

## **Market-Led Institutional Innovations for Farmers' Inclusive Growth and Livelihood Security**

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### **ABSTRACT**

The study aimed at analyzing some successful models of institutional arrangements in India, where-in linking to value chains and markets facilitated inclusive growth of farmers. The grain festival could enhance the income of farmers, while helped consumers by way of ensuring savings as well as quality produce at competitive rates. Linking the linseed growers' association to value chain helped the member's secure additional benefits of \$10.30 per quintal of produce. Similarly, operations through SHGs and federations, helped landless tribal women adopt sericulture on leased land to ensure livelihood security. Membership of growers' association (MAHAGRAPE) helped the grape growers secure an additional profit of \$3958 per hectare through adoption of proper production; harvesting and post-harvest management practices, and savings on transaction costs. Factor analysis revealed financial management, incentives and welfare measures for members, trust among the members, democratic style of leadership, transparency in dealings, and identity of the organization as the major facilitating factors for sustainability of farmers' organizations. The suggestive measures for effective and sustainable functioning of farmers' producer's organizations and growth include access to land and capital for developing processing and ware house units, provision of seed money, easy access to credit, capacity building facilities, and tax exemption.

**Keywords:** Grain Festival (*DhanyaMahotsava*), Sericulture, Linseed Growers' Association, Producer Company.

### **INTRODUCTION**

The contributions of the farmers' in nation's stride towards food security and socio-economic prosperity have been phenomenal, and are worth salutation. However, a vast majority of them remain deprived of developmental benefits. Besides the astronomical rise in cost of cultivation, indebtedness, dwindling land and water resources, depleting nutrient base and production capacity of soil, escalating ecological degradation and ravaging climatic variability; what aggravates their plight is their solitary reaping behavior. The process of collectivization and incidences of collective action and reciprocity in rural areas are either non-existent or are fast eroding and going in to oblivion. The growing scale of multinational retailers, seed and fertilizer companies, and distributors, has also accounted to their marginalization or dis-empowerment. Because of poor resource endowments and collateral capacities, neither they have access to credit, input, extension, and market services and facilities nor do they have control on the way they run their farms and their livelihoods. Inclusive growth remains an avowed objective of the development planners but it is elusive. The strategy to inclusive growth of late hinges upon farmers' empowerment. In recent times,

mobilization of farmers for group formation and collective action has been deployed as a key organizational mechanism to facilitate the collaborative effort of farmers, particularly the small-scale farmers, for their empowerment through collective assets, articulation and access to various services. The process of collectivization needs to be stressed upon among farmers for having a strong voice and articulation as well as bargaining power. Linking farmers to markets has been the Achille's heels in the agricultural development strategy. However, in the recent past, farmers' organization and collective action have been accepted as key factors in enhancing farmers' access to markets (Hellin *et al.*, 2009). With collective actions, the farmers could reduce transaction costs (Helen *et al.*, 2009), secure access to new technologies and compete with large farmers (Stockbridge *et al.*, 2003) and improve their bargaining power (Thorp *et al.*, 2005; Kherallah *et al.*, 2002; Devaux *et al.* 2006). Collective actions and institutions like cooperatives, growers' associations, farmer producer organizations, and contract farming have been emphasized to facilitate linking the farmers to markets (Eaton and Shepherd, 2001). Such institutional arrangements could be pro-small farmers as

they reduce the marketing and transaction costs and risks but the challenge is integration and inclusiveness of small farmers in supply chains (Birtal, 2007). The present study investigated the farmers' perceived constraints in linking with market and the effectiveness of some models of empowering farmers through market-led institutional innovations, namely, direct linking of farmers and consumers through Grain festival (*DhanyaMahotasava*), Maharashtra; linking through farmers' associations (*Gajanan Maharaj Jawas (Linseed) Utpadak Samuh Gat*, Nagpur and *MAHAGRAPE & MAHAANAAR*, Pune, Maharashtra), linking through Women's SHGs (*Mahila Resham Udyog Sahkari Samiti*, Hoshangabad, Madhya Pradesh) and cooperatives (Madhurapur Women Milk Producers Cooperative Ltd, Vaishali, Bihar) and linking through farmers' producers companies (*Samarath Producers' Company*, Agar, Madhya Pradesh). *MAHAGRAPE & MAHAANAAR* are growers associations of fruit crops grapes and pomegranate, respectively. It also tried to capture the factors determining the sustainability of farmers' organizations as perceived by the farmers.

