

## Gender Mainstreaming and Impact of Self-Help Groups: A Study on Social Entrepreneurship through Fish Aggregating Devices in Mannancheri of Alappuzha, Kerala

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### ABSTRACT

*A research study for assessing the impact of fisher folk Self Help Groups in gender mainstreaming was undertaken on social entrepreneurship venture on fish aggregating devices at Mannancheri gramapanchayath, located at Alappuzha district of Kerala. The analysis included specific aspects such as performance assessment of the SHGs, gender analysis and empowerment analysis which were carried out based on socio-economic surveys and personal interviews using pre-tested and structured data gathering protocols with standardized scales and indices involving the members of the SHGs. The male and female counterparts of the families were separately interviewed to assess the gender mainstreaming aspects in terms of equity and equality to access to resources, participation profile, decision making aspects, gender need analysis etc. Though majority of activities are male dominated, the female counterparts of the households also have definite role in decision making, purchase of accessories etc. A success case study was elucidated and documented as a documentary which can be used as a case model for promoting group action for mobilizing SHGs on a sustainable basis.*

**Key words:** Self Help Group, Empowerment Index, Gender mainstreaming, Performance Level.

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## INTRODUCTION

The concept of social entrepreneurship was quite often considered ambiguous and hardly able to define due to its diversity in content and approach. In India, fisheries sector shows a remarkable transition from subsistence level to commercial production. However, the indiscriminate and rapid development and essentially profit making approach of the entrepreneurs without caring for environment and social equity have led to disruption of the environment and given rise to social conflicts<sup>11</sup>, Sinha<sup>27</sup> reported that, the social entrepreneurs in aquaculture can resolve to make India a healthy and far more intelligent India; they can initiate development of fish farming and train the poor men and women in fish production and short cycle rearing of fish in small ponds for personal and commercial purposes. Datta *et al.*<sup>7</sup>, quoted case studies for social entrepreneurs in fisheries from West Bengal. Mudialy Fishermen's Cooperative Society (example of waste water fisheries) uses the micro algae inside the waste water of the Kolkata to clean the polluted water and thereby using it for fish culture. According to Chakravarthy<sup>7</sup> in fisheries, potential for social entrepreneurship is huge as there are challenges in getting better seed materials, appropriate application of inputs and water management in inlands for small fish farmers. On the other hand, marine resources are becoming unpredictable due to changing weather patterns and earnings of fishermen are affected by this. Innovations to predict resources in sea (catchments), storage at sea and value addition can help the fishermen to increase their income and left them out of poverty.

The concept of social entrepreneurship means different things to different researchers and also lacks unified definition<sup>3,9,26</sup>, which divulged social entrepreneurship as a sub-discipline within the field of entrepreneurship that exhibits characteristics of non-profits, government, and businesses, including applying to social problem-solving traditional, private-sector entrepreneurship's focus on innovation, risk-taking, and large-scale transformation. Definitions of social

entrepreneurship have been developed in a number of different domains, such as not-for-profits, for-profits, the public sector, and combinations of all three. Some researchers refer to social entrepreneurship as not-for-profit initiatives in search of alternative funding strategies, or management schemes to create social value<sup>2,12</sup>, socially responsible practice of commercial businesses engaged in cross-sector partnerships<sup>23</sup>, or as a means to alleviate social problems and catalyze social transformation.

Social entrepreneurship creates innovative solutions to immediate social problems<sup>1</sup>, necessitating the innovative use and combination of resources, thereby offering sustainable approach to systemic change that resolves social market failures involving the expression of entrepreneurially virtuous behaviour to achieve a social mission. Many times few focus on the personal traits of the organization team that contributes to social entrepreneurship. The concept of integrating social aims with profit-making has been an emerging trend in the world today, especially in the wake of the 2007-2009 financial crises which shone the spotlight on the problems of pure profit-maximization<sup>21</sup>. In particular, social enterprise has grown spectacularly in India, with the country being referred to as "A Social Enterprise Superpower" and action hub, as well as "A hotbed for Social Enterprise" by Think, a social action think tank and action hub<sup>5</sup>. Government must help these new breed of entrepreneurs to acquire resources, build successful organizations and achieve significant positive impact. Overseas Development Institute (ODI) defined social enterprise as 'a business operation which has social or environmental objectives which significantly modify its commercial orientation'<sup>10</sup>. According to Martin and Osberg<sup>14</sup>, the entrepreneurs are rarely motivated by the prospect of financial gain, but both the entrepreneur and the social entrepreneur are strongly motivated by the opportunity they identify, pursuing that vision relentlessly, and deriving considerable psychic reward from the process of realizing their ideas.

