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SELF HELP GROUP DYNAMICS OF WOMEN FISHERFOLK IN MUSSEL FARMING

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Introduction

The members in a Self Help Group (SHG) are linked by a common bond like caste, sub-caste, blood, community, place of origin, activity etc. The group dynamics (GD) of these SHGs refer to the interaction of forces between the members. It is the internal nature of the groups as to how they are formed, what their structures and processes are, how they function and affect the individual members and the organization. (Lewin *et al.*1960). In an intensive study of Group Dynamics, Pfeiffer and Jones (1972) identified the Group Dynamics factors as to how the group is organised, the manner in which the group is led, the amount of training in membership and leadership skills, the tasks given to the groups, its prior history of success or failure etc. Hersey and Blanchard (1995) in a detailed study of Group Dynamics, gave emphasis on helping and hindering roles individuals play in groups such as establishing, aggressive persuading, manipulative, committing, dependent, attending and avoidance.

Self Help Groups provide the benefits of economies in certain areas of production process by undertaking common action programmes like cost effective credit delivery system, generating a forum for collective learning with rural people, promoting democratic culture, fostering an entrepreneurial culture, providing a firm base for dialogue and co-operation in programmes with other Institutions, possessing credibility and power to ensure participation and helping to assess the individual member's management capacity (Fernandez, 1995).

In the light of these, a study was undertaken on GD and the dimensions influencing the effectiveness of Group Dynamics of women's Self Help Groups engaged in mussel farming in coastal belts of Kasargod district in Kerala State. The identified sub-dimensions for the present study in analysing Group Dynamics are participation, influence, styles of influence, decision making procedures, task functions, maintenance functions, group atmosphere, membership, feelings and norms. (Vipinkumar and Baldeo Singh, 1998)

As a subsidiary income-deriving source of fisher folk, among the

various mariculture options, mussel farming has already been proved as one of the profitable enterprises in the coastal belts of North Malabar in Kerala State. The mariculture experimental trials conducted by CMFRI have proved the techno-economic feasibility of mussel and oyster farming. Kasargod, the extreme north district of Kerala is particularly notable for mussel farming as it has been successfully accomplished by the women's Self Help Groups (SHGs) for the past few years. These groups were given financial assistance in the scheme namely, SGSY (Swarnajayanthi Gramaswa Rosgar Yojana) by the state government which takes care of economic empowerment of weaker sections (Vipinkumar, 2001). Subsidies, bank loans etc., are the part and parcel of it and it essentially focuses attention on poverty alleviation through organised Self Help Groups. This programme looks into training, credit, marketing, technical knowledge and basic facilities necessary for the upliftment of the poor to bring them above the poverty line within three years in such a way that they should have a monthly earnings of at least Rs 2000/-. It would be pertinent to have a look into the consequences of adoption and cost dynamics of mussel farming by the women's Self Help Groups in Kasargod district.

This district possesses an area of 1992 Km^2 with a population of 10, 71508 as per 1991 census. The district with a population density of 538 Km^2 has an average growth rate of 22.78 and 82.51 per cent literacy rate. Majority of the villagers earns their livelihood by agriculture, fishing, coir retting, coconut husk, toddy tapping etc. There is tremendous potential for aquaculture diversification in Kasargod coastal belts. Water bodies in these coastal belts have ample scope for the judicious utilisation of finfish culture, prawn and crab farming in Kasargod. (Asokan *et al*, 2001)

Methodology

This study was undertaken in two major panchayaths, namely Cheruvathur and Padanna in Kasargod district. The study area, Cheruvathur panchayath has an area of 18.37 Km^2 with a population of 24,504 out of which 18,631 people are literate. Agriculture is the main occupation of the majority and about 150 families are engaged in fishing as the main occupation and about 300 families as subsidiary occupation.

