



Effect of Incentives on the Collective Action of Farmer Organisations: A Case Study of Tea Smallholding Development Societies in Sri Lanka

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Abstract. The Farmer Organisations (FOs) are community-based, predominantly non-profit organisations operating independently of the state and the private sector. The existence of FOs is greatly challenged worldwide in the present neoliberal economic context. Therefore, it was imperative to find a solution for the present situation faced by farmer organisations, considering the contextual factors and other dynamics. The government of Sri Lanka established the Tea Smallholding Development Societies (TSHDS), the FOs, in the tea sector by a legislative act to facilitate the smallholders' development, marketing, welfare and financing. This study sought, to evaluate the collective action of the TSHDSs and investigate the influence of incentives on the collective action of TSHDSs. The unit of analysis was TSHDSs, and 120 TSHDS were selected using cluster, stratified and random sampling techniques. The sampling units were drawn from seven major tea smallholding districts in Sri Lanka. Data were collected from key officials and members of TSHDS using structured questionnaires. Descriptive analysis, Spearman correlation test, Wilcoxon sign rank test, and factor analysis were employed to analyze the data. Results revealed that tangible and non-tangible economic benefits generated within the entity act as an incentive and cyclically promote the collective action of the members in a virtuous cycle. The commercialisation of FOs leads to enhance voluntary cooperation in the TSHDS. This study emphasizes the importance of having an internal mechanism within the TSHDS to generate benefits through collaborative activities. Finally, this study recommends removing government intervention in controlling FOs and adopting an appropriate commercialization approach.

Keywords: Collective action, Farmer Organisation, Tea smallholding development Societies, Financial incentives.

1. Introduction

1.1. Background and Justification of the Study

Farmer-based organisations (FBOs) or farmer organisations (FOs) can be considered a type of community-based organisations (CBOs) in the agriculture sector, particularly in the

farming community. CBOs are predominantly non-profit-oriented organisations operating independently from the state and the for-profit private sector (Gunn, 2004; WHO, 2014). FBOs can be of different types, depending on their orientation, membership size, nature of the service provided, and the level at which they function. They are farmer organisations (FO), farmer companies (FC), farmer interest groups, farmer associations and cooperatives (Birchall, 2004; Kassam *et al.* 2011; Esham, 2012). It appears that literature has used the names of FBO and FO interchangeably.

Low financial capital and inadequacy of other resources are common problems faced by smallholder farmers. Thus, production is limited to low quantities and cannot generate attractive profits. Lack of market access, low bargaining power, lack of knowledge on agricultural technologies, and poor infrastructure facilities also influence the productivity of smallholder farmers. FBOs have been formed to resolve the above issues through a collective approach (Barham & Chitemi, 2009)

. It is an entity that represents the farmers in a given geographical area and deals with the agricultural enterprise-related needs of the members (Stockbridge, *et al.*, 2003).

Usually, a FO has well-defined membership, and its principal function is to provide services to the members (Datta, 2004). A FO has an organised structure and a purpose for gathering and attempts to achieve a standard set of objectives. However, the existence of the FO is greatly challenged worldwide in the present neoliberal economic context (Borhstoem, 2009). Many FOs have emerged as resource-oriented. Since such FOs do not deal with the economic problems of members, maintaining collective actions has become a challenge. Some traditional FOs in India had faced this problem critically and therefore, some of them transformed into market-oriented entities (Trebbin, & Hassler, 2012; Borhstoem, 2009).

Some Indian Farmer Producer Organisations (FPO) have transformed into Farmer Producer Companies (FPC) and adopted the multi-service approach, where the members were offered various services (Rajarithna, 2007). Japanese Agriculture Cooperative are the largest farmer network in Japan and gained its success by addressing a range of members' needs and able to secure the contribution of the members (collective action) (Giragama, *et al.* 1999; Stockbridge, *et al.*, 2003; Kazuhito, 2013).

The influence of key factors on the effectiveness of FOs in Sri Lanka has been studied (such as personal factors of leaders, contextual factors and organisational management-related factors (Uphoff, *et al.* 1990; Senanayake, 2004; Esham, & Usami, 2007; Mahindapala, *et al.*, 2023b). However, voluntary cooperation (collective action of FOs) has not been sufficiently researched except for a few research studies on irrigation management (Uphoff, & Wijayarathna, 2000; Athukorala, 2006; Yapa, *et al.*, 2022) in FOs in Sri Lanka. Most of the aforementioned research was confined to a single locality or case. Therefore, it is very important to study the group dynamics of farmers within the FO (collective action) towards the achievement of their goals.

Collective action is an essential element for the effectiveness of a voluntary organisation and can be defined as a group of people who perform together to achieve a common task (Marshall, 1998). It is defined as "action taken by a group (directly or on its behalf by an organisation) to achieve the common interests of its members" by Marshall (Grootaert, 2001). Cooperation may be due to voluntary (motivated by kindness or even

coercive) or tempted by financial incentives. It is argued that Collective action exerted through voluntary cooperation is more effective (Ostrom, 1994). However, in a group setting, although all the members are benefitted from certain actions, a smaller number of individuals are willing to contribute to achieving the outcome instead of sharing the cost among all the individuals of the group and referred to as the collective action problem. This collective action problem can affect the outcome of an entity in numerous ways.

Olson (1965) attempted to answer these matters from the economic point of view using 'cost' and 'incentives'. The individuals of a group are deterred from contributing and are tempted to free-ride (expect benefits without contributing) is a greater problem found in a collective action setting, which affects their output. Collective action setting is a situation that produces common good that is non-excludable (it benefits all the group members), valued by all group members and needs costly contributions from the members to be produced. Olson proposed the administration of selective incentives to overcome the collective action problem.