### Relevance of Social entrepreneurship through Fish Aggregating Devices (FADs) in the study area of Vembanadu lake

Alappuzha is an important tourist destination in India and the backwaters of Alappuzha are the most popular tourist attraction in Kerala state. Mannanchery is a gramapanchayath in Alappuzha district which is situated about 10 km north of Alappuzha town and is blessed with its scenic beauty. The major occupation of the people of this village has been coir making and fishing for the last few decades. The Vembanad lake forms the eastern boundary of this village. Vembanad lake is the longest water body in the country and largest in the state. The wetland has an area of 1521.5 km<sup>2</sup> and volume of 0.55 km<sup>3</sup>, fed by 10 rivers flowing into it, adding up to a total drainage area of 15,770 sq km. It is a complex aquatic system of 96 km. long coastal backwaters, lagoons, marshes, mangroves and reclaimed lands with intricate networks of natural channels and man-made canals.

The wetland was included in the list of wetlands of international importance, as defined by the Ramsar Convention for the conservation and sustainable utilization of wetlands in 2002. The fishes, reptiles and the molluscs found in the lake are facing a threat to their existence. Reduced lake area, construction of Thannermukkom barrage, coconut husk retting, uncontrolled mining of black clams, sewage effluents, chemicals from paddy fields etc., had created a number of water quality problems such as reduction of flushing action in the lake and thereby caused a proliferation growth of weeds and water hyacinth in the lake. Several NGOs like Kerala River Conservation Council, the Kuttanad Foundation etc are approaching the government for implementing an integrated management-action-plan for this wetland. Ashoka Trust for Research in Ecology and the Environment (ATREE), a well-established Non-Governmental Organization initiated Vembanad Wetland Conservation Program, to help conserve the wetland.

ATREE along with the Regional Agricultural Research Station (RARS), of

Kerala Agricultural University conducted a participatory fish census in 2008, titled the 'Vembanad Fish Count 2008', to prepare inventory of fish biodiversity in lake. Because of pollution and over fishing the fish population has decreased from 156 species 50 years back to 51 - 62 in 2008 fish count. Social entrepreneurship, as a practice and a field for scholarly investigation, provided a unique opportunity to challenge, question, and rethink concepts and assumptions from different fields of management. Here, social entrepreneurship is seen as differing from other forms of entrepreneurship in the relatively higher priority given to promoting social value and development versus capturing economic value.

Fisherfolk in Mannanchery gramapanchayath willingly came forward with a broad vision on conservation orientation of fish resources from a specific growth potential area of Vembanad lake which was demarcated as non fishing zone by themselves. With this broad vision on social entrepreneurship undertaken through FADs without the botheration on making money, these fisherfolk were mobilized by ATREE in collaboration with Mannanchery gramapanchayath authorities. For practical installation of FADs, five Self Help Groups (SHGs) of fisherfolk were mobilized in Mannanchery gramapanchayath. It was indeed a wholehearted attempt of a group of nature loving fisherfolk without any consideration on micro enterprises and income generation, but with a broader visualization of conservation orientation of improving the fish abundance in future. *Matsyagandhi, Chithira, Ponnad, Kalpaka and Ambalakkadavu* were the five SHGs mobilized for this venture under ATREE. It has a broad mission in this endeavor. In order for patterns to change, it becomes necessary to involve community in decision making and planning. People in the area have traditional knowledge handed-down from past generations of observation and experience that is relevant to the understanding of how the environment works and what is needed to sustain it. When communities acquire the opportunity to control their