Similarly, Padanna panchayath has an area of 13.08 Km^2 with a population of 17,961 out of which 12,746 people are literate. About 200 families are engaged in fishing as main occupation and about 400 families as part time occupation. The brackish water estuary system of these panchayaths are extremely suitable for mussel culture.

Six Self Help Groups of women (three each from both panchayaths)

were selected as the sample and the data were gathered as explorative case studies through personal interviews of the respondents. For the study, GD of the members of SHGs was measured by developing an index called the Group Dynamics Effectiveness Index (GDEI). Group Dynamics Effectiveness was operationally defined for the study as the sum-total of the forces among the member of SHG based on the sub-dimensions, such as participation, influence & styles of influence, decision making procedures, task functions, maintenance functions, group atmosphere, membership, feelings, norms, empathy, interpersonal trust and achievements of SHG (Vipinkumar, 1998). The problems and constraints faced by the women were thoroughly assessed in each case and listed out. The details of the basic data gathered and the SHGs selected are shown in Table 1.

These sub-dimensions were subjected to relevancy rating by a sample of scientists and extension personnel to ascertain whether all the sub-dimensions are equally applicable to the GDE or not. The relevancy rating revealed that all the sub-dimensions were relevant in the case of Group Dynamics Effectiveness.

Table 1. Details of the basic data gathered in Kasargod district

Name of the	Area	Population	Samples selected panchayath (Women's Self Help Groups)
Cheruvathur	18.37 Km^2	24,504	Mahatma Women & Children's Welfare Council Kavunchira Kairali Mussel Unit Kaithakkad Mussel Unit
Padanna	13.07 Km^2	17,961	Thekkekkad Mussel Unit Vadakkekkad Musel Unit Ori Mussel Unit

The judges were further requested to assign weightage for each sub-dimension in the range of 0 to 100, based on the importance they attached to each sub-dimension in such a manner as to get a total of 100 for all the identified relevant sub-dimensions. They were asked to consider the importance of each sub-dimension in relation to Group Dynamics Effectiveness while assigning the weightage to each sub-dimension. The scores obtained by a particular sub-dimension were added up and was divided by the number of judges to arrive at the weightage for a particular sub-dimension. This procedure was carried out in case of all the identified relevant sub-dimensions. These sub-dimensions along with their weightage thus obtained are furnished in Table 2.

Table 2. Dimensions of Group Dynamics Effectiveness and weightage

Dimensions	Weightage
Participation	1.0
Influence & style of influence	0.9
Decision making procedures	0.8
Task functions	0.8
Maintenance functions	0.8
Group atmosphere	0.9
Membership	0.7
Feelings	0.7
Norms	0.7
Empathy	0.8
Interpersonal trust	0.8
Achievements of SHG	1.1
Total	10.0

The actual score for each sub-dimension was obtained by Scale Product Method i.e., by multiplying its raw score by its weightage. The total score of GDEI for an individual was obtained by adding the individual scores of each component together. For the measurement of the first nine sub-dimensions, the procedure followed by Pfeiffer and Jones (1972) with modifications was used and for the last three sub-dimensions separate schedules were developed.

For the computation of the Group Dynamics Effectiveness Index (GDEI) the scores obtained for each of the above mentioned sub-dimensions were first made uniform and then multiplied by the corresponding weightage assigned to each as given in Table 1. These scores were then added up to get the GDEI score of each respondent.

A pilot study was undertaken in a non sample area with sixty respondents selected at random. The data were analysed with appropriate statistical techniques. The result showed that slight modifications were necessary for some questions for the sub-dimensions of the dependent variable. After discussions with experts and on the basis of the empirical analysis the questionnaire was restored and modified for the final data collection.

It was also ensured that all the sub-dimensions identified as components of GDE were of high significance on the basis of the coefficient of agreement in judges rating as well as the statistical evidence from the results of the pilot study. The measurement device developed for the dependent variable i.e. GDE was ascertained for its content validity.