This study underpins the Olson's theory and the core concept of it is that the group is not merely an entity but an assembly of rational individuals. Thus, he argued that individuals analyse possible benefits available over the cost for engaging in a collective activity. If the potential benefit is substantially significant enough, he or she will engage in that activity. That is why most of the FO suffer from a collective action problem. A significant emphasis raised in Olson's theory is that self-interested individuals will not act to achieve their group interests unless incentive and coercive mechanisms are in place. Some motivational theories also support this argument.

Although there are some critical criticisms on Olson's theory mainly who developed Social Capital Theory (Putnam, *et al.* 1993; Coleman, 1988; Dasgupta, 2002), where they argue that, by interacting with each other and establishing a network, individuals can achieve relatively higher benefits than working alone. Yet, a baseline study conducted in relation to tea smallholding farmer organisations found that farmers can mobilise by offering government incentives (Mahindapala, *et al.* 2020a).

In the present study Tea sector was chosen to analyze the collective action of FOs due to its economic importance.

Tea, being the main foreign exchange earning crop in Sri Lanka, provides greater strength to the national economy, by contributing about 15% of the national foreign exchange earnings (Central Bank of Sri Lanka, 2022) and livelihood of over 400,000 smallholding families (Tea Smallholding Development Authority. (2010–2022). Smallholders are the key contributors to the tea industry as they produce over 70% of the total production (Tea Smallholding Development Authority. (2010–2022). The higher contribution of the smallholding sector helps Sri Lanka to be ranked fourth and third in world tea production and exports respectively as of 2022 (Sri Lanka Tea Board 2022).

In addition to the above-mentioned economic factors, following contextual facts are also considered. Due to the rapid expansion of the tea small holdings, which had been taken place since 1980s, the Tea Smallholding Development Authority (TSHDA) alone could not cope with the service demanded. Under such circumstances, the government took steps to establish Tea Small Holding Development Societies (TSHDS) by a legislative act (No. 36 of 1991 and No. 21 of 1997). About 1,340 TSHDSs belonging to

tea-growing rural areas in eight major tea-growing districts were registered with TSHDA as of 2008 (Obeysekara, 2009). According to the various definitions given for FOs (Chamala, & Shingi, 1997; Penrose-Buckley, 2007; Esham, 2012; Salokhe, 2016;) TSHDS can be considered as FO. Further, it is justifiable as similar organisations in India and Japan (FPO, FPC and JA) are also considered FOs (Rajarithna, 2007; Rondot, & Collion, 2007; Kazuhito, 2012). These TSHDS are managed by an executive committee comprising eleven members, appointed through the members' vote. As per the extraordinary gazette (no. 878/15 of 1995) and the common constitution adopted in 2010, the expected purposes of TSHDS were (i) contribute to the development of tea smallholdings, (ii) provide marketing facilities for growers' production, (iii) promote the economic and welfare activities of members and (iv) facilitate the members in the area of credits.

However, according to the recent observations tea smallholding subsector faces following critical issue: Dropped in productivity, poor adoption of Good Agricultural Practices and smallholders are unable to generate sufficient income to enjoy decent life. Further, a study conducted regarding the TSHDSs in the Matara district revealed that only 27% of the members had been satisfied with TSHDS activities (Bandula *et al.*, 2016).

The above facts indicate a shortfall in achieving the expected objectives by the TSHDSs. Does this imply that the organisations that have been initiated to address the key problems of tea smallholders are in crisis in relation to voluntary cooperation or collective action?

As indicated above, factors influencing collective action have not been sufficiently researched, and this research is expected to fill this gap to a certain extent by considering the insights from Olsen's theory in the context of TSHDS.

Therefore, this study attempted to evaluate the collective action of the TSHDSs and to analyse effect on economic benefits (incentives) on the collective action of TSHDSs.

1.2. Conceptual Framework for the Study

Based on the theoretical perspectives discussed above -mainly the inferences from collective action theory (Olson, 1965), and the multipurpose service approach (Rondot, & Collion, 2007) have been used to construct the conceptual framework. Further, the empirical findings of Esham, (2012) were applied in constructing the conceptual framework. Conceptual framework of the study is given in figure 1

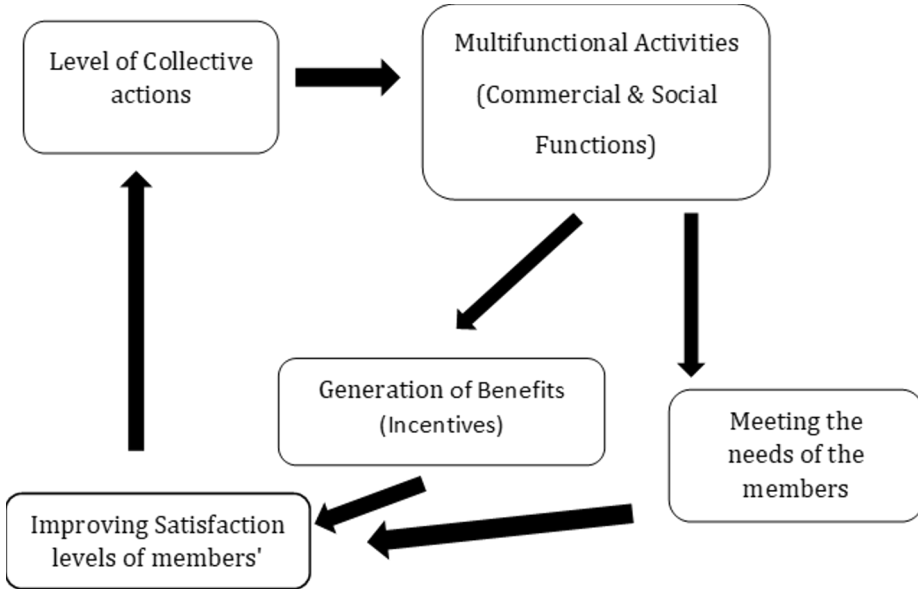


Figure 1: Conceptual framework

- When members tend to contribute more (level of collective actions increases), the Tea Smallholding Development Society (TSHDS) would perform more activities, thereby addressing broader needs of the members.
- If the TSHDSs perform multi-purpose functions, they would be able to address the vast array of needs of the members. The more they address the needs, the more members will be satisfied, which leads to more cooperation/contribution (encourages collective actions). This would occur cyclically and possibly operate as a virtuous cycle if the steps are operated in a positive direction.
- There may also be another cycle. It is because of the Economic benefits. These benefits are generated in TSHDS as a result of multiple activities. These benefits will act as incentives to promote collective action.

