



## Group Dynamics Effectiveness of Fishery Based Self Help Groups in Tripura

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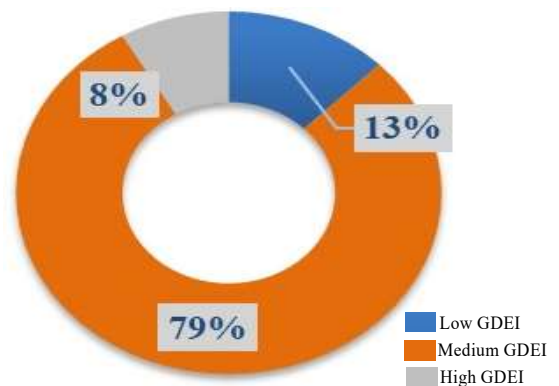
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### HIGHLIGHTS

- The majority of SHGs fall into the medium effectiveness category (79.16%), with a smaller number in high (8.33%) and low (12.5%) categories.
- There are differences in group dynamics effectiveness between West Tripura and Gomati districts, with 20.83% of members in West Tripura classified as high, while no respondents in Gomati achieved this level.
- Participation, collaboration, group atmosphere, interest and motivation, group cohesion, and leadership are critical to building a collaborative atmosphere that promotes effective decision-making and overall group dynamics

### GRAPHICAL ABSTRACT

GDEI of fisheries based SHGs



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### ABSTRACT

*Context:* The fisheries sector in North Eastern India has enormous potential for livelihood generation, particularly in Tripura, which leads among landlocked states in per capita fish consumption.

*Objective:* This study aims to assess the Group Dynamics Effectiveness of fisheries-based SHGs in Tripura and identify key determinants influencing their performance.

*Methodology:* The study employed an ex-post-facto research design and was conducted in West Tripura and Gomati districts, involving 120 respondents from 24 SHGs. Group Dynamics Effectiveness Index (GDEI) was calculated using 14 indicators.

*Results & Discussion:* The findings revealed that 79.16% of SHGs had medium GDEI, with key indicators like communication, trust, and task functions performing well, while cohesiveness and empathy were less effective. Education, fisheries experience, household income, and women's active participation positively influenced SHG performance, whereas age and credit orientation showed negative impacts. Enhancing group dynamics through targeted interventions can significantly improve the effectiveness of fisheries-based SHGs in Tripura.

*Significance:* Fishery based SHGs have the potential to women empowerments in Tripura, increase fisheries-related incomes, and contribute to the sustainable development of local economies by improving group dynamics. Findings of the study is useful in strategising further development of fishery based SHGs in Tripura state.

The fisheries sector has enormous potential for the livelihood generation of North Eastern India with abundant water resources and aquatic diversity. The Northeast region of India consists of eight states: Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura. In which, Tripura is one of the smallest states among the North-East India with first in per capita fish consumption among landlocked states (DoF, 2023). However, only 8-9 per cent of the total farming communities are engaged in fish farming, which broadens the gap between fish production and consumption of 3.26 kg annually. Due to the high demand for fish, there is a need to promote human resources in fisheries activities (Ghosh, 2018; Lahiri *et al.*, 2019).

Women play a large role in fisheries, but often their roles and contributions are invisible or not recognized. Activities like fertilization, feeding, marketing of fish, etc. are best done and managed by women (Debnath, 2022). Compared to men, women's roles in fisheries are limited due to restricted access to resources such as technology, loans, insurance, and information. Their household duties often lead to their exclusion from fishing organizations, with women sometimes not being seen as "real" fishermen. Achieving sustainable development requires improving the political, economic, and social circumstances of women as well as their empowerment and autonomy (Lekshmi *et al.*, 2022).

The overall growth and development of a nation can be achieved only when women are given equal consideration with men in the society (Nune, 2008). SHGs have been emerged as a powerful instrument to eliminate poverty and for the empowerment of women by providing financial services to the poor and further improving their status in the society (Sharma and Varma, 2008).

SHG is a small group of 10 to 20 people who come across and solve their common socio-economic problems through regular savings and credit facilitation which leads to the generate livelihood and guarantees a certain degree of self-sufficiency among the members (Anant *et al.*, 2006). These alliances ensure support, encouragement, education, and financial assistance to women to realize their personal as well as professional goals for a better future (Sreedaya, 2000). Their purpose is to contribute in shared funds and address emergency needs through mutual assistance. (Verma *et al.*, 2013). The success of any group activity, such as a self-care group, depends on the group dynamic. Group dynamics is the interaction and interpersonal

relationships between group members and how groups form, function, and break down. Group dynamics is an important part of successful teamwork and is a factor that affects the outcome of any group activity. Issues of power, influence, and interpersonal conflict affect dynamics and group effectiveness (Gopal *et al.*, 2010).

