CBA activities by the members. Procedure followed by Vinay Kumar (2008) was used to measure the annual net income of the members. Annual net income (ANI) is measured using the following formula:

ANI = Gross income - total expenditure

The impact on annual income of CBA members was calculated by comparing the means of annual net income before and after their membership in CBAs.

Impact of CBAs on Employment Generation

Employment generation was operationally defined as the number of mandays of employment generated annually in the member's family as a result of participation in the activities of CBAs. Procedure followed by Vinay Kumar (2008) was used to measure the employment generation. The mandays of employment generated was calculated by collecting the data on all the possible sources of employment generation such as agriculture, subsidiary activities, business, salary, daily wages and other possible sources. The sum of mandays of employment for each respondent was used for analysis. The impact on employment generation on the CBA members was computed by comparing the means of employment generation in mandays before and after their participation in the CBA activities.

Impact of CBAs on Social Status

Social status is defined as "the extent to which the status of a farmer has improved in the social system in which he lives as a result of his involvement in a programme (Linton, 1996). Social status is operationally defined as the improvement in position or the rank of the member due to his/her participation in the activities of CBAs. The scale developed by Narayana Gowda (1992) was used with suitable modifications to measure social status of the CBA members.

The scale consists of 14 statements indicating changes which occurred due to the participation in CBAs. The responses were collected on four point continuum namely; 'always', 'frequently', 'occasionally' and 'never' with a score of 3, 2, 1 and 0, respectively. The maximum and minimum score a respondent could obtain under this variable was 42 and 0, respectively. The score obtained on the basis of responses for each statement was pooled to find out the total score of the respondents. The impact on social status of CBA members was calculated by comparing the means of social status score before and after their participation in CBA activities.

Results and Discussion

Impact of CBAs on Annual Income, Employment Generation and Social Status of its Members

Impact on Annual Income

It is evident from the findings depicted in Table 1 that the mean annual income of CBA members before their membership was Rs. 55,170.80 and after their membership it was Rs. 70,377.88. The annual income has increased by 27.56 per cent. The important contributions to enhance the income of the members were, reduction in the marketing cost through pooled marketing, minimization of exploitation by middlemen, reduction in production cost through bulk purchase of certain critical inputs, sharing of successful experiences and interaction effect of all these factors.

The elimination of middle men has helped in enhancement of producer share in the consumer rupee. The association has promoted direct marketing of jack fruit, bio-fuels and their value added products, maize, ragi and their value added products, banana, flowers and vegetables. Due to constant guidance and sharing of information, there is considerable increase in the productivity of crops as well as other enterprises and cost minimization leading to increased income among the members. Similar results were also reported by Sailaja (2002) on empowerment of rural women through participation in cooperative institutions and Josily Samuel et al. (2011) in their study on impact of microfinance on rural women.

Table 1. Impact of CBAs on annual income, employment generation and social status. (n=250)

Sl. No.	Impact	Mean values		Mean enhancement	Percentage of Increase	Paired 't' value
		Before	After			
1.	Annual Net income (Rs)	55170.80	70377.88	15208.84 ±25468.31	27.56	10.49**
2.	Employment generation (Mandays)	390.28	437.20	46.916±29.28	12.03	9.44**
3.	Social status (Score)	7.80	15.08	7.28±5.73	93.23	19.73**

**: Significant at 1 per cent level of probability.

Impact on Employment Generation

The data in Table 1 reveals that the mean annual employment generation of CBA members before their membership was 390.28 mandays and after their membership the annual employment generation rose to 437.20 mandays.

The interventions adopted by CBA members have made significant contribution to employment generation. About 47 mandays of increased annual employment was seen in the members after CBA membership. One of the mandates of the project was to provide gainful employment to the entire family through the introduction of improved technology as well as new enterprises besides their active involvement in value addition, processing and direct marketing of farm produce. These initiatives were able to provide employment not only to the elders but also to the farm youth. Employment opportunities were distinct in case of members who participated in Bio-fuel Growers Association, Fish Growers Association, Jack Fruit Growers Association, women federation engaged in processing and value addition of Ragi and Maize and vegetables and fruit growers association. The results are in conformity with the findings of Vinay Kumar (2008) on impact of RBRC in Bangalore rural district and Dabali (2010) on socio-economic evaluation of SHGs in Karnataka.

Impact on Social Status of the Members

Table 1 revealed that the mean social status score of CBA members before their membership was 7.80 and after CBA membership social status score was 15.08 with an increment of 93.23 per cent.