2. Methodology

2.1. Research Strategy

The research strategy adopted was a cross-sectional survey using both structured interview techniques and self-completion questionnaire techniques (based on the type of data and target group and delivery time). The self-completion questionnaire technique was used for one occasion, because it assures respondents have a fair amount of time to think and provide their responses (Bryman, 2012). The other questionnaire contained a set of closed-ended and pre-coded questions which were used along with the interview

techniques to collect the data related to collective action (This is mostly behavior type data). Data were collected in the period of 2021-2022

The questionnaires were developed by the researcher and checked for validity (content and construct validity) by getting the opinions of panel of expert persons. It was then pilot-tested at several locations in Badulla, Ratnapura, Kegalle and Matara districts, and some modifications were made based on the responses observed in the field, and internal consistency was established where necessary.

The purposes of the different questionnaire schedules are given in Table 1

Table 1. Type of questionnaire schedules.

Questionnaire Schedule No.	Research participant	Purpose in brief	Sample size and selection method
Questionnaire 1	Main Officers + 1 Committee member of selected TSHD'	To collect the data on different proxies related to Collective Action	120 X4 (TSHDS were selected stratified and randomly, and Main officer and a committee member purposively)
Questionnaire 2	General members	To collect the data related to incentives related data	Randomly selected 475 members of above 120 TSHDS (3-5 members from each) 12 point, bold

When it used a self-completion questionnaire, respondents were asked to mark their responses at the same time (rather than allowing the questionnaire to be taken and later mailed to the researcher). The researcher did not intervene during the answering period unless the respondents asked for further clarification. The details on variables, measurements, and analytical tools with respect to the objectives are given in Table 2

Table 2. Variables, measurements and analytical tools related to the objectives

Objective	Variables and Measurements	Analytical tools
Evaluate the collective action of the TSHDSs	Collective action indexes were calculated using various collective action proxies and which are given in Table 3	Descriptive
To evaluate the relationship between incentives collective action of TSHDSs.	Economics Incentives	Spearman correlation, Wilcoxon sign rank test and Median test

2.2. Sampling Technique

The unit of analysis in this study is TSHDS. Therefore, they were selected based on the principles of the sampling technique, practical limitations, and the study's objectives. The sampling technique adopted is cluster, stratified and random sampling technique. Among the major tea-growing districts, the lowest smallholding population (4.4%) was reported in the Nuwara-Eliya district (Tea Smallholding Development Authority. (2010–2022)) and out of the total TSHDS membership population, only 4% of society members are available in Nuwara-Eliya district (Tea Smallholding Development Authority. (2010–2022)). Therefore, the Nuwara Eliya district was removed from the sampling frame in cluster sampling, and seven other major tea-growing districts were chosen. About 1319 Tea development societies were registered in 2009 (Obeysekera, 2009). However, as per the actual list obtained from TSHDA, about 1190 TSHDS are available in the same districts. The possible reason for this difference would be that although they are registered, some may have collapsed or not have been able to appoint their officers. Approximately 10% of the actual list (Practical sampling frame) means 120 is determined as the sample size of the study. TSHDA has broadly classified these TSHDSs as satisfactory, moderate and average. This classification has been considered a baseline to stratify the sampling frame. This technique is to ensure the variability in the selected sample. (Each category was treated as a stratum). Thus, an equal amount of sample units was assigned to each stratum. The final sample distribution is illustrated in Table 3. Since the availability of a 'satisfactory' percentage is high in Badulla and Kegalle districts, additional 2 and 3 sampling units were assigned to those districts, respectively, to achieve the objectives of the study.

Table 3. Sampling unit distribution in different districts.

District (cluster)	No of Societies	No. of units	Sampling	Distribution of strata within different clusters
Ratnapura	278	27		9+9+9
Galle	189	19		6+6+7
Matara	179	17		5+6+6
Badulla	157	18		6+6+6
Kegalle	134	16		6+5+5
Kandy	145	12		4+4+4
Kalutara	108	11		3+4+4

The sampling units belonging to these categories were identified with the support of Regional Managers of TSHDA and also based on the list obtained from the TSHDA. Within strata, a sample was selected on a random basis (stratified random sampling).

2.3. Estimation of Variables

Variables related to Collective Action. Out of the various methods suggested by Meinzen-Dick *et al.* (2004), related proxies were used to estimate the collective action of the TSHDSs. These collective action interventions (proxies) were identified through the preliminary study. They are indicated in Table 4.

Table 4. Measurement indicators used to estimate the collective action status.

Name of variables (collective action proxies)	Measurement
Participate in Committee meetings	No. of Committee members
Involve in organising different activities	No. of Committee members
Payment of membership subscription)	% Members
Participation in several general meetings	% Members
Participated in voting (Executive committee)	% Members
Turn-out for training programs	% Members
Inactiveness	% Dormant members
Supply the crop to TSHDS	% Members
Member involvement in welfare scheme	% Members registered
Participation in field activities	% Members
Members' contribution to society fund	% Members

Data regarding the above activities were obtained by referring to the records. In some cases, the study depended heavily on the recalling ability of respondents and thus 'more than one interviewee' approach was adopted to collect data. On the other hand, data and variables were behavioural in type (not perceptual); thus, the technique adopted was compatible (Pahl, 1990; Bryman, (2012).