There are numbers of fisheries-based Self-Help Groups (SHGs) are present in the state of Tripura, no attempt has been made to study in depth the activities, financial commitments, and overall performance of these SHGs. Appreciating the importance of fisheries-based SHGs for fish production and rural income and employment, an initiative has been taken to comprehensively assess the profiles and performance of these groups in Tripura. Despite their significant presence, no comprehensive study has been conducted on the effectiveness of SHGs in Tripura. In this context, the present study is proposed to assess the Group Dynamics Effectiveness of fisheries-based Self-Help Groups (SHGs) and identify the determinants that influence their effectiveness.

## METHODOLOGY

The study employed an ex-post-facto research design, which is a systematic empirical inquiry where the researcher does not have direct control over independent variables because their manifestations have already occurred or are inherently unchangeable (Kerlinger, 1976). The study was conducted in Tripura, a state located between latitude 22°57'N to 24°33'N and longitude 91°10'E to 92°20'E. Among Tripura's eight districts, West Tripura and Gomati were selected purposively based on their substantial number of fisheries-based SHGs as indicated in reports from the Government of Tripura. Specifically, the blocks of Mohanpur, Dukli, Matabari, and Amarapur were



Study area map of Tripura State

chosen due to their high concentration of women-led SHGs engaged in fisheries. Data was collected from 24 selected SHGs, with 5 members chosen from each SHG, resulting in a total of 120 respondents. A comprehensive list of fishery-based SHGs was prepared from data obtained from the Directorate of Fisheries, and stratified random sampling was used to select the respondents.

The Group dynamics of each SHG was measured by Group dynamics Effectiveness Index (GDEI), consisting of 14 dimensions such as participation, influence and style of influence, decision making procedures, task functions, maintenance functions, group atmosphere, membership, feelings, norms, empathy, interpersonal trust and achievements of SHG, representing the level of performance of SHG including economic profit (Vipinkumar and Singh, 1998; Falguni *et al.*, 2022). All these dimensions were measured by a set of inventories containing appropriate questions (Purnima 2005). The total score of GDEI for an individual was obtained by adding the individual scores of each component together.

Further for assigning weightage the subject experts were asked to consider the importance of each sub-dimension in relation to group dynamic effectiveness.

$$GDEI = \frac{R_1}{M_1} \times W_1 + \frac{R_2}{M_2} \times W_2 + \dots + \frac{R_n}{M_n} \times W_n$$

GDE=Group Dynamics Effectiveness Index

R1, R2...Rn = Score received by respondent for each for each indicator

M1, M2...Mn = Maximum score one can get for each indicator

W1, W2...Wn = Weightage score of each indicator received from expert

The weightage of the indicators for group dynamics effectiveness was adopted from methodologies developed by Pfeiffer and Jones (1972), Mangasri (1999), Purnima (2005), and Ganguly (2005). Group atmosphere is weighed at 0.8, teamwork is weighed at 0.8, and participation is weighed at 0.9. Decision-making processes, motivation, and interest are all given weights of 0.7. Group leadership, group communication, interpersonal trust, empathy, task function, and maintenance functions all have weights of 0.6, whereas group cohesion has a weight of 0.7. The weight assigned to conformance to group norms is 0.8. The SHG's achievement is given the highest weight, 1.0, and other indicators together have a total

**Table 1. Socio-economic profile of the members of fisheries based SHGs**

Variable	No. (%)
<i>Age</i>	
Young (18-35)	25 (20.83)
Middle aged (More than 35-45)	95 (79.16)
Old (More than 45)	0 (0.00)
<i>Education level</i>	
Illiterate	1 (0.83)
Up to primary	8 (6.66)
Middle school	67 (55.83)
High school	44 (36.66)
Pre university	0 (0.00)
Graduate	0 (0.00)
<i>Caste category</i>	
Scheduled Tribe	54 (45.00)
Scheduled Caste	51 (42.50)
Other Backward Caste	11 (9.16)
General Caste	4 (3.33)
<i>Family size</i>	
Small (1-5 members)	42 (35.00)
Medium (>5-10 members)	78 (65.00)
Large (>10-15 members)	0 (0.00)
<i>Experience in fisheries activities</i>	
Low (<30.5)	4 (3.33)
Medium (30.5-33.7)	96 (80.00)
High (>33.7)	20 (16.67)
<i>Annual household income</i>	
>Rs.50,000 - Rs.1,00,000	6 (5.00)
>Rs.1,00,000 - Rs.1,50,000	57 (47.50)
>Rs.1,50,000 - Rs.2,00,000	54 (45.00)
>Rs.2,00,000 - Rs.2,50,000	2 (1.70)
>Rs.2,50,000 - Rs.3,00,000	1 (0.80)
<i>Annual income from fisheries activity</i>	
>Rs.20,000 - Rs.25,000	1 (0.80)
>Rs.25,000 - Rs.30,000	36 (30.00)
>Rs.30,000	83 (69.20)