Measurement of Sub-dimensions

i. Participation : For the present study, participation was operationally defined as the degree to which the farmer is involved in group meetings, discussions and group activities of SHG.

ii. Influence & style of influence : Influence was operationally defined as the degree to which a farmer can influence other member of SHG in a desirable way. Style of influence was operationalised as the manner in which the member attempts to influence other members of SHG. The four different styles included were autocratic style, peacemaker style, laissez-faire style and democratic style.

iii. Decision making procedures: This is operationally defined as the degree to which farmer makes a decision with involvement of other group member of SHG, makes decisions without topic drifting, supports other members decisions in consensus, feels the majority's decisions valid in the SHG, attempts to get all members participate in decisions of SHG and feels the gains of recognition for his contribution in decision making process.

iv. Task functions: This is operationalised as the degree to which the farmer makes suggestions to tackle a problem in the SHG, summarize what has been covered in the group, tries to give or ask for facts, ideas, opinions, feelings, feed back etc. and keeps the group on target.

v. Maintenance functions: This is operationalised as the extent to which farmer helps others into group activities of SHG, helps/interrupts him in group discussions, feels the other members are co-operative and listening, perceives other members help in clarifying the ideas of all members, feels good or bad when ideas are accepted or rejected and the extent to which other members attempt to maintain task functions of SHG.

vi. Group atmosphere: This is operationalised as the extent to which the group member prefers friendly congenial atmosphere in the SHG, attempts to suppress conflict or unpleasant feelings in the group, feels other members are involved and interested and feels satisfied from the work climate.

vii. Membership: This is operationally defined as the degree to which a group member feels accepted or included in the SHG, feels sub-grouping in the SHG and feel himself or other members to be outside the group.

viii. Feelings: This is operationally defined as the degree to which the farmer feels anger/irritation, frustration, warmth, affection, excitement/boredom and competitiveness while performing the group activities of SHG.

ix. Norms: This is operationalised as the extent to which the farmer feels the standards or ground rules and regulations are in operation that controls the behaviour of group members for the smooth functioning of the SHG.

x. Empathy: This is operationally defined as the degree to which the respondent is able to make out other person's feelings and thereby to understand it as he feels.

xi. Interpersonal trust: This is operationally defined as the degree to which the respondent trusts the other members of the group as well as the faith other members have in him as perceived by the respondent.

xii. Achievements of SHG: This is operationalised as the level of performance of SHG as perceived by the farmer as well as the performance of the farmer himself as the group member.

All these sub-dimensions were measured by a set of inventories containing appropriate questions arranged in a three-point continuum of always, sometimes and never with scoring pattern 2,1 and 0 for positive and *vice versa* for negative questions. The cost estimates of all the selected Self Help Groups as well as net profit and benefit-cost ratio were also computed.

Findings and Discussion

The scores of Group Dynamics Effectiveness Index obtained for different Self Help Groups were computed and are shown in Table 3. The variation in Group Dynamics Effectiveness between different groups is shown in Table 4 and the distribution of respondents based on the GDEI score in Table 5.

Table 3. Group Dynamics Effectiveness of the Selected Self Help Groups

Samples selected (Self Help Groups)	Group Dynamics Effectiveness Index
Cheruvathur Panchayath	
SHG 1 Mahatma Women & Children's Welfare Council	52.78
SHG 2 Kavunchira Kairali Mussel Unit	54.33
SHG 3 Kaithakkad Mussel unit	53.91
Padanna Panchayath	
SHG 4 Thekkekkad Mussel Unit	57.32
SHG 5 Vadakkekkad Musel Unit	55.68
SHG 6 Ori Mussel Unit	59.14

Table 4. Analysis of Variance in Group Dynamics effectiveness of SHGs

Source of variation	Degrees of freedom	Sum of squares	Mean sum of squares	Variance ratio "F"
Between groups	5	18527.15	3705.43	23.9973**
Error	114	17602.19	154.41	
Total	**119**			

** Significant at 1% level of significance.

The ANOVA table depicts considerable variation in Group Dynamics Effectiveness among different respondents and different groups, because of the significant variance ratio (F=23.9973). Group Dynamics is a multivariate phenomena influenced by a variety of interacting factors those interplay in varying strengths.