## METHODOLOGY

The study was based upon primary as well as secondary data. The primary data were collected through interview schedule based personal interviews and focus groups of the 300 randomly selected farmers drawing 50 members/beneficiaries from each of the associations and cooperatives i.e. *Gajanan Maharaj Jawas (Linseed) Utpadak Samuh Gat*, Nagpur; *Mahila Resham Udyog Sahkari Samiti*, Hoshangabad, Madhya Pradesh; Madhurapur Women Milk Producers Cooperative Ltd, Vaishali, Bihar; *Samarath Producers' Company*, Agar, Madhya Pradesh; *MAHAGRAPE* and *MAHAANAAR*, Maharashtra. Further, 100 non-members 50 each from *MAHAGRAPE* and *MAHAANAAR*, Maharashtra were also interviewed for comparative analysis. Interviews were also conducted with randomly selected farmers (50) and consumers (50) participating in the grain festival. Thus a total of 500 respondents were interviewed. The official records were used for secondary data. The descriptive statistic and standard analytical tools like compound growth analysis and factor analysis were used for data analysis.

Factor analysis technique was employed to explain the variables determining sustainability of farmer's organizations. It helped in reducing a large number of variables into a smaller set of factors that summarized the structure of organizations' sustainability. The analysis provides a means of identifying and measuring the

relationships or basic patterns in the dataset. The analysis was carried out using principal axis factoring method with varimax rotation on the correlations of the observed variables. The factor model postulates that X is linearly dependent upon a few unobservable random variables  $F_1, F_2, \dots, F_m$ , called common factors and  $p$  additional sources of variation  $\epsilon_1, \epsilon_2, \dots, \epsilon_p$ , called errors or sometimes specific factors. The factor analysis model (Johnson and Wichern, 1992) is expressed as:

$$X_p = l_{p1}F_1 + l_{p2}F_2 + l_{p3}F_3 + \dots + l_{pm}F_m + \epsilon_p$$

where,  $l_{pj}$  is called the loading of the  $p^{\text{th}}$  variable on the  $j^{\text{th}}$  factor ( $j = 1, 2, \dots, m$ )

The unrotated factors are difficult to interpret and often do not give meaningful patterns of variables, hence a new set of variables was generated by rotations. The varimaxrotation method (Kaiser, 1958) was used which maximizes the variance of factors in the matrix and contains several high or low loadings. Factor loadings with more than or equal to 3- times the standard error were considered for the inferences. The inferences were drawn on the basis of factor loading ( $<0.50$ ) in the final loading matrix by using the following standard-error (Harman, 1967):

$$\sigma_a = \frac{1}{2} [(3/r - 2 - 5r + 4r^2)/N]^{0.5}$$

Where,

$\sigma_a$  = Standard-error of factor loadings,

$r$  = Average value in correlation matrix or factor loadings, and

$N$  = Number of observations

## RESULTS AND DISCUSSION

### Constraints in linking with market

The constraints to linkage with markets, as perceived by the farmers, were elicited with focus group discussion and were subjected to ranking on degree of seriousness. Based on Garret ranking scores, the constraints were rank ordered (Table-1). For the majority of the farmers, small size of holding and small scale of operation was the major constraint (Garret score 72.16), followed by high cost of transaction (Garret score 70.67) and lack of entrepreneurial skills (Garret score 63.76). Low size of holding constrains the farmers in several ways. The quantum and quality of production becomes a limitation for better market orientation. High cost involved in transport and marketing further deters them. Collective action was a missing

phenomenon among small and marginal farmers and farmer- driven collectivization process is still rare. However, the government and private sectors interventions have provided some impetus to it.