Variables and Measurement Indicators on Economic Benefits (Incentives).

Members' satisfaction levels due to specific benefit-generating activities were used to measure members' behaviour regarding incentives. The satisfaction level of the members with respect to each of the following activities was obtained on a 1-5 Likert scale:

Green leaf marketing, Various welfare programs, receiving of inputs Supply of machinery, Value addition, Distribution of profits among its members, receiving technical information.

The Cronbach's alpha test confirmed (0.877) that the relevant questions that have been used are consistent.

2.4. Statistical Analysis

The overall satisfaction level (overall satisfactory index) was worked out due to benefits/incentives received by the members of different TSHDSs. This index was worked out based on the mean values of the satisfaction scales given for the respective incentive-generating programs by the members. The correlations were examined between collective

action (using different proxies and overall collective actions) and the overall satisfaction index.

Hypotheses are:

(i). H1₀: There is no correlation between satisfaction index due to incentives and collective actions of TSHDS.

H1_a: There is a correlation between satisfaction index due to incentives and collective actions of TSHDS.

‘Members’ willingness to contribute to TSHDS activities if incentive activities are initiated’ was analysed using a one-sample Wilcoxon sign rank test and the median test; hypotheses are:

(ii). H2₀; Observed median on motivation level = 3.500.

H2_a; Observed median on motivation level > 3.500.

2.5. Operational Definitions

The definitions of the variables and indicators used in this study are given in Table 5.

Table 5. Operational definitions

Key construct	Operational definitions
Collective action level	The extent of particular group members collectively under takes the considered event. The composite value was calculated based on the set of considered activities
Incentive	Any tangible or intangible economic benefit that leads to the satisfaction of members of TSHDS.
Level of motivation to contribute	Level of willingness to contribute if incentives are available

2.6. Ethical Consideration

Before commencing each occasion of data collection, the research participants were made aware of the purpose of the data collection and the type and kind of data expected from them by the researcher and their consent was obtained. The research participants were assured that their anonymity was maintained and that data would not be used for purposes other than specified. Further, they were informed that providing data is a completely voluntary action, and they can leave the process at any point, without giving reasons

3. Results and Discussion

3.1. Evaluating Collective Action (CA) Levels of the TSHDSs

Contribution of the Committee Members. The executive committee is the main action coordination body of the TSHDS as per the constitution. However, more than 45 % of the

participation level for the committee meeting was reported by only about 20 % of TSHDS, while almost 70% of TSHDSs have failed to maintain more than 30% participation in committee meetings (Table 6). Notably, about 18% of TSHDS could not gather the minimum number of committee members required to hold a committee meeting, indicating a low level of collective action. On the other hand, when executive members cannot cooperate to coordinate activities, collective action cannot be expected from ordinary members for the other activities. In many cases, the role of the committee members is confined to participating in the decision-making, and they are not involved in operational or event management activities.

Table 6. Participation of committee members in different activities.

Committee meeting		Take part in Organising work		
Level of participation	No. of TSHDS	Number of members Involve (out of 11)	No. of TSHDS	
>60%	17 (14.2%)	11-8	4.0	(3.3%)
45-59%	6 (5%)	6-7	16	(13.3%)
30-44%	14 (11.7%)	4-5	20	(16.7%)
15-29%	26 (21.6%)	2-3	78	(65.0%)
8-14%	36 (30%)	1	2	(1.7%)
No Participation	21 (17.5%)			

In many cases (65%), only the main officers were involved in such activities. The danger is that they become over-exhausted and may withdraw their contribution in future occasions. Further, if there is no person to witness their contribution, they do not have a provision to earn a credit for their commitment, according to Willer's (2009) status theory of collective action. Thus, there is no drive for collective action to continue cyclically in such a context.

Payment of Membership Fee and Silent Members. The percentage of the members who committed to pay the membership subscription and the percentage of non-interacting members were examined and illustrated in Figure 2. Only 20 TSHDS (16.7%) were observed with more than 80% of members subscriptions-paying, and 53 TSHDSs (44%) with subscription-paying members of less than 20% were observed. Although such type of payment is mandatory as per the constitution, it was found that management did not take appropriate action for fear of the risk of leaving the members.