resources, a bottom-up management approach can work, if done in a way harmonious with environmental needs. Stakeholders, in this case are burdened by this management obstacle, and unable to use their regime to determine appropriate mechanisms towards a solution. Therefore, it is essential for stakeholders to have the power to execute decisions based on socio-environmental needs of the community. 'Home of fishes': A democratic approach towards conserving fishes and livelihoods. The unified attempt of 5 SHGs in this social entrepreneurship venture irrespective of money motivation is an encouraging attempt initiated under the wholehearted co-operation of Mannanchery gramapanchayath authorities along with ATREE and the Central Marine Fisheries Research Institute (CMFRI) also joined hands to make a study on Gender mainstreaming and impact of these SHGs.

#### **Relevance of Gender mainstreaming and impact of SHGs in Social entrepreneurship**

The broad perspective of Gender mainstreaming is emphasized as a process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's and men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres, so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality and equity which aims to transform the mainstream at all levels to end gender discrimination. Equity is the means and equality is the result. Equality is rights based in such a way that women and men have equal rights, enshrined in international standards and treaties and should have same entitlements and opportunities. Equity means justice so that resources are fairly distributed, taking into account the different needs of women and men. Here in the present study, an attempt was made on the assessment of impact of SHGs in Social entrepreneurship through FADs in gender mainstreaming.

## **MATERIAL AND METHODS**

### **The Study Area**

The study was undertaken on the assessment of impact of SHGs in Social entrepreneurship through FADs in gender mainstreaming in Mannanchery gramapanchayath of Alappuzha district of Kerala state. In this expedition, the major aim and methodology employed from CMFRI essentially consist of extension research and practical extension work. Organizing farmer interactions for awareness creation and training programmes followed by research focusing on gender analysis, computation of Performance Level and Empowerment Index of SHGs and the success case study elucidation. The study stressed on undertaking gender analysis of the members of SHGs in Mannanchery gramapanchayath who accomplished the social entrepreneurship on FADs, assessing the Performance level of SHGs and Empowerment Index and elucidating the success case study of SHGs on social entrepreneurship.

The practical extension part consisted of awareness and ECB training programmes systematically executed and then extension research part focusing on socio economic surveys with a pre-tested and structured data gathering protocol with standardized scales and indices. Awareness programmes and farmer interaction meets were organized in Mannanchery gramapanchayath site with the involvement of scientists from CMFRI, panchayath officials, NGO ATREE, Academicians of St. Gits Institute of Management, Fisheries development personnel etc. Practical training programmes on social entrepreneurship on FADs were also undertaken systematically with the involvement of fisherfolk members of SHGs. Stage by stage Video documentation in the various phases of activities of SHGs in this venture were also undertaken by CMFRI. In the extent of involvement in various stages of the activity of social entrepreneurship by the members like Site selection, Extension service, Collection/Purchase of materials, construction of FAD, Installation of FAD, Maintenance etc. were quantified with structured interview schedule. The gender mainstreaming<sup>6</sup> to assess the equity and equality of men and women

counterparts of the family were separately interviewed to assess the access to resources, participation profile, decision making aspect and gender need analysis.

For assessing the Performance level of SHGs and Empowerment Index, appropriate scales and indices were developed. The Level of Performance<sup>18,25</sup> was assessed by the checklist containing 16 dimensions developed by NABARD arranged in 3 point continuum. Similarly the Empowerment Index was quantified based on 8 dimensions<sup>15</sup>, such as Confidence building, Self-esteem, Decision making pattern, Capacity building, Psychological Empowerment, Social Empowerment, Economic Empowerment and Political Empowerment.

## RESULTS

### Empowerment Index and Level of Performance of SHGs

The Empowerment Index and Level of Performance of five SHGs were quantified and presented in Table 1. Paired sample t test was

conducted separately for different SHGs to find out the statistical difference between the mean empowerment index scores: before after joining SHG. The results of the paired sample t test were highly significant ( $p < 0.01$ ) in all the eight empowerment variables considered for the present study, indicating that there was a significant increase in the empowerment scores before and after the formation of SHG.