**Table 1: Constraints to market linkage**

S.N.	Particulars	Garret score	Rank
i.	Small holdings and scale of operation	72.16	I
ii.	High cost of transaction	70.67	II
iii.	Lack of entrepreneurial skills	63.76	III
iv.	Lack of collectivization	58.63	IV
iv.	Lack of financial and credit support	50.13	V
v.	Lack of infrastructure facilities	41.06	VI
vii.	Lack of technological support	35.40	VII
viii.	Lack of linkage with service agencies	33.22	VIII
ix.	High cost of inputs	25.54	IX

**Linking farmers directly to consumers - a case of grain festival (*Dhanyamahotasava*)**

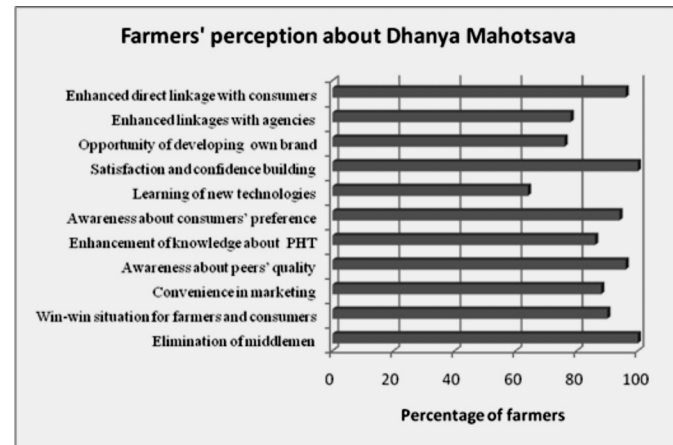
With a view to eliminating the middlemen, an innovative mechanism of linking farmers directly to consumers has been initiated in Maharashtra in form of grain festival or locally named as *DhanyaMahotasava* by the collaborative endeavours of Agricultural Technology Management Agency (ATMA) and Maharashtra Agricultural Competitive Project. It entails the linkages among the farmers, consumers and service and support agencies like ATMA, line departments and institutions. A market place at district/block level with logistics is provided free of cost to the farmers, where the farmers can sale their produce. A wide advertisement about the festival/mahotsava is done through ATMA to sensitize the farmers and consumers for participation. The farmers are provided with uniform sale bags with identification marks like name and address of farmer or group, contact number, crop details, etc to facilitate tracking and future linkages. A satisfied consumer could place the demand in advance to the concerned farmer or group, while a dis-satisfied consumer could complain to the farmers or group about the poor quality. The farmers and the consumers were highly satisfied with the arrangements as revealed by the gains accrued to them (Table-2).

**Table 2: Gains to farmers and consumers**

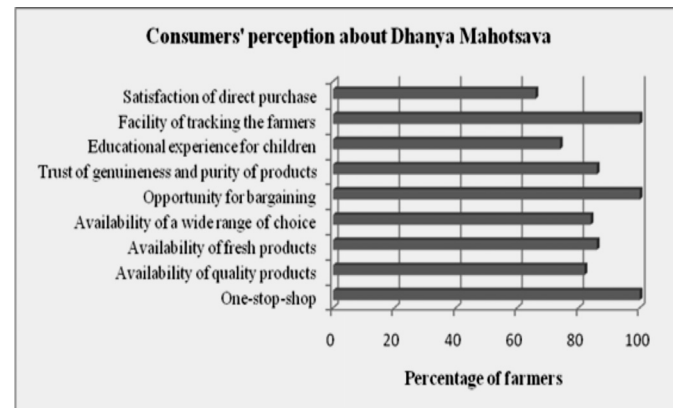
S.N.	Actor	Average rate of wheat(\$ per qtl)		Gain and savings (\$ per qtl)	Percent gain /savings
		Open market	Direct market in festival		
i.	Farmer	28.50	33.25	4.75	16.67
ii.	Consumer	39.60	33.25	6.35	16.00

Direct marketing of wheat to consumers ensured about 17 per cent gain to the farmers. The farmers with happy

experiences shared that the margin of gains could be further enhanced through new skills and visions in producing crop varieties as per consumers' preference and adopting postharvest handling (grading and cleaning) and packaging practices. The consumers too had benefits of savings (16 per cent per quintal) on purchase of wheat besides quality assurance. That the *Dhanyamahotasava* has been appreciated and preferred by both the farmers and consumers is amply reflected from their perception revealed in Fig-3&4.