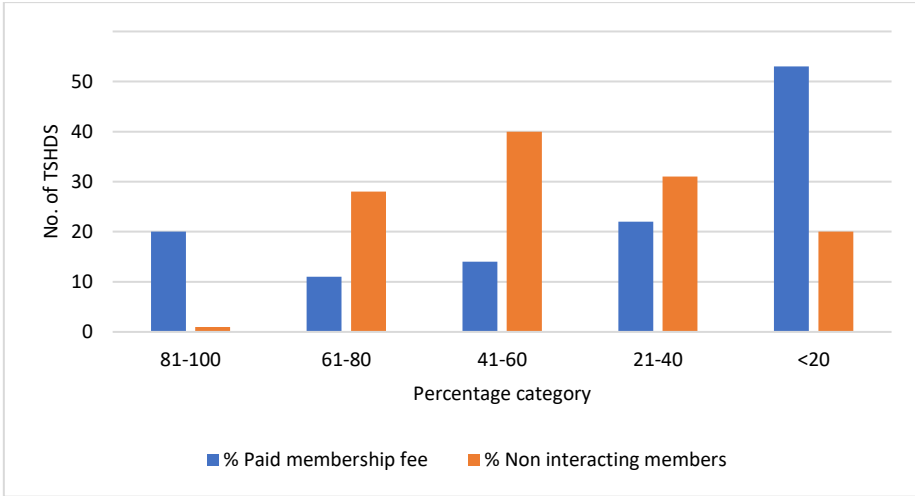


Fig. 2: Participation of committee members in different activities

Furthermore, in a majority of the Tea Societies (57%), more than 40% of members are silent and have no interaction with the societies. More than 80% of inactive members were found in about 17% of TSHDSs. These members seem to prefer to use TSHDS only in an advantageous situation. This means that they expect some benefit from being a TSHDS member. Apparently, this is the case in less attractive and less effective TSHDSs. It appears that members tend to opt out of TSHDSs when their expectations are not met. In reviewing these results, it is arguable that people are motivated for collective action in a voluntary organisation, not merely due to common concerns. In some theoretical approaches, people's altruistic behaviour and their consensus are identified as the roots of collective action (Ostrom, 2000; Willer, 2009). Under these circumstances, such theoretical approaches may be challenged, or they can work differently, which is also evident in the two case studies conducted by Mahindapala *et al.* (2021) in two agribusiness enterprises. However, further investigation of people's altruistic behavior is needed to draw a definitive conclusion.

It was revealed that collective action has a strong relationship with the efficacy of the TSHDS (Mahindapala, *et al.* 2023a) and therefore it is imperative to study collective action. Thus, analysis of one of the key factors - effect of incentives that influence the collective action of TSHDS is discussed in the next section.

Satisfaction Level of Members on Benefits/Incentives. The members' satisfaction status, with respect to the different beneficial schemes executed by TSHDSs, is summarised in Tables 7 and 8 and Figure 3. Out of the total members interviewed (n=438), most members were satisfied with the technical input receiving intervention of the TSHDSs, compared to the other activities considered, which is also about 40%. The highest rate of members' dissatisfaction was observed with regard to interventions in green leaf marketing (62%), provision of credit (69%), profit-making activities and distribution

of profits among members (73%) and value addition (75%). Tables 7 and 8 are self-explanatory.

Table 7. Members' level of satisfaction on various indirect commercial type programs executed by respective TSHDS

Level of Satisfaction	Receipt of				
	Technical information	Welfare facilities	Inputs	equipment and machinery	
Very Low	25%	58%	46%	37%	
Low	10%	5%	12%	12%	
Moderate	25%	4%	12%	16%	
Satisfactory	23%	20%	16%	17%	
High	17%	13%	14%	18%	

When reviewing the data, members' status of the most dissatisfaction was observed with respect to direct commercial-type activities rather than indirect commercial, indicating the TSHDSs are less concentrated on commercialisation (Table 8).

Table 8: Members' level of satisfaction on various commercial-typed programs executed by respective TSHDS

Level of Satisfaction	Benefits associated with green leaf Marketing	Benefits associated with Value addition	Receiving financial support	Receiving benefits from distribution of profits
Very Low	58%	69%	59%	65%
Low	4%	6%	10%	8%
Moderate	4%	7%	7%	6%
Satisfactory	20%	8%	13%	10%
High	13%	8%	12%	9%

These members represent 120 TSHDS, and results can also be expressed at the TSHDS level based on the mean values of the respective members. The mean members' satisfaction level in delivering various beneficial schemes by TSHDS are calculated. Accordingly, about 37% of TSHDSs satisfactorily provide technical input services to the members, which is the most popular incentive scheme handled by the TSHDS. Only 28% - 8% of TSHDS could satisfy their members regarding the remaining 'incentive' generating activities. The poorest incentive schemes (least benefits generating operation) were the value addition, credit support and for-profit activities, and a large proportion (79%, 70% and 75%, respectively) of TSHDS could not satisfy their membership. It shows that TSHDS has largely failed to satisfy their members through commercial-type activities. Figure 3 depicts the overall satisfaction status of the TSHDS under review.

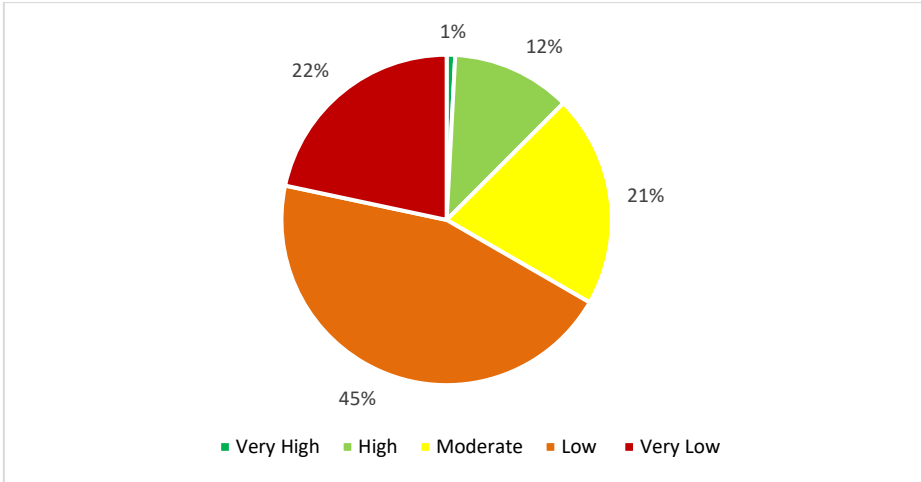


Fig.3. Status of the TSHDS in satisfying the members with respective overall incentive generating activities

Figure 3 indicates that through the benefit-generating interventions, only 13 % of the TSHDS were able to satisfy their members, and 21% moderately satisfied the members. However, over 65% of the TSHDSs have failed to at least moderately satisfy their members through implementing incentive schemes.