The extent of empowerment was quantified as the difference between the scores obtained as per the perception of the SHG members before and after joining the SHG. For computing the Empowerment Index, the scores obtained for each dimensions were first made uniform and that was multiplied by the weightages assigned by the judges while relevancy rating for ascertaining the content validity of the scale through scale product method. Each of the dimensions of Empowerment Index was computed by the scores of the sub-dimensions coming under the categories of these 8 dimensions.

**Table 1: Empowerment Index components and Level of Performance of SHGs**

Parameters	Matsya Gandhi SHG	Chithira SHG	Ponnadu SHG	Kalpaka SHG	Ambalakkadavu SHG
Confidence building	0.807	0.704	0.736	0.802	0.749
Self esteem	0.782	0.672	0.654	0.762	0.684
Decision making Pattern	0.783	0.686	0.825	0.789	0.819
Capacity building	0.684	0.581	0.679	0.682	0.669
Psychological empowerment	0.672	0.571	0.662	0.673	0.653
Social empowerment	0.723	0.620	0.720	0.710	0.719
Economic empowerment	0.809	0.707	0.675	0.707	0.679
Political empowerment	0.648	0.746	0.623	0.656	0.618
Overall Empowerment Index	0.739	0.661	0.697	0.723	0.698
Level of Performance	64.00 per cent	60.00 per cent	61.00 per cent	63.00 per cent	61.00 per cent

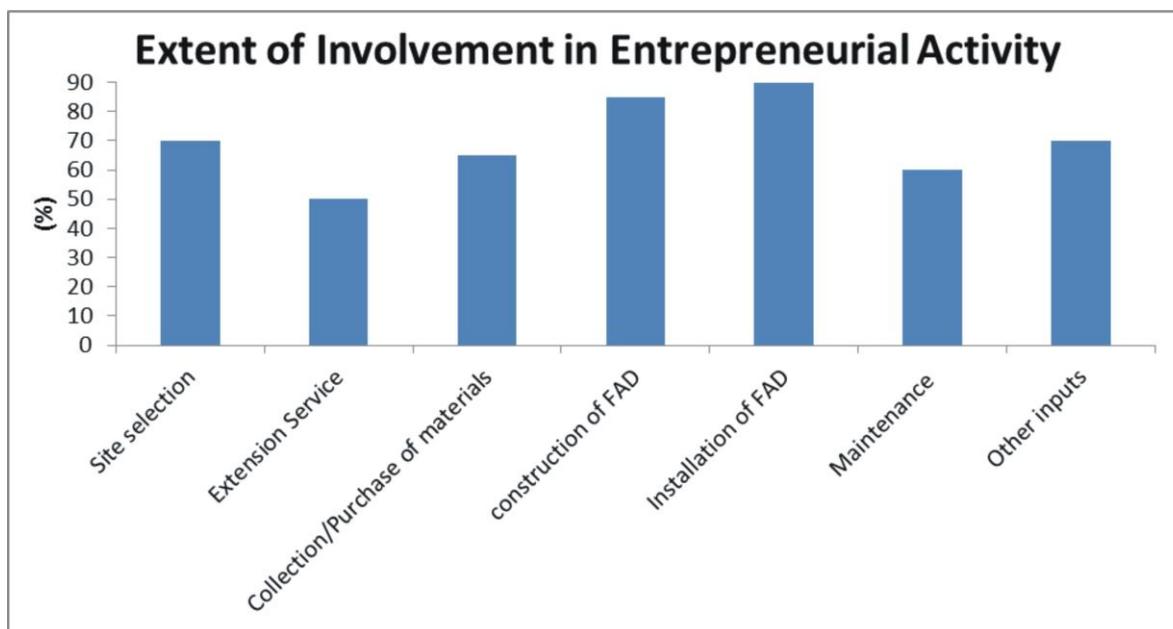
In comparing the empowerment indices, the overall empowerment index was found highest for the SHG Matsyagandhi and followed by the SHG Kalpaka. Similar is the case with

Level of Performance of SHGs. Similar is the case with Level of Performance to the extent of 64 per cent and 63 per cent respectively.