**Fig. 3: Farmers' perception about *Dhanya Mahotasava***



**Fig. 4: Consumers' perception about *Dhanya Mahotasava***

The benefits for the farmers included elimination of the presence and wrath of the middlemen, convenience in marketing, learning about better management practices from peer farmers, related confidence due to sale of produce, enhanced motivation to scale up production and marketing based upon consumers' choice and integration of postharvest technologies, enhanced linkages with the agencies and consumers. For consumers, availability of quality produce at cheaper rate with a variety of choices and opportunity of children's agricultural education excursion were the major attractions.

The participation of scientists, line departments' officials, ministers and other dignitaries in the workshop and interaction meets during the *mahotsava*, provides opportunity of new learning to the farmers and a sense of conviction among the consumers. However, there are challenges in the sustainability of the *Dhanyamahotsava* (Table-5), which include improved logistics like refrigerated storage for perishable products, facility of banks to deposit the daily earnings and avoid the cases of theft and loot, and proper stay arrangements besides incentives and support in upscaling.

That direct marketing to consumers ensured higher marketing efficiency and higher share in consumer's rupee in comparison to other channels involving intermediaries was also observed in case of the orange growers in Maharashtra (Gedam and Padaria, 2012). However, promotion of direct marketing requires institutional support system and *DhanyaMahotasava* is an innovative and effective initiative in this regard.

**Table 5: Challenges to *Dhanyamahotsava***

n=50			
S.N.	Challenges	Frequency	Percentage
i.	Sustainability of <i>Dhanya Mahotsava</i>	37	74
ii.	Improved lodging logistics for farmers travelling from distant villages	47	94
iii.	Facility of bank deposits to safeguard theft of money earned at the venue	41	82
iv.	Training in value addition to keep pace with consumers' need and preference	43	86
v.	Wider advertisement	48	96
vi.	Storage facility at venue	37	74
vii.	Refrigerated storage for perishables	22	44
viii.	Incentives to farmers	23	46

#### Linking to value chain with public-private partnership

Very often the farmers exceptionally excel in technology adoption and production but fail to draw the benefits in want of market and value chain linkages. Linking to value chains has shown immense potential in ensuring the farmers remunerative returns and in increasing their scale of production. A tripartite public-private partnership of Agricultural Technology Management Agency (ATMA), Nagpur; Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola State Agricultural University; and BAIF Development Research Foundation (formerly registered as the Bharatiya Agro Industries Foundation), Pune with a farmers' association called *Gajanan Maharaj Jawas (Linseed) Utpadak Samuh Gat* of Chikhlapar, Bhiwapur, Nagpur in Maharashtra has proved to be a boon for the farmers. Started in 2010, the linseed growers' association has 200 members, who grow linseed (var.NL 260 having maximum 43% Omega -3) with seeds from BAIF,

technological backstopping from PDKV, Akola and input and capacity building support (like Farmers' Field School programme, exposure visits and trainings) from ATMA. The produce is procured by BAIF for value addition. Every farmer has a quota of 10 quintals for procurement by the association. As against \$72.83 per quintal in conventional marketing, the farmers secured a rate of \$79.16 per quintal sale of produce besides \$ 3.96 per quintal as incentive. There was an additional gain of \$ 10.30 per quintal with this mechanism for the farmers, while BAIF had a assured supply of quality linseed suitable for value addition. Similarly, the partnership of department of Sericulture; Agricultural Technology Management Agency (ATMA), and *Mahila Resham Udyog Sahkari Samiti* in Hoshangabad district of Madhya Pradesh helped the landless tribal farm families enter sericulture based value chain and ensure livelihood security. Living in abject poverty, the landless tribal farm families used to work as farm labourers in distant villages and had employment for 3 to 4 months during sowing, intercultural and harvesting operations. A process of social empowerment was initiated through mobilization and formation of tribal women self help groups (SHGs), which were federated in *Mahila Resham Udyog Sahkari Samiti*. One acre land was given to all the women members of the *Samiti* for sericulture on lease. They were trained and educated to take up sericulture with trainings, exposure visits, and demonstrations through ATMA. The key elements of the institutional mechanism were provision of revolving fund to procure inputs, supply of quality planting materials, Provision of shed and cocoon rearing houses, and the assured procurement of ciccouns by the *Samiti*. It led to significant enhancement ( $P < .01$ ) in employment man-months and family income (Table-6).