3.2. Relationship Between Incentives Generated in TSHDS and Collective Action

Members Satisfaction Level (Proxy for Incentive). Members' satisfaction with a specific benefit-generating activity means that such activity can act as an 'incentive' to improve the collective behaviour of members. Therefore, the satisfaction status of the members (satisfaction index) was used as a proxy for incentive to identify its influence on collective action. To test the hypothesis (H1), the correlations were examined between various collective action proxies (indicated in Table 4) and the overall satisfaction index. The Spearman correlation test results are given in Table 9.

Accordingly, the satisfaction index on overall incentive programs significantly correlated with all the collective action proxies considered. It means that the different collective action interventions are influenced considerably by the satisfaction status in the TSHDS members' minds due to incentive-generating activities implemented by the TSHDS. This finding obtained from the quantitative analysis is also confirmed by the previous studies done in Moravakkorale Tea Producers Cooperative Society (Mahindapala, *et al.* 2020b) and two agribusinesses (Mahindapala, *et al.* 2021). Due to the various benefits provided by the institutions, the collective contribution towards the organisational goals was extended by the members of those institutions. All these results confirm the essence of Olson's theory of collective action (Olson, 1965).

However, the results revealed variability of correlation coefficients among the proxies. For example, the collective action endowers like participation of the committee members

for meetings, involvement of committee members in organising multipurpose activities, members payment percentage, percentage of dormant members, membership contribution for welfare activities, and membership contribution for supply of produce showed relatively higher correlation coefficient than the activities like members participation for the election of the executive committee and participation in the general assembly.

Table 9: Correlations between collective action proxies and satisfactory index on overall incentive programs.

Variable I (Independent)	Variable II (Dependent) (Collective action proxy)	Correlation Coefficient (Spearman)	N	p-value
Overall satisfaction index for the incentive program	% of committee members participating in committee meet	0.572	120	0.0001
	% of committee members participating in committee meetings	0.598	120	0.0001
	% of the members paid membership subscription	0.596	120	0.0001
	% of Dormant members (Members not participating in any of the TSHDS activities)	-0.592	120	0.0001
	% of members participating in a general assembly	0.318	120	0.003
	% of members participating in the election of office bearers	0.233	120	0.01
	% members contribute to welfare scheme	0.527	120	0.0001
	% of members' participation in the supply of crops to the TSHDS	0.688	120	0.0001
	% members contribute to joint field activities	0.341	120	0.001
	% members contribute money for society activities	0.407	120	0.0001

A similar observation was made in a previous study done by Mahindapala *et al.* (2023a), when reviewing the correlation between the same collective action proxies and the efficacy of the TSHDS. Similar results were obtained from two cases concerning collective action, which gives strength and validity to the findings and argument to be established. Although in general, collective action endeavours are less sensitive to external influence. However, being state-centric FOs, the General assembly and occasions for the election of office bearers are moderated by the Tea Inspector of the region.

Therefore, voluntary actions evolved in combination with legitimacy. Mahindapala *et al.* (2023b) clearly showed that the self-reliance state of the TSHDS is low, and it has some influence on the efficacy of the TSHDS. Hence, in such scenarios, the effect of voluntary behaviour induced by incentives may have been conditioned due to the involvement of government agencies/officials.

However, the relationship between overall collective action (composite of all the proxies considered) was evaluated and graphically illustrated in Figure 4.

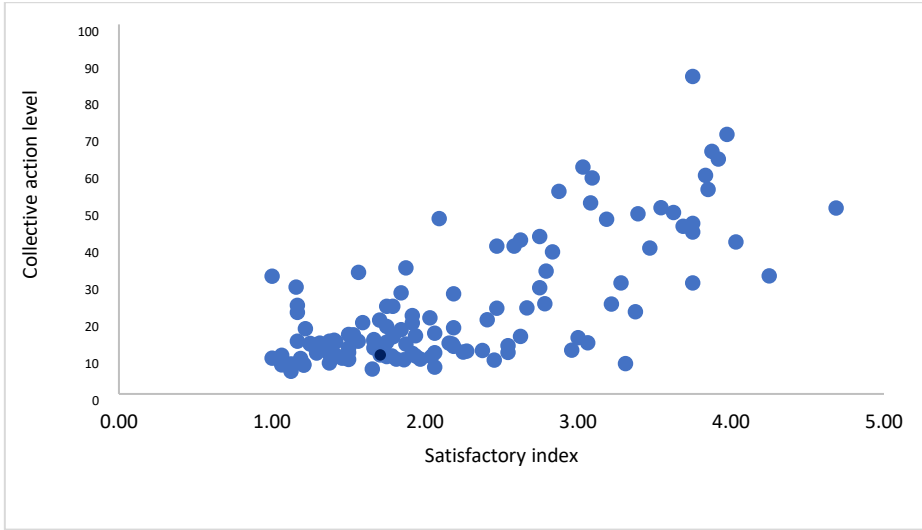


Fig.4. Relationship Between composite CA and satisfactory index

The correlation coefficient was 0.622 and was significant at $p=0.0001$, indicating a fairly strong correlation between collective actions and the satisfaction index (based on the incentives). Furthermore, according to the results of the factor analysis conducted, highly voluntary collective actions were separated into one component (KMO value is $0.883(>0.5)$, and Bartlett's test is significant ($P<0.0001$) as shown in Annexure 1. Then the composite value of that highly voluntary collective action was considered separately, and the correlation was examined. The results (Figure 5.) revealed a fairly strong correlation (spearman's $\rho =0.654$, $p=0.0001$) between collective actions and the satisfactory status of the members influenced by the incentive schemes.