**Extent of involvement in various phases of the Social entrepreneurship activity**

The extent of involvement in various phases of this activity was also quantified and expressed

in Fig 1. Maximum participation of the members and families was observed during construction of FAD and Installation of FAD.



**Fig. 1: Extent of involvement in various phases of the Social entrepreneurship activity**

An assessment of gender perspectives in terms of gender need and gender role in Social entrepreneurship on Fish Aggregating Devices (FADs) accomplished by SHGs in Mannanchery gramapanchayath was also done as a part of the study. All households were selected and male and female counterparts in each household were separately interviewed. The gender participation in different activities, gender needs, decision making and access and control over the resources in respect to social entrepreneurship on FADs were analyzed. Opinion of men and women in above aspect was found to be similar without any significant difference. However, differential gender response was observed among SHGs. In case of participation and need, both men and

women share almost the same opinion. Sahoo *et al.*<sup>24</sup>, Raghavan<sup>22</sup>, Vipinkumar and Asokan *et al.*<sup>29</sup>, Socio-economic, technological and export support requirement was analyzed for gender mainstreaming. Male and female respondents in a household were separately interviewed for getting the response of gender needs in terms of access to resources in Social entrepreneurship on FADs, participation in various activities of this venture, gender needs and decision making in various stages. The typology access to resources in gender response such as female alone, male <female, male = female, male >female and male alone indicated separately for male and female respondents (Table 2).

**Table 2: Access to resources for social entrepreneurship through FAD unit**

Resource Access	Female Alone		M<F		M=F		M>F		Male Alone		No Access	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Site selection	0.00	0.00	0.00	0.00	30.00	20.0	0.00	0.00	70.00	80.0	0.00	0.00
Extension Service	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.0	100.	0.00	0.00
Collection/Purchase of materials	0.00	0.00	0.00	0.00	50.00	30.0	0.00	0.00	50.00	70.0	0.00	0.00
construction of FAD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.0	100.	0.00	0.00
Installation of FAD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.0	100.	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.0	100.	0.00	0.00
Other inputs	0.00	0.00	0.00	0.00	10.00	40.0	0.00	0.00	90.00	60.0	0.00	0.00

A perusal of the table 2 clearly shows the response of male and female separately in access to resources concerned with Social entrepreneurship on FADs. Among the responses of female and male for the items of access to resources, most of the items are dominated by 'male alone' except for 'the construction of FAD and Installation of FAD are being performed by male and female together.

Similarly the participation profile in various activities concerned with Social entrepreneurship on FADs is presented in Table 3. The gender response in participation in various activities in this venture such as female alone, male <female, male = female, male >female and male alone indicated separately by male and female are presented in Table 3.

**Table 3: Participation profile in gender perspective in Social entrepreneurship through FAD unit**

Activity	Man(Independently)		Men and women together		Women(Independently)	
	Female	Male	Female	Male	Female	Male
Site selection	80.00	90.00	20.00	10.00	0.00	0.00
Extension Service	70.00	90.00	30.00	10.00	0.00	0.00
Collection/Purchase of materials	60.00	50.00	40.00	50.00	0.00	0.00
construction of FAD	100.00	100.00	0.00	0.00	0.00	0.00
Installation of FAD	100.00	100.00	0.00	0.00	0.00	0.00
Maintenance	100.00	100.00	0.00	0.00	0.00	0.00
Other inputs	50.00	40.00	50.00	60.00	0.00	0.00

A perusal of the table 3 clearly indicates the participation profile in gender perspective in Social entrepreneurship on FADs for male and female separately. It can be glanced clearly from the perusal of the table that, most of the activities are male dominating operations, as per the responses of both male and female. But the construction of FAD and Installation of FAD activities are being performed by both men and women.