weight of 10.

**RESULTS**

*Socio economic profile of the members of fisheries based SHGs:* The socioeconomic profile of the fisheries based SHGs members is presented in Table 1. It is observed that 20.83 per cent of the members of SHGs belonged to the young age group (18-35 years), followed by 79.16 per cent belonging to the middle age group (>35-45 years). Because of their motivation and awareness, these women are more enthusiastic and innovative, willing to take risks and explore new opportunities to improve their living standards (Vashisht *et al.*, 2016). In context of category of

majority of SHG women belonged to the Scheduled Tribe (ST) (45.00%), followed by Scheduled Caste (SC) (42.50%), Other Backward Class (OBC) (9.17%), and 3.33 per cent belonged to the general category. The majority of SHG members (55.83%) have received education up to middle school, followed by high school (36.67%), primary school (6.67%), and a small percentage are illiterate (0.83%). More than half (65%) of fisheries-based SHG members had medium-sized families (>5-10 members), followed by 35 per cent of members who had small families (1-5 members) and 80.00% of them had more than 5 to 10 years of experience in fish culture activities. Lawal (2021) reported that individuals with less fish farming expertise are more likely to acquire and accept new fish farming skills and techniques instead of continuing with the original ways they are familiar with. The findings are in agreement with the results of Chauhan *et al.* (2022), Chandegara *et al.* (2024), and Kumar *et al.* (2024).

The distribution of average annual income among respondents from different districts highlights income disparities and district economic conditions. Overall, in terms of income distribution, the majority of respondents (47.5%) have an average annual income ranging between Rs. 1,00,000 and Rs. 1,50,000. This income distribution suggests economic challenges in these regions, likely due to limited access to high-paying jobs and resources, which may contribute to regional disparities and hinder economic growth. The findings of the study are in line with Banerjee (2002) and Purushotham (2010). A large proportional of respondents (69.2%) had earning more than Rs. 30,000 annually from fisheries activities. This indicates that a significant portion of respondents earn a relatively higher income from fisheries, suggesting that this is a productive and profitable activity for them.

*The group dynamics effectiveness of fishery based Self Help Groups* : Fishery-based self-help groups (SHGs) depend on strong group dynamics, including effective communication, leadership, and decision-making, to enhance their performance and fulfil their objectives. Grasping these dynamics is essential for enhancing their ability to support members and further fishery-related goals. This section covers the breakdown of Self-Help Groups (SHGs) according to their Group Dynamics Effectiveness Index, the distribution of respondent categorized by their GDE scores, and the allocation of respondents based on the

**Table 2. Distribution of members of fisheries based SHGs on the indicators of group dynamics effectiveness (N=120)**

Indicators	Range	No.	%
<i>Participation</i>			
Low	<37.87	9	8.00
Medium	37.87-42.3	87	73.00
High	>42.3	24	20.00
<i>Team work</i>			
Low	<33.13	13	10.83
Medium	33.13-38.42	87	72.50
High	>38.42	20	16.67
<i>Group atmosphere</i>			
Low	<37	9	7.50
Medium	37-44	95	79.00
High	>44	16	13.00
<i>Interest and motivation</i>			
Low	<31.04	12	10.00
Medium	31.04-35.17	91	75.83
High	>35.17	17	14.17
<i>Decision making procedures</i>			
Low	<14	21	17.50
Medium	14-18	83	69.20
High	>18	16	13.30
<i>Group cohesiveness</i>			
Low	<29.4	10	8.30
Medium	29.4-33.8	82	68.00
High	>33.8	28	23.00
<i>Group leadership</i>			
Low	<21.04	13	10.83
Medium	21.04-27.155	90	75.00
High	>27.155	17	14.17
<i>Group communication</i>			
Low	<25.59	2	1.70
Medium	25.59-29.29	102	85.00
High	>29.29	16	13.00
<i>Interpersonal trust</i>			
Low	<10.8	7	5.80
Medium	10.8-15.08	97	81.00
High	>15.08	16	13.00
<i>Empathy</i>			
Low	<7.2	11	9.20
Medium	7.2-10.8	79	66.00
High	>10.8	30	25.00
<i>Task functions</i>			
Low	<12	4	3.30
Medium	12-17.74	77	64.00
High	>17.74	39	33.00
<i>Maintenance function</i>			
Low	<11.78	2	1.67
Medium	11.78-14.16	108	90.00
High	>14.16	10	8.33
<i>Conformation to norms</i>			
Low	<16.23	9	7.50
Medium	16.23-18.72	84	70.00
High	>18.72	27	22.50
<i>Achievements of SHG</i>			
Low	<20.42	7	5.83
Medium	20.42-25.15	97	80.00
High	>25.15	17	14.17