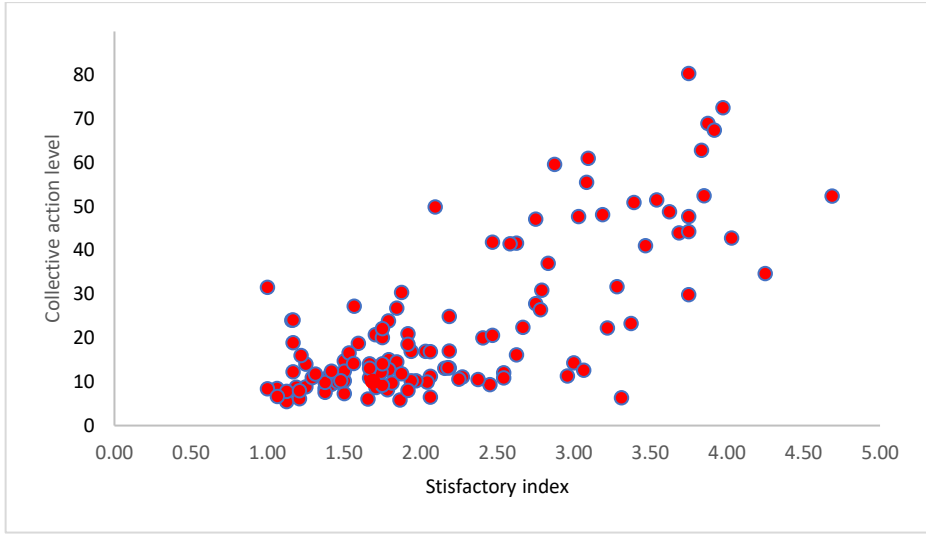


Fig.5. Relationship between the combination of selected proxies and satisfactory index

The results discussed in this section make clear that benefit-generation activities reasonably influence collective actions and that events act as incentives to motivate members to contribute to the societies' affairs collectively. Moreover, the member's responses to the simulated setup were assessed to further confirm the attractiveness of the said incentives.

3.3. Willingness of Members for Cooperation Under Simulated Condition

In this attempt, poorly performing 92 TSHDSs (based on their collective action) were identified. It was assessed to what extent members of the specific weak TSHDS 92 would be motivated to contribute to the activities of the Tea Society if the above-mentioned benefit generation activities were carried out optimally. (Simulated condition of the above seven benefit-generating operations at the optimal level). The Cronbach's alpha test confirmed (0.877) that the relevant questions are consistent. The one-sample Wilcoxon sign rank and median test were performed to test the median as per the hypothesis stated in the methodology section. A summary of the test results is given in Table 10.

Table 10: Summary of Wilcoxon Sign Rank Test to Test the Median Against 3.5

Beneficial program	N	Wilcoxon statistics	Estimated Median	p
Technical information,	92	2387.5	3.75	0.0130
Green leaf marketing,	92	3570.0	4.13	0.0001
Welfare programs,	92	3860.5	4.35	0.0001
Receiving of inputs	92	3604.0	4.17	0.0001
Supply of machinery	92	2867.5	3.88	0.0001
Value addition	79	1640.0	3.75	0.0190
For-profit distribution of benefits	92	2877.0	3.88	0.0001
Mean of All	92	3698.0	3.98	0.0001

Results revealed that observed values were significantly above the moderate condition (3.5). This means that members are expected to be motivated to collectively contribute to the TSHDS affairs if particular benefits are available. Furthermore, the median test also confirms the above outcome. Therefore, these results pave the way to conclude that incentive plays an important role in collective action in FOs.

Even the individuals working to achieve a common goal (here, the well-being of the tea smallholders) cannot be guaranteed to engage in collective actions, even when a common activity has low transaction costs (Olson, 1965). Individuals rationally analyse the net balance between gains and detriments. For an example, in a neoliberal economic context, where exploitation occurs smartly, people tend to be more individualistic and concerned with economic gain (Czech, 2016). The general farmers might think that engaging in the collective activity is a costly contribution (i.e., a general meeting) unless it does not link to an economic gain and may not engage in such activities. Under that context, the behaviour of many TSHDS can be understood.

However, like in some other voluntary settings, as described by Olson, it is not possible to have direct incentives. Although such kinds of direct incentives are offered with the government's support, FOs would not benefit, as shown by Mahindapala *et al.*, (2023b), as dependency would negatively affect the progress of FOs. Why? Because, through such intervention, the interest of the farmers would be suppressed by the interest of the donor agencies. Therefore, the only possible mechanism is to incorporate incentive-generating activities into society affairs and build them into the system. Then, it will also work as a collective effect. Thus, the commercialisation of the FOs has dual benefits. It improves not only the economic status of the members, as shown by Esham & Usami, (2007), but also the collectivism. In that sense, it happens cyclically, as illustrated in Figure 6. This is an extended application of Olson's theory.

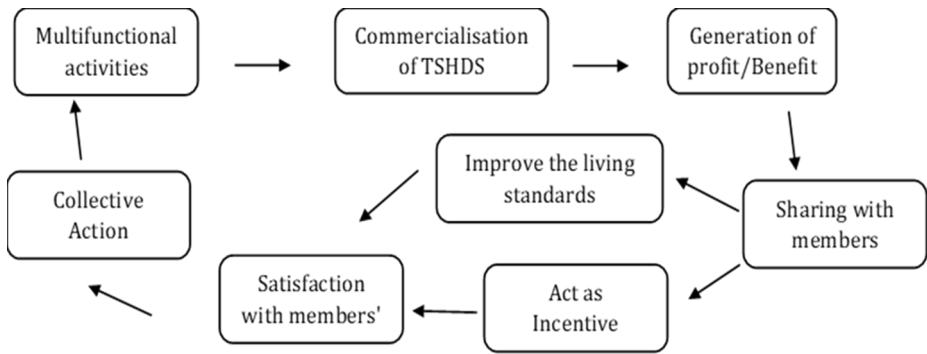


Fig.6. Effect of commercialisation of FOs and dynamics of it

It is possible to operate this cycle as a virtuous cycle, as satisfied individuals tend to contribute more in the future.