In the same way, response to the gender needs in various activities concerned with Social entrepreneurship on FADs of male and female separately is presented in Table 4. The gender response in need areas in Social entrepreneurship as per the importance assigned by male and female counterparts are presented in the table.

**Table 4: Gender needs in activities of Social entrepreneurship through FAD unit**

Need Area	Important		More Important		Most Important	
	Female	Male	Female	Male	Female	Male
Site selection	40.00	50.00	40.00	20.00	20.00	30.00
Extension Service	90.00	70.00	10.00	30.00	0.00	0.00
Collection/Purchase of materials	50.00	20.00	50.00	80.00	0.00	0.00
construction of FAD	0.00	0.00	40.00	20.00	60.00	80.00
Installation of FAD	0.00	0.00	0.00	0.00	100.00	100.00
Maintenance	60.00	90.00	40.00	10.00	0.00	0.00
Other inputs	50.00	40.00	50.00	60.00	0.00	0.00

With regard to the gender needs, the most important need area expressed by both male

and female counterparts includes construction of FAD and Installation of FAD.

**Table 5: Decision making in various phases of Social entrepreneurship through FAD unit**

Decision making in Activity Name	Female Alone		M<F		M=F		M>F		Male Alone	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Site selection	0.00	0.00	0.00	0.00	60.00	90.0	40.00	10.0	0.00	0.00
Extension Service	0.00	0.00	0.00	0.00	50.00	80.0	50.00	20.0	0.00	0.00
Collection/Purchase of materials	0.00	0.00	0.00	0.00	50.00	40.0	50.00	30.0	0.00	30.0
construction of FAD	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	90.00	100.
Installation of FAD	0.00	0.00	0.00	0.00	20.00	30.0	0.00	0.00	80.00	70.0
Maintenance	0.00	0.00	0.00	0.00	30.00	40.0	0.00	0.00	70.00	60.0
Other inputs	0.00	0.00	0.00	0.00	50.00	60.0	0.00	0.00	50.00	40.0

It is quite obvious from the table that, the decision making on various activities on FAD installation essentially was performed by men counterparts in the fisherfolk households with sufficient consultation with female counterparts in Site selection, Extension Services, Collection/Purchase of materials, maintenance etc. In the meantime, the laborious operations like construction and installation of FADs etc. were dominated by men.

### DISCUSSION

Fisheries and aquaculture are considered the sunrise sector in India, providing nutritional security, contributing to the nation's GDP and offering employment to over 14 million people directly and indirectly. Constituting about 6.3% of global fish production, the sector contributes to 1.1% of the GDP and 5.15% of the agricultural GDP (NFDB, 2016). Fisheries sector also occupies a very important place in the socioeconomic development of the country. In fisheries sector the input production and the input-delivery-systems like fish production, marketing and exports, processing and product developments needs emerging entrepreneurs. The professionals in the government sector cannot take up all the responsibilities in order to bring quantum change in the system. There exist a variety of initiatives around the globe by the individuals and institutions, involving in missions of philanthropic nature, which try to create viable and sustainable changes in person's lives. Social entrepreneurship be demanded to replace the existing aquaculture practices of India with more sustainable resilient practices and management strategy.

Here in the present study, an assessment of gender mainstreaming through social entrepreneurship successfully being undertaken by Self Help Groups of fisherfolk in Mannancheri gramapanchayath of Alappuzha district in Kerala brought out a couple of valid conclusions as, it was understood that the female counterparts also do have a definite role in activities such as site selection of FAD, purchase of accessories etc. The Scales of 'Performance Assessment' and 'Empowerment Index' developed for this study have good potential for future use in other key areas on a sustainable basis<sup>30</sup>. The lacunae identified in Empowerment Index computation and performance level assessment give adequate feedback to authorities to proceed in the right direction. The gender dimension analysis on mainstreaming aspect gives sensitization on crucial issues like fisherfolk's rights and marketing channels for policies and other interventions on gender<sup>31</sup>.