The study, focused attention on Group Dynamics Effectiveness as a trait of Self Help Groups resulted by the joint influence of individual members of the group generated out of skills and orientations from the past life experiences. It definitely varies from person to person, place to place, time to time, situation to situation and in turn from group to group. This might be the probable reason for the differential degree of GDEI observed among respondents.

Since the operations of cultivation aspects have to be accomplished with full co-operation and co-ordination of all the members of Self Help Group it brought about adequate group interaction among the members and thereby majority of respondents possessed good GDEI score. This is the possible explanation for majority of farmers in higher category of GDEI.

Influence of Sub-dimensions of Group Dynamics Effectiveness on GDEI

The relationship of sub-dimensions of Group Dynamics Effectiveness with GDEI was established first by simple correlation analysis (Table 5) and then the joint influence of these sub-dimensions of GDEI was established by multiple regression analysis (Table 6).

Table 5. Simple correlation analysis of sub-dimensions of Group Dynamics Effectiveness with GDEI (N=120)

Variable Number	Characteristic	Correlation coefficient (r)
1.	Participation	0.9468**
2.	Influence and styles of influence	0.9384**
3.	Decision making procedures	0.9188**
4.	Task functions	0.9073**
5.	Maintenance functions	0.9126**
6.	Group atmosphere	0.9493**
7.	Membership	0.8743**
8.	Feelings	0.8792**
9.	Norms	0.8840**
10.	Empathy	0.8687**
11.	Interpersonal trust	0.9177**
12.	Achievements of SHG	0.9446

** Significant at 1% level of significance

A perusal of the Table 5 indicates that all the twelve sub-dimensions were positively and significantly related with GDEI at one per cent level of significance. The degree of relationship was maximum in the case of group atmosphere followed by participation, achievements of SHG, influence and styles of influence, decision making procedures, interpersonal trust, maintenance functions, task functions, norms, membership and empathy, respectively.

Profile of cost estimates of Mussel farming

The major expenditure required for mussel farming is for the materials such as bamboo, nylon rope, coir, cloth, seed, etc. and labour cost essentially covers construction; seeding, harvesting etc.

The women's groups constituted in the scheme DWCRA started mussel farming as early as 1996-97 and were assisted by loan amount worth Rs 8800/- per member with a subsidy amount worth Rs 4400/- which looks quiet fascinating. The duration of the loan is 5 years and the rate of interest is 12.5 per cent per annum. In addition to this, a revolving fund of Rs 5000/- was also provided without interest. When the SHGs are economically empowered with the provision of loan facilities, the returns from mussel farming help them to repay the loan slowly.

The loan was granted through Farmers' Service Cooperative Banks and North Malabar Gramin Bank in Cheruvathur and Padanna panchayaths of Kasargod district. Majority of the SHGs showed considerable progress in repayment of the loans, which can be concluded as an indication of the profitability of Mussel farming. The expenditure details of the selected SHGs in the initial years of mussel cultivation are shown in the Table 6.

The Net Operating Profit in all the six SHG's was computed and found as substantially good which proves the profitability of mussel farming in the initial trial itself and since during the subsequent years, material costs such as those of bamboo, rope, cloth and labour cost in construction etc. are negligible, this ensures reasonable profit as a major consequence of adoption of mussel farming enterprise and bringing about economic empowerment of rural women through organised Self Help Groups.