indicators of GDE. Total fourteen following indicators Participation Team work, Group atmosphere, Interest and motivation, Decision making procedure, Group cohesiveness, Group leadership, Group communication, Interpersonal trust, Empathy, Task function, Maintenance functions, Conformation to group norms, Achievement of the SHG were used to quantify the group dynamics effectiveness.

The findings from Table 2 shows that the efficacy of fishery-based self-help groups (SHGs) in Tripura depends substantially on strong group dynamics, such as communication, leadership, and decision-making. According to the study's results, the majority of respondents scored medium on most Group Dynamics Effectiveness (GDE) measures, including participation, team work, group atmosphere, interest and motivation, decision-making, group leadership, and adherence to norms. This shows that, SHGs in Tripura are working well, there is still a lot of space for improvement in these areas to increase total group performance. The findings are consistent with the results of Parmar *et al.* (2016).

The elevated scores in key indicators, such as group communication (85.00%), interpersonal trust (81.00%), maintenance function (90%), and SHG achievements (80.00%) indicate that these factors are deeply ingrained in the groups and enhance their effectiveness. Trust encourages teamwork and commitment, while effective communication transmission clear information and coordinated activities. Management resolves tensions or conflicts and resources in the groups. (Mach *et al.*, 2010; Ben Sedrine *et al.*, 2021).

However, some indicators performing low such as group cohesiveness (68.00%), empathy (66.00%), and task function (64.00%). The comparatively low levels of cohesion and empathy among the groups impede cooperation, mutual support, influence potential of SHGs (Orazani *et al.*, 2023). The result indicates the importance of enhancing group dynamics and effectiveness via focused interventions to improve task-related functions and interpersonal interactions within the groups. Through training and capacity-building programs make them more successful at what they do and better able to help their members to achieve their goals and strengthening SHGs (Tiwari, 2021; Sumitha, 2023).

*Distribution of SHGs based on group dynamics effectiveness index* : Based on the data from the Group Dynamics Effectiveness Index (GDEI) (Table 3), it is

**Table 3. Distribution of SHGs based on GDEI categories**

GDEI	No.	%
Low GDEI (<68.94)	3	12.5
Medium GDEI (68.94-76.47)	19	79.16
High GDEI (>76.47)	2	8.33

clear that most SHGs are either moderately effective (19 groups) or high effective (3 groups), with just 2 groups being deemed as having low effectiveness. This finding is in agreement with Ganguli (2005), Garai *et al.*, (2013), Garai and Maiti (2020), Patil *et al.* (2021) and Goswamy *et al.* (2023).

The prevalence of SHGs in the medium to high categories is largely related to the substantial presence of key contributing variables such as participation, collaboration, group atmosphere, interest and motivation, group cohesion, and leadership (Nichols, 2021; Nikhitha and Neermarga, 2022). These indicators are very important for building a collaborative atmosphere that promotes effective decision-making, group cohesiveness, and overall group dynamics (Murry, 2020; Srikar *et al.*, 2021).

The relatively smaller number of SHGs with low GDEI can be attributed to their strong performance and solid foundation in group dynamics, represents the overall success of the groups in maintaining key components such as participation, collaboration, leadership, and cohesion, which contribute favorably to their dynamics and performance. However, there is a need to improve the efficacy of the few underperforming SHGs through enhancing certain group dynamics. Focused efforts to address these dynamics are important to raise overall group performance and maximize results for all members.

