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Sustainable livelihood options for women in the coastal ecosystem: a participatory assessment

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The present study aimed at identifying the need-based and sustainable livelihood options suitable for members of the coastal women self-help groups (SHGs). The study was conducted on a sample of 240 women representing 24 SHGs in Kerala, India. Out of the 30 potential and sustainable livelihood options assessed through participatory tools, aqua tourism (index: 83.33) was found to be the most potential option for women in the coastal ecosystem, especially as a group activity for the women SHGs. Fish drying units (80.42), preparation of value-added fish products (77.08), catering units (77.08), fish/prawn feed manufacture (69.17), fish/prawn seed collection (64.17) and collection of bivalves such as oyster, clam, etc. (61.67) were also found to have high potential as sustainable livelihood options. Lack of access to institutional finance was reported as a major constraint, which traps women microentrepreneurs in the clutches of private moneylenders. Policy development to support women in the coastal ecosystem requires appropriate institutional arrangements and effective organizations and structures, which extend assistance in the areas of training, credit, technology and marketing through SHGs.

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WOMEN in the coastal communities play a major role in household management. This includes food, childcare, education, health and even financial management of getting and repaying the loans. While these factors add to impasse among women, realization that active fishing alone cannot support the family due to highly fluctuating earnings owing to uncertainty in marine fisheries, necessitated mainstreaming of women to adopt profitable and sustainable enterprises. Even though microenterprises are a viable option for women entrepreneurs, they often fail due to very small investments, inadequate training, lack of quality concern, irregular production and supply to the market, and lack of managerial skills. As a result, either they close their business after a while, or become subjects of exploitation by middlemen[1]. Involvement of women in productive activities is an important strategy for poverty alleviation in the society and for overall women empowerment. Any initiative related to microenterprises with women, designed with a right frame and implemented using a right approach can prove to be an important tool for social and political empowerment along with economic empowerment[2,3].

Against this background, the present study aimed at identifying and documenting the need-based and sustainable livelihood options suitable for self-help groups (SHGs) among coastal women. Resource availability, perceived needs of the respondents, marketing scope and sustainability issues related to the identified livelihood options were assessed in a participatory mode.

The study was conducted on 240 women members of 24 SHGs from eight fishing villages in four coastal districts of Kerala, India, viz. Kollam, Ernakulam, Thrissur and Kannur (Figure 1). The respondents were selected using multi-stage stratified random sampling procedure.

The need-based and sustainable livelihood interventions required for the coastal women SHGs were assessed using a participatory tool, namely the 'H form' method. The original H-form method was particularly designed for monitoring and evaluation of programmes. The method can be used for developing indicators, evaluating activities, and to facilitate and record interviews with individuals or group discussions[4]. For the present study, a modified H form method was used. A large sheet of paper was taken and folded in the form of a 'H'. The paper was unfolded and the 