Continuous technical guidance has been provided to the Commodity Based Associations through scientists from the agricultural university because it was easy for scientists to reach the office bearers of these association directly or over mobile. Even the office bearers were contacting the concerned scientists

directly to seek additional information, new information and for clarifications. These office bearers used to share the information with fellow members and even vice-versa. Due to their distinct achievement, they were recognized by the university, development departments and fellow local leaders. Increase in income resulted in better food habits, better schooling for their children, enhanced household gadgets and suitable offers to their children and migration of farm youth from these families has reduced in view of increased employment opportunities. The members have been considered resource persons in the village by fellow villagers. All these factors have contributed to the increased social status of the members after CBA membership. Other researchers such as Ritu Jain et al (2003) also reported similar results in their study on impact of SHGs, Arunkumar (2005) in his study on swa-shakti groups and Bharathi and Chaya Badiger (2008) in their study on SHGs in Karnataka.

Relationship between Identified Traits of CBA Members and their Annual Income/ Employment Generation and Social Status

Relationship between identified traits of CBA members and their Annual Income/ Employment Generation and Social Status is presented in Table 2. The table reveals that only education out of five traits identified under personal variable category is found to be significantly related with Annual Income/ Employment Generation and Social Status. Under socio-psychological variables, all were found significantly related with identified parameters except deferred gratification and social participation. In case of communication variables considered under the study, all the variables were found to be significantly related with Annual Income/ Employment Generation and Social Status of the CBA members except mass media participation in case of employment generation.

The core objective of the RBRC project was to make farming a profitable venture so that farmers stay back in farming. For this purpose, the project has taken many initiatives which include training of farmers, promoting participation of

members in different extension activities and continuous technical guidance to the members. All the efforts made by the project resulted in increased achievement motivation, education, management orientation, farmer scientist contact, extension contact and extension participation which in turn resulted in increased annual income of the members. The training received by members resulted in the development of farm management skills, improved motivation levels, acquire innovation skills, more cosmopoliteness and enhanced their contact levels with the farm scientists. All these factors have resulted in building the confidence to start new enterprises and to acquire skills to enhance employment opportunities. The changes that have been brought out by the project staff in terms of educational activities, training of famers on different technologies and farm management activities, improving the farmers cosmopoliteness particularly on campus training and guidance from farm scientists has brought increased knowledge and skills which has been duly recognized by the other farmers. Hence, the above said variables were found significantly related to the social status of the members. Results are in line with the findings of Vinay Kumar (2008) study on impact of RBRC on beneficiaries in Bangalore rural district.

Table 2.Relationship between identified traits of CBA members and their Annual Income/ Employment Generation/ Social Status (Correlation Coefficient)

(n=250)

Sl. No.	Characteristics	Annual Income	Employment Generation	Social Status
I. Personal variables				
1	Age	0.086^{NS}	0.039^{NS}	0.001^{NS}
2	Education	0.262**	0.316**	0.318**
3	family dependence ratio	0.039^{NS}	0.040^{NS}	0.034^{NS}
4	Land holding	0.161^{NS}	0.034^{NS}	0.040^{NS}
5	Farming experience	0.092^{NS}	0.091^{NS}	0.032^{NS}
II. Socio-psychological variables				
6	Management orientation	0.320**	0.221*	0.431**
7	Achievement motivation	0.338**	0.199*	0.212*
8	Innovativeness	0.222*	0.250*	0.250*
9	Cosmopoliteness	0.216*	0.209*	0.387**
10	Deferred gratification	0.089^{NS}	0.020^{NS}	0.192^{NS}
11	Social participation	0.133^{NS}	0.120^{NS}	0.081^{NS}
III. Communication variables				
12	Mass media participation	0.214*	0.013^{NS}	0.198*
13	Participation in training programme	0.362**	0.251*	0.336**
14	Farm scientist contact	0.264**	0.212*	0.444**
15	Extension contact	0.336**	0.261*	0.479**
16	Extension participation	0.412**	0.499**	0.379**

Extent of Contribution of Personal, Socio-psychological and Communication Characteristics of Members to their Annual Income/ Employment Generation and Social Status

A total of 16 variables considered under three categories i.e. personal, socio-psychological and communication variables have explained variation to the tune of 65.0 per cent, 65.6 per cent and 77.8 per cent in Annual Income, Employment Generation and Social Status, respectively. Only one variable (education) under the category of personal variables is found to be significantly contributing to all the three parameters considered under study i.e. Annual Income, Employment Generation and Social Status (Table 3). Under socio-psychological category, variables like achievement motivation and innovativeness have been found important for all the three parameters, management orientation is important only for Annual Income and Social Status while completeness is found important only for improving social status.