Table 6: Cost estimate of the SHGs in mussel farming in Kasargod district

	SHG1	SHG2	SHG3	SHG4	SHG5	SHG6
No.of ropes	**500**	**800**	**600**	**750**	**900**	**725**
Items						
Bamboo	6400	9600	7980	9000	11437	7800
Nylon rope	9954	17500	12000	15000	18000	14500
Coir rope	1100	1500	1200	1587	2000	1450
Cloth	3000	3250	1700	3338	3600	2250
Seed	6500	10000	8700	9000	10800	9770
Labour						
Construction	1600	2400	2170	2250	2700	2200
Seeding	1500	2565	1500	1875	2500	1800
Harvesting	1300	2000	1500	2000	2750	1875
Miscellaneous	1000	1600	1200	1500	1800	1450
Total Cost	32,354	50,415	37,950	45,550	55,587	43,095
Returns	40,000	64,000	48,000	60,000	72,000	58,000
Net Operating Profit	7,646	13,585	10,050	14,450	16,413	14,905
B :C Ratio	1.236	1.269	1.265	1.317	1.295	1.346
GDE Index	52.78	54.33	53.91	57.32	55.68	59.14

Experiences and observations already indicated that for a group to be developed as an SHG, it requires a period of at least 36 months and it is a hectic process. It has to pass through various phases such as formation phase, stabilization phase and self helping phase. These Self Help Groups promote a cooperative and participative culture among the members, ensures the empowerment culture of the Self Helping phase.

The loan sanctioning, utilization, accounts maintenance and timely repayment of loan etc. are all perfectly accomplished with proper maintenance of the documented records by the group members. This ascertains the fulfillment of norms and standards of the SHG leading to economic empowerment of the members.

Constraints faced by the women in mussel farming

Mussel farming faces a number of impediments like water salinity, seed availability, selection of location /site, climatic vagaries, identification of proper beneficiaries and proper monitoring opportunities. The major problems and constraints faced by the women in mussel cultivation are as follows

- Unpredictable seed availability.
- Mortality of seeds during transportation.
- Reduced growth during certain years.
- Meat shucking problems.
- Marketing of mussels.
- Social constraints like caste splits, conflicts etc.. to a limited extent

All the group members were of unanimous opinion that the government agencies should come forward with improved marketing facilities as marketing of the mussel was perceived as one of the biggest constraints. Provision of loans with reduced interest rates ad freezer facility for storage of harvested mussels can bring about a breakthrough in this sector in the near future.

Conclusion

The consequence of adoption of mussel farming when accomplished through organised co-operative groups of women in North Malabar areas is slowly achieving considerable significance because of its profitability. But it would be vital to take care in the selection of suitable sites fulfilling the essential parameters for undertaking mussel culture trials.

It would be pertinent to have a study on the effect of coir retting zones on growth and attachment of mussel seeds to the strings, which often found by experiences and observations. Laboratory experiments should be widened to study the effect of coir retting zones on growth of mussel.

Similarly, export potential of mussel can be promoted through value addition experiments on depuration plants in filtered seawater. Organised fishermen's cooperatives can play a vital role in various stages of seeding, harvesting, sorting, grading, packing, marketing with an intention of export potential.

The study emphatically disclosed the deep rooted influence of Group Dynamics network among the farmer folk as influenced by their participation, influence & styles of influence, decision making procedures, task function, maintenance function, group atmosphere, membership, feelings, norms, empathy, interpersonal trust and achievements of SHG.

The findings of the study can serve as a practical manual for organising and managing Self Help Groups for group action and participation on a sustainable basis. The scale of Group Dynamics Effectiveness Index can be used in similar future research in allied sectors. The identified interrelationships between the variables can act as catalytic points for promoting action and group empowerment which might give useful insight on the feasibility of using the Group Dynamics network for indications on strengthening the working of these action groups.

Irrespective of the location specific problem oriented resource based alternative programmes for income generation, this study emphasizes on the economic empowerment of rural women through mussel farming as a means of poverty eradication through Self Help Groups because, poverty can only be alleviated by mobilising the poor to solve their actual problems in the form of organised SHGs.

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