This is a dynamic model. Many Indian farmers' production companies have commercialised their activities. They are involved in processing, value addition, branding, and product diversification to sell their products in high-end markets, generating incentives to sustain collective activities. (Trebbin, & Hassler, 2012; Ojha, & Raju, 2018; Anees, & Mathur, 2018; Darshan, *et al.* 2019). Furthermore, during the period of 2020 - 2022, it was observed that TSHDS members faced two crises due to the economic recession associated with the COVID-19 pandemic and the fertiliser ban. Many tea smallholders did not give up their field work because these activities directly related to their livelihood. However, in this context, it was observed that tea societies that are more of resource oriented have further collapsed where the efficacy was poor. However, it was observed that the tea societies involved in commercial activities were the least affected by this crisis.

3.4. Summary of the Findings

TSHDS execute different kinds of multifunctional activities, of which certain activities benefit the TSHDS members. Some of these benefits are critical to TSHDS, and the degree to which such benefits are received determines the dynamics of TSHDS. The level of receiving these benefits determines the level of satisfaction of members within TSHDS. Members of more than 50% of TSHDS are not at a satisfactory level with respect to benefits received from the resource and service-related activities. The highest dissatisfaction levels were seen related to the commercial type beneficiary programs; generally, members of more than 70% of TSHDS were at dissatisfaction level on receipt of such services, and overall, about 65% of the TSHDSs could not satisfy their members by providing of benefits. These benefits act as incentives and influence the collective behaviour of the members of the TSHDS. The overall satisfaction index of the incentive program is significantly correlated with all collective action proxies considered. The correlation coefficient's strength was higher with respect to the collective action

endeavours arising from a highly voluntary basis than without the influence of external agencies. The effect of incentives on collective actions may have been conditioned by external influences (due to the state-centric nature of the TSHDS).

The satisfaction of the members highly influences collective actions because of incentive or benefit-generating activities initiated by TSHDS, which also emphasises the importance of commercialisation of TSHDS.

Further, in the simulated condition, it was found that members of the poorly performing TSHDS are prepared to collectively contribute to the TSHDS affairs if the particular benefits schemes are activated within the TSHDS.

It is impossible to grant direct incentives to the members, as dependency would negatively affect the progress of FOs. Because through such intervention, the real interest of the farmers would be suppressed by the interest of the donor agencies. Thus, the only possible mechanism to incentive generating activities should be incorporated into society affairs and built into the system. Thus, commercialising the FOs had double benefits: improving the members' economic status and enhancing voluntary cooperation among the members. These elements (Collective action, Incentives) make it possible to operate in a virtuous cycle, as satisfied individuals tend to contribute more in future occasions.

4. General Discussion

Olson suggested that incentives should be at the individual level to induce collective action. The question is, who will bear the cost? Neither state nor outside agency is able to bear it. Then, FOs themselves bear the cost and receive the benefits. This study clearly showed that it is possible. Tangible or non-tangible economic benefits generated through the collective action of the members in the FOs could act as an incentive and again cyclically promote the collective action of the members. As shown in the results, it is a self-serving cycle, as satisfied individuals tend to contribute more in the future. Thus, commercialisation appears to create dual benefits – while improving the living standards and acting as an incentive for collective actions, which is “energy” to run the system.

Will these findings challenge the ideology that individuals contribute to the collective work of farmer organisations because of their altruistic behaviour? The answer is - partly yes and partly no. Altruism associated with relationships, mutuality and trust is important, as emphasised by Coleman (1988) and Ostrom (1994; 2000). However, under a neoliberal economic context, incentives are more prominence. Because members are trapped in the exploitative economic process, they have no choice but to maximise profits. According to the findings of two case studies, Morawak Korale Tea Producer Cooperative Society and FOs affiliated with two Agribusiness companies, they have successfully progressed with minimal social capital status because of incentives (Mahindapala *et al.*, 2020b; Mahindapala *et al.* 2021). However, if both factors (incentives and social capital) are available, collective action would be maximal, and FOs might proceed harmoniously.

5. Conclusions

Certain multifunctional activities generate economic benefits (act as incentives) for TSHDS members and lead to member satisfaction. Member satisfaction drives collective behavior and emphasises the importance of commercialisation. Due to the state-centric nature of the TSHDS, the effect of incentives on collective actions can be moderated by external interventions. Incentives should not be given at an individual level but should be designed to create a commercially advantageous collective action. Integrating incentive-generating activities into TSHDS enhances economic well-being and voluntary cooperation. Moreover, collective action and incentives enable a virtuous cycle, as satisfied individuals tend to contribute more in subsequent events in the future. The social capital dimensions, such as trust relationships and reciprocity between different actors, are also crucial for collective action.

6. Recommendation for Policymakers

Based on the findings, the following suggestions can be made to improve the TSHDS.

1. One implication of this study is the commercialisation of TSHDS.
 - i. Encourage TSHDS to incorporate incentive-generating activities into their tasks.
 - ii. Facilitate TSHDS to acquire some activities in tea value chain
 - iii. The government should develop a mechanism to monitor and provide financial assistance (as seed money) to business-oriented TSHDS for starting small processing centres, and the impact of the programs needs to be regularly evaluated.
2. To attract unemployed rural youth to TSHDS and direct them towards a collective production approach. This may be achieved through the following strategies:
 - i. Allocating uncultivated land in the corporate tea sector to the TSHDS
 - ii. Mechanisation could be promoted through the concept of “hiring centres” as practiced by Japanese agriculture Cooperatives.
3. The study recommends withdrawing government intervention in TSHDS and full autonomy should be granted.

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