Austin *et al.*<sup>2</sup>, classifies entrepreneurship into 2 types: commercial entrepreneurship and social entrepreneurship. They both focus on the role of innovation. He also mentioned the differences between both: as commercial one aims at private gains and social one aims at social value creations. When the commercial entrepreneurship measures performance in terms of financial terms, the social entrepreneurship is hard to measure since value they create is intangible. There is no difficulty in attracting venture capital and the sources in Commercial entrepreneurship: but the Social entrepreneurship lacks enough financial capital to keep running the venture. Ventures created by social entrepreneurs can

certainly generate income, and they can be organized as either not for profits or for-profits. The long lasting benefits of the present context research and practical extension of social entrepreneurship through FADs highlighted in this paper also are yet to be explored through the probable abundance of fish catch after a specific span of time. However, an exhaustive research with larger sample and wider area after that time span would be of ample scope. The inter relationships between the variables an act as catalytic points for group action and group empowerment on a sustainable basis. Success case study on social entrepreneurship elucidated has been brought out as a scientific documentary movie entitled ‘*Social Entrepreneurship: A Pioneering SHG Venture through Fish Aggregating Devices*’ which can act as a case model/practical manual for mobilizing SHGs in other allied sectors on a sustainable basis.

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#### REFERENCES

1. Alvord, S. H., Brown, L. D., & Letts, C. W. Social entrepreneurship and societal transformation. *Journal of Applied Behavioural Science*, **40(3)**: pp. 260-282 (2004).
2. Austin, J., Stevenson, H., & Wei-Skillern, J. *Social Entrepreneurship and Commercial Entrepreneurship: Same, Different, or Both? Working Paper Series, Harvard Business School*, pp. 4-29. Business Incubation. *Resource Library National Business Incubation Association*. Available at: [http://www2.nbia.org/resource\\_library/faq/index.php#3](http://www2.nbia.org/resource_library/faq/index.php#3) Viewed on 25 Nov 2016 (2003).
3. Certo, S.T., Miller, T., Social entrepreneurship: key issues and concepts. *Business Horizons* **51 (4)**: 267–271 (2008).
4. Choi, N., Majumdar, S., Social entrepreneurship as an essentially contested concept: Opening a new avenue for systematic future research, *Journal of Business Venturing*. Available at, <http://dx.doi.org/10.1016/j.jbusvent.2013.05.001> (2013).
5. Clinton, L., “Is India Really a Hotbed for Social Enterprise?” *Beyond Profit*. Available at. <http://beyondprofit.com/is-indiareally-a-hotbed-for-social-enterprise/> Accessed on 4<sup>th</sup> Nov 2016 (2010).
6. Daly, M. Gender Mainstreaming in Theory and Practice, *Social Politics: International Studies in Gender, State & Society* **12(3)**: 433-450 (2005).
7. Chakraverti, S., Datta, K.S., Chakrabarti, M., Searching for social entrepreneurship in aquaculture an Indian perspective. Souvenir Pillay Aquaculture Foundation (2016).
8. Dees, The Meaning of "Social Entrepreneurship. Duke Innovation and entrepreneurship. Available at <https://entrepreneurship.duke.edu/news-item/the-meaning-of-social-entrepreneurship> (2001).
9. Dees, G. The meaning of social entrepreneurship, [http://www.fuqua.duke.edu/centers/case/documents/dees\\_SE.pdf](http://www.fuqua.duke.edu/centers/case/documents/dees_SE.pdf). Accessed may 25, 2016 (1998).
10. Griffin-EL, E., & Darko, E. A case study of health and agriculture social enterprises in Kenya. Retrieved from Overseas Development Institute (2014).
11. Krishna, G., Social entrepreneurship. *Souvenir*, Pillay Aquaculture Foundation (2016).
12. Lasprogata, G.A., Cotten, M.N., Contemplating enterprise: the business and legal challenges of social entrepreneurship. *American Business Law Journal* **41 (1)**: 67–113 (2003).
13. Mair, J., Martí, I., Social entrepreneurship research: a source of explanation,