**Table 6: Empowerment and livelihood security through sericulture**

S.N.	Particulars	Before joining to Women group		After joining to Women group		t-statistic
		Mean	Std. deviation	Mean	Std. deviation	
i.	Average employment man-months per year	2.87	0.438	10.57	0.417	-90.059**
ii.	Average income per month (\$)	23.63	252.02	92.62	820.65	-35.978**

\*\* $P < .01$

#### Augmentation of collectivization as farmers' Cooperatives: Case analysis of Madhurapur Women Milk Producers Cooperative Ltd

Established in 1987, Madhurapur Women Milk Producers Cooperative Ltd is a vibrant and successful case of women-led cooperative. There are 450 members. Significant increase of the membership in the cooperative

with annual compound growth rate of about 4.75 per cent ( $P < 0.01$ ) during 1998-2010 amply reflects the effective and profitable performance of the cooperative (Table-7). The milk procurement increased with annual compound growth rate of about 22.33 per cent, which led to enhancement in income generation of milk producers. Their profit increased at an annual compound growth rate of about 17 per cent. The members reported that access to assured market, access to quality cattle feed, quality AI service, provision of educational fund, provision of animal welfare fund, higher profit, no transaction cost for sale due to village level Milk collection centre, better health practices for animals, and saving of time were the major perceived benefits of being associated with the cooperative. The various funds for the welfare of the members like educational fund, sustainability fund, and animal welfare fund were crucial for cohesiveness and inclusiveness of villagers and members.

**Table 7: The compound growth rate of activities under the Madhurapura WMPC Ltd**

S.N.	Particulars	Annual compound growth rate (%)
i.	Number of members	4.75**
ii.	Milk procurement	22.33**
iii.	Purchase of cattle feed	23.22**
iv.	Purchase of butter	27.99**
iv.	Gross profit	17.13*
v.	Net profit	17.78**
vii.	Number of A.I.	5.56**

\*\* $P < 0.01$  and \* $P < 0.05$

*MAHAGRAPES* is an innovative institutional mechanism of Maharashtra state for empowering grape growers through collective marketing and export of grape. Since its establishment in 1991, there are now 16 grape growers' cooperative societies with 2500 active members. The main objective of *MAHAGRAPES* is to boost the export of grapes, enhance the profit of grape growers and update the farmers on latest technology in farming. The data from beneficiary farmers and non-beneficiary farmers of *MAHAGRAPES* from Sangali district revealed that an average additional profit of \$3958 per hectare was secured by the beneficiary farmers as compared to non-beneficiary farmers (Table-8). Adoption of proper production management practices; harvesting and post-harvest

handling (grading and packaging) helped the members in securing higher price (\$ 5.07 per box) than the non-members (\$ 3.96 per box). High adoption behavior (79%) and high level of satisfaction (50%) were observed among beneficiary farmers. Similarly, in case of *MAHAANAAR*, which is an association of pomegranate growers, the benefit cost ratio for the members (3.25:1) was higher than the non-members (2.25:1). Hence, there is need to promote and replicate commodity based farmers' cooperatives model (like *MAHAGRAPES*) in other part of the country for the benefit of the farming community.

*MAHA ANAR* (Pomegranate) Cooperative Society follows the international standards for safe and healthy production of fresh fruits. Beneficiary farmers (members) of this society are given proper guidance throughout the production season. Pesticide residue free pomegranate production techniques like planting materials of appropriate cultivars, plant protection measures, fertilizer application and proper harvesting and handling of fruits are given to the beneficiary farmers. As a result, majority of the beneficiary farmers (92 per cent) were found to have a high level of knowledge and adoption of pomegranate production technology as compared to non-beneficiary (non-member) farmers.