All the five variables considered under the category communication are found to be contributing significantly except for the variable mass media participation in annual income and employment generation. The organized group when exposed to new information try to use the available local resources optimally through effective management. The scale of operation also helps them reduce cost and avail better access to the market. This analogy further moves to marketing management resulting in deriving higher profit margin than managing marketing individually. The participation in group and various activities which is possible due to being a member of the group provides them a better social acceptability.

Table-3. Extent of contribution of identified variables to Annual Income/ Employment Generation/ Social Status of CBA members

Sl. No.	Characteristics	Annual Income			Employment Generation			Social Status		
		Regression coefficient (b)	Standard Error of Regression coefficient (SE_b)	‘t’ value	Regression coefficient (b)	Standard Error of Regression coefficient (SE_b)	‘t’ value	Regression coefficient (b)	Standard Error of Regression coefficient (SE_b)	‘t’ value
I. Personal variables										
1	Age	0.103	0.012	0.11^{NS}	0.282	0.361	1.28^{NS}	0.392	0.380	0.96^{NS}
2	Education	0.324	0.717	2.21*	0.317	0.812	2.56*	0.263	0.781	2.96**
3	Family dependence ratio	0.130	0.019	0.91^{NS}	0.346	0.616	1.78^{NS}	0.410	0.682	1.96^{NS}
4	Land holding	0.155	0.297	1.91^{NS}	0.417	0.468	1.12^{NS}	0.363	0.444	1.22^{NS}
5	Farming experience	0.375	0.417	1.10^{NS}	0.684	0.561	0.81^{NS}	0.367	0.580	1.58^{NS}
II. Socio-psychological variables										
6	Management orientation	0.229	0.749	3.26**	0.327	0.716	1.88^{NS}	0.168	0.616	3.66**
7	Achievement motivation	0.016	0.317	2.72**	0.356	0.861	2.41*	0.194	0.581	2.98**
8	Innovativeness	0.318	0.671	2.11*	0.209	0.487	2.33*	0.268	0.666	2.48*
9	Cosmopoliteness	0.277	0.258	0.93^{NS}	0.132	0.222	1.67^{NS}	0.232	0.786	3.38*
10	Deferred gratification	0.168	0.222	1.32^{NS}	0.375	0.361	0.96^{NS}	0.886	0.780	0.88^{NS}
11	Social participation	0.389	0.386	0.99^{NS}	0.078	0.123	1.56^{NS}	0.377	0.612	1.62^{NS}
III. Communication variables										
12	Mass media participation	0.200	0.212	1.01^{NS}	0.600	0.960	1.60^{NS}	0.439	0.888	2.02*
13	Participation in training program	0.291	0.818	2.81**	0.177	0.444	2.50*	0.368	0.962	2.61*
14	Farm scientist contact	0.329	0.812	2.46*	0.292	0.583	1.99*	0.188	0.786	4.16**
15	Extension contact	0.240	0.816	3.39**	0.391	0.790	2.02*	0.231	0.892	3.86**
16	Extension participation	0.286	0.916	3.41**	0.245	3.618	3.61**	0.216	0.998	4.60**
R^2/F		R^2 = 0.650, F =15.33**			R^2 = 0.656, F =13.69**			R^2=0.778; F=11.56**		

NS: Non-Significant; *: Significant at 5% level and **: Significant at 1% level

Conclusion

The study suggests that the group approach promoted under the project has successfully improved the income, employment and social status of the farmers. A significant increase was observed in the annual income, employment generation and social status of the farmer after joining commodity based associations. Promotion of CBAs in case of selected commodities will make a good strategy to help farmers sustain in agriculture mainly smallholders, when majority of the farmers are operating on small and marginal land holdings. The Commodity Based Associations have made significant contribution towards increased profits by reducing the cost of production. This has improved farmers access to resources and their acceptance as resource persons in the village by fellow farmers leading to better social status of CBA members. Socio-psychological factors like management and motivation have also been found to play an important role in influencing income, employment and social status of member farmers. Accordingly, there is need to focus on components like training of farmers, promoting participation of members in different extension activities and continuous technical guidance to the members.

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