*Distribution of the fisheries SHG members based on their GDEI* : The findings revealed that, there are differences in group dynamics effectiveness between the districts of Gomati and West Tripura, according to the distribution of SHG members based on their Group Dynamics Effectiveness Index (GDEI). Group dynamics were present in both districts, as shown by the fact that the majority of respondents (62.5%) fell into the medium category. The results are in agreement with the findings of Dewangan *et al.* (2020). There are disparities in group performance and leadership quality between West Tripura and Gomati districts, as a larger proportion of members in West Tripura (20.83%) classified into the high GDEI category while no respondents in Gomati attained this level.

Remaining, a total of 16.66% of the respondents, those who are distributed evenly across the two districts, had low GDEI category. A few issues affecting the effectiveness of self-help groups include improper activity selection for the group, a lack of collaboration and enthusiasm among the members, an inadequate supply of raw materials, a lack of demand for the goods, and a lack of marketing resources (Nayal *et al.*, 2020; Sharma *et al.*, 2020; Nichols, 2021). Targeted interventions should be required for specific areas of weakness for all SHGs in order to improve their effectiveness and performance, particularly for those groups who are underperforming.

*Determinants of Group Dynamics Effectiveness (GDE) of SHG members* : The analysis of the factors influencing GDE among SHG members revealed from the Table 4 that, a negative correlation was observed with age of the respondents (-0.132\*\*). Younger women likely to demonstrate better group dynamics effectiveness because of their receptivity to new ideas and flexibility, which are very useful in promoting good group interactions. The findings align with the results of Wassie and Abebe (2024).

Education level revealed a positive correlation (0.235\*) with GDE, indicating that individuals with higher educational qualifications contribute more effectively to group dynamics. This is because education enhances communication skills and provides a deeper understanding of group processes, enabling individuals to participate more actively and meaningfully within group settings.

Similarly, total household income (0.266\*) and income derived specifically from fisheries activities (0.144\*) were positively associated with GDE. Experience in fisheries (0.210\*) and participation in training programs related to fisheries and aquaculture (0.174\*) also showed positive correlations because the training provides skills and experience in increase the group cohesiveness and leadership qualities within SHGs (Bryan, 2020; Sumitha, 2023). Training was found effective to gain in knowledge, skills and overall confidence of fish farmers in Tripura (Kumar *et al.*, 2024). The involvement of women in fisheries activities under SHGs (0.234\*) was another significant determinant, reflecting that increased female participation can enhance group dynamics through diverse perspectives and collaborative efforts (Aithal, 2024). The findings are matched with result of Jyoti *et al.* (2019).

However, other variables such as caste, family

**Table 4 Relationship between group dynamics effectiveness of SHG members and selected characteristics (n=120)**

Variable	'r'
Age	-0.132**
Level of education	0.235*
Caste	0.160
Size of family	-0.085
Self confidence	0.117
Economic motivation	0.119
Achievement motivation	0.119
Credit orientation	-0.119
Attitude towards SHG	0.033
Experience in fisheries	0.210*
Total annual income of households	0.266*
Annual income from fisheries activity	0.144*
Training programme related to fisheries	0.174*
Information management behaviour	0.105
Social participation status	0.078
Participation in SHG management activities	0.028
Operated area (ha)	0.021
Participation of women in fisheries activities	0.234*

\*Significant at 5%; \*\*Significant at 1%

size, self-confidence, economic motivation, and social participation status did not show significant correlations, show that these factors have a limited or variable influence on GDE among SHG members. This result was in the line of Garai and Maiti (2020).

Table 4 Relationship between group dynamics effectiveness of SHG members and selected characteristics (n=120)

## CONCLUSION

It can be concluded that while most of the SHGs are performing moderately well, gaps remain in areas like group cohesion, empathy, and task functions. Regular training on interpersonal and listening skills, team-building activities, and peer-mentoring programs can be used to improve empathy within Self-Help Groups. While improving leadership, trust, and communication is still essential, addressing low-performing areas requires focused interventions to improve overall group dynamics. Improving educational qualifications, income from fisheries, and training opportunities can further enhance group dynamics, especially for women. Women within SHGs can be empowered by specialized training programs in sustainable fishing techniques, financial literacy, and small business management. Resources, funding, and training programs are also provided by government

and non-governmental organizations to improve SHG effectiveness. Government organizations should offer financial grants, facilitating access to markets, and providing technical expertise and infrastructure support, ensuring SHGs are included in larger developmental schemes and policies. This comprehensive support helps SHGs thrive and contribute significantly to local economies.

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**Author's contribution:** The first author, conceptualized and operationalized the research, second, third fourth and fifth authors contributed in data analysis and editing of paper and sixth and seventh authors were responsible for references cited in the paper.

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