The study also revealed that the beneficiary farmers earned \$ 299.20 to \$3958.00 per hectare more as compared to non-beneficiary farmers who sold their produce in local market (*KrishiUtpanna Bazar Samiti*). The level of satisfaction was found more in case of beneficiary farmers as compared to non-beneficiary farmers. Also majority of the beneficiary farmers (90 per cent) were aware about care during production of pomegranate and had knowledge of food safety measures, which are very crucial for export of pomegranate fruits.

#### Empowering and linking farmers to market through Farmers' Producers Companies

Farmers' Producer Companies have emerged as a powerful and effective model of building strong grassroots institutions for enhancing the economic viability and marketing potential of farmers. They aim to integrate smallholders into modern supply networks (Trebbin and

**Table 8: Differential benefits to beneficiary and non-beneficiary growers**

Item	<i>MAHAGRAPE</i>		<i>MAHAANAAR</i>	
	Beneficiary	Non-Beneficiary	Beneficiary	Non-Beneficiary
Cost of cultivation (\$ per ha)	5937.00	5937.00	4955.40	4955.40
Gross Return(\$ per ha)	19790.00(@\$5.07/-per box)	15832.00(@\$3.96/-per box)	17811.00	13853.00
Net Profit (\$ per ha)	13853.00	9895.00	12871.00	8913.40
B:C Ratio	2.33:1	1.67:1	3.25:1	2.25:1

Hassler, 2012). Producer Companies are the legal institutions, registered under GOI's Producer Company Act, 2002. Their main activities include production of identified commodity, trading of agricultural inputs, marketing of produce, etc. They hire consultant for advisory services to farmers and promote local initiatives in the fields. Development of supply chain, processing, value addition and branding of products are also taken up by them. A case analysis of SamarathKisanProducer Company Limited, Agar in Madhya Pradesh was undertaken which strives towards enhancing income of shareholders (small & marginal farmers) by developing dynamic functional linkages with agri-business trade and industry and develop support system to enable farmers' and their institution to thrive independently in the competitive agri-business environment. It revealed that even the small and marginal famers could become seed producers. Generally a seed company makes contract with farmers having at least 2 ha land but through association with producers' company, small and marginal farmers too could draw the benefits of access to credit, supply of quality and cost-effective inputs, advisory of service providers on improved cultivation practices, and access to markets. More than 4/5<sup>th</sup> of members were highly satisfied as got technology, information, quality seed and inputs. The members earned additional income of \$1.58 to \$ 3.17 per quintal seed besides premium on graded seeds. Its business model emphasized upon selection of members through SHGs, financial sanction and services through Village Development

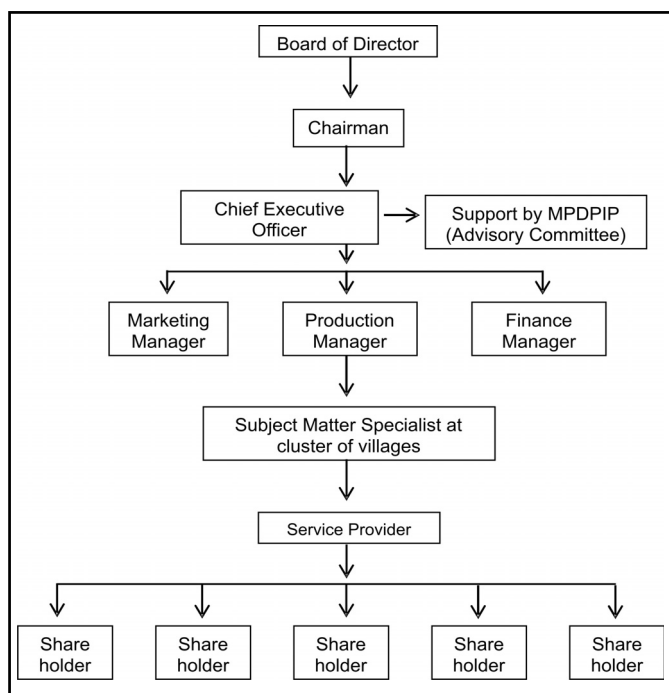


Fig. 5: Organogram of Samarath Producer Company, Agar, Madhya Pradesh

Committee and input-output management through Producer Company. The subject matter specialists and service providers (Figure - 5) are key actors in facilitation of demand creation, successful technology application and quality production of seeds. The service providers are from within the community who are trained in community mobilization and agro-techniques.