- prediction and delight. *Journal of World Business* **41** (1): 36–44 (2006).
14. Martin, R.S. and Osberg, S., Social Entrepreneurship: The Case for Definition. *Stanford Social Innovation Review Spring*, pp. 29-39 (2007).
  15. Meena.M.L, Dheeraj Singh and Aiswarya Dudi. Role Perception about Empowerment of Farm Women in Agriculture in Western Rajasthan, *Asian J. Home Sci.* **7** (2): 237-241 (2012).
  16. Miller. S., Stacey. J. Good incubation- the craft of supporting early-stage social ventures. *Nesta pp.* 1-55 (2014).
  17. Moses. N. Why India needs social entrepreneurship to succeed. *Billion Bulbs*. <http://billionbulbs.com/cansocialentreprenurshipsaveindia/> (2013).
  18. NABARD, SHG Bank linkage programme, status as on March 31 2007, NABARD, Mumbai (2007).
  19. NFDB, National Fisheries Development Board, (Online). Available at [nfdb.gov.in](http://nfdb.gov.in). Accessed on 2 october 2017 (2016).
  20. Osemeke, M., Entrepreneurial Development and Interventionist Agencies in Nigeria. *International Journal of Business and Social Science*, **3**(8): (2012).
  21. Poon, D., The emergence and development of social enterprise sectors. *Social Impact Research Experience Journal (SIRE)* .Available at <http://repository.upenn.edu/sire/8>. Accessed on 29 Oct 2016 (2011).
  22. Raghavan, V. P, Micro-credit and Empowerment: a study of Kudumbashree Projects in Kerala. *Ind. J. Rural Development.* **28**: 478-479 (2009).
  23. Sagawa, S., & Segal, E. Common interest, common good: Creating value through business and social sector partnership. *California Management Review*, **42** (2): pp. 105-122 (2000).
  24. Sahoo, P.K., Vipinkumar, V.P., Mishra, A.K. and Srinath, M., Gender Participation and Gender Issues in Mussel Culture- A Study from Coastal Village of Kerala. (Abstract) In *Compilation of Abstracts of National Seminar on Women in Agriculture organized by International Extension Forum (IEF)*, Directorate of Research on Women in Agriculture (DRWA) and Research Association for Gender in Agriculture (RAGA), Bhubaneswar. p 25 (2009).
  25. Shalumol, Salas. Women Empowerment through Entrepreneurial Activities of Fishery Based Self Help Groups In Kerala. *Unpublished M.F.Sc. Thesis*, CIFE, Mumbai. pp. 81 (2015).
  26. Short, J.C., Moss, T.W., Lumpkin, G.T., Research in social entrepreneurship: past contributions and future opportunities. *Strategic Entrepreneurship Journal* **3**(2): 161–194 (2009).
  27. Sinha, P.R.V., Aquaculture and Social entrepreneurship. *Souvenir*, Pillay Aquaculture Foundation (2016).
  28. Srinath Krishna, Decision Making by Marine Fishermen. *Rural Development Review.* **9** (3&4): 970-974 (1990).
  29. Vipinkumar, V.P, and Asokan, P.K., Mussel Farming Technology Dissemination to the Self Help Groups. *Ind. J. Extn. Educ.* **44**: 1 & 2 pp 112-115 (2008).
  30. Vipinkumar, V.P., Narayanakumar, R., Harshan, N.K., Jephi, A., Athira, P.V., Jeethumol, T.J. and Dilip, D. Impact of Self Help Groups in Gender Mainstreaming: A Case Study on Fish Amino Enterprise in Vypin, Kerala, *Int. J. Pure App. Biosci.* **5**(6): 337-345, doi: <http://dx.doi.org/10.18782/2320-7051.6003> (2017).
  31. Vipinkumar, V.P., Narayanakumar, R., Johnson, B., Swathilekshmi, P.S., Ramachandran, C., Shyam, S., Salim, Reeta Jayasankar, Shinoj Subrammannian and Aswathy, N., *Gender Mainstreaming and Impact of Self Help Groups in Marine Fisheries Sector, Project Report*, Central Marine Fisheries Research Institute, Kochi, p 242. (2017).