Mobilization of farmers, identification of democratic leader, handholding, technological backstopping, access to credit, inputs, information, advisory, and processing units, and field monitoring were the factors of success. The suggestive measures for effective and sustainable functioning of farmers' producers organizations and growth include access to land and capital for developing processing and ware house units, provision of seed money, easy access to credit and capacity building facilities, and exemption in tax.

#### Factors determining the sustainability of farmers' organizations

Early disintegration and decay of farmers' organizations have been reported. Basic education, management and entrepreneurial skills, and financial capacities (Pingali *et al.* 2005; Stringfellow *et al.* 1997; Hulme and Shepherd, 2003), interpersonal trust (Hansen, 2002), leadership traits and group cohesiveness (Hunsen *et al.* 2002; & Hellriegel, Jackson, and Slocum, 1999) are critical for successful cooperation and performance. Lack of these assets often leads to failure of collective action. Mexico witnessed failure of many rural organizations due to corruption and interpersonal mistrust (Key and Rusten, 1999). Therefore, a closer examination of the factors which facilitate the sustainability of farmers' organizations is required to provide impetus to the empowerment process. A Likert type scale having a set of seventeen statements (reliability coefficient: Cronbach's alpha of 0.62) related to sustainability was administered to randomly selected 100 farmers, who were the members of any farmers' organizations. The response categories for each statement were strongly agree, agree, uncertain, disagree, and strongly disagree, with corresponding weightage of 5, 4, 3, 2 and 1. The scores obtained on each of the statements were subjected to factor analysis to identify a reduced set of variables, which could explain sustainability. The initial Eigen values and the total variance explained are presented in table-9. The result of factor analysis was a rotated component matrix consisting of 6 components (Table-10), which accounted for 71.47 per cent of variance. The major themes for sustainability of organizations among the farmers were robust finance management, incentives to members, trust among the members, democratic style of leadership, transparency in dealings, and identity or brand of the organization (Table-11).

**Table 9: Initial Eigen values and total variance explained**

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	4.261	25.067	25.067
2	2.514	14.791	39.858
3	1.839	10.818	50.676
4	1.381	8.124	58.800
5	1.133	6.666	65.466
6	1.021	6.008	71.474
7	.900	5.297	76.771
8	.669	3.936	80.707
9	.623	3.662	84.369
10	.535	3.145	87.514
11	.462	2.720	90.234
12	.396	2.332	92.565
13	.331	1.947	94.513
14	.310	1.821	96.333
15	.248	1.459	97.793
16	.234	1.378	99.171
17	.141	.829	100.000

The farmers believed that robust financial management practices are essential for sustainability. The factors related to financial irregularities like corruption, delay in payment to members, inequality in financial support to members, etc generally lead to mistrust and disintegration of organizations. The three variables, namely, stringent audit system, accessibility to accounts, and timeliness in payment were found to have higher factor loadings in Factor 1. It reflects that financial perspective is one of the key factors for the farmers for sustainability in their perception. Accordingly the three dominant variables clustering under factor 1 was labeled as financial management. Four items loaded for Factor 2, which relate to reward, welfare, compensation, and sustainability fund for the members. The respondents perceived that welfare and motivation measures enhances the sense of belongingness and keep the members' interest in organization sustained. The Factor 2 was labeled as incentive. Factor 3 secured appreciable loadings from 4 items related to reciprocal faith, conflict resolution, integrity and sharing. All these four issues indicate towards behavioural traits of individual members, which reinforce cohesiveness and collective action. The Factor 3 was labeled as trust. Two variables which loaded onto Factor 4 signified participatory decision making and equality in opportunity dimensions of the organization. They indicated towards management's style of functioning. Therefore, the two variables in items were labeled as democratic leadership. Two items related to openness and communication in organization, which loaded onto Factor 5 and were labeled as transparency. Factor 6 was defined by two items related to members being recognized by organization and image of their products. Therefore, it was labeled as identity.

Financial management, incentive, trust, leadership, transparency and identity were found to be the predominant factors of sustainability of farmers' organizations. Hansen *et al* (2002) viewed trust as an important thing that can have a positive impact on organizations, particularly for cooperative organizations. Organizations make investment on efforts towards group dynamics, building trust, members' satisfaction and retention. The sense of belonging to a particular group (Bollen and Hoyle, 1990) and strengthening of members' commitment to a group and their desire to remain in a group (Hellriegel, Jackson, and Slocum, 1999) need to be emphasized for sustainability. Bingen *et al.* (2009) highlights that human capacity investments to facilitate technology adoption and marketing initially focus upon development of social capital, assistance for collective help, decentralized planning and participatory decision making processes.

**Table 10: Rotated sum of squared loadings**

Component	Rotated sum of squared loadings		
	Total	% of variance	Cumulative %
Finance management	2.752	16.188	16.188
Incentives	2.303	13.548	29.735
Trust	2.295	13.502	43.238
Democratic style	1.953	11.488	54.726
Transparency	1.646	9.680	64.406
Identity	1.202	7.069	71.474

## CONCLUSION

The study analyzed the institutional innovations for including farmers in to value chains and linking them to markets for inclusive growth. The collective action and mobilization for farmers' organizations and their backstopping with technologies and handholding support systems could foster institutions at grassroots. Case analyses revealed augmentation of improved cultivation with better access to technologies and credits, enhancement in employment and income generation as a result of association with farmers' organizations. The study revealed that farmers' organizations should uphold democratic principles and lay adequate emphasis upon the welfare of the members besides business obligations in order to sustain the vibrancy and longevity of the organizations.

Farm extension has a larger as well as different and diversified role to play in capacity building of small farmers and facilitating their linkage with market. Even with the best possible technologies, farmers alone cannot sustain the market pressures and imperatives. Linking with market and making farming remunerative cannot be assured only with individual's knowledge and skill rather it should be grounded in community-based actions. Formation of

**Table 11: Rotated component matrix**

S.N.	Components	Factors					
		1 Financial management	2 Incentive	3 Trust leadership	4 Democratic	5 Transparency	6 Identity
1.	There is stringent audit system in our organization.	.753					
2.	Accounts of expenditures and profits are accessible to all the members.	.773					
3.	The members get their payments in time.	.772					
4.	The performers are duly rewarded.		.716				
5.	Management lays emphasis upon the welfare of the members		.743				
6.	The members get compensation for loss .		-.714				
7.	Our organization maintains a sustainability fund for unforeseen situations.		.560				
8.	There is reciprocal faith in interactions and behaviours of members.			.663			
9.	The conflict in my organization is managed with dialogue.			-.886			
10.	The members in my organization have high integrity.			-.626			
11.	There is knowledge sharing among the members of our organization.			.618			
12.	Participative decision making makes the group cohesive.				.805		
13.	There is equal opportunity for all categories of members.				.863		
14.	The management in my organization promotes openness.					.755	
15.	The communication among the members and management is clear.					.759	
16.	We aspire to be known by our organization.						.714
17.	Our product is our image.						-.609

grassroots institutions like farmers' interest groups, commodity interest groups, collectives or cooperatives has emerged as the basic pre-requisite for effectiveness of market-led development. Though the efforts have been afoot to ensure participation of farmers in developmental process, more emphasis has to be laid upon structural arrangements where-in the farmers could be organized and enabled for collective action, quality production and value addition, taking initiatives towards agribusiness, and sensing and capitalizing opportunities for market integration. It calls for new approaches to extension system as well as new skills and competencies among the extension professionals in areas of community mobilization, group formation and group action, developing and delivering contents about market information, channelizing weather based advisory, conducting intensive trainings and demonstrations on frontier technologies for quality production and value addition, and enhancing linkages with service providers and agencies. Stress has to be laid upon management dimensions and educating farmers about rules and regulations about cooperatives, value-orientation and modalities for contract arrangements and arbitration, and awareness about risk management measures (e.g., insurance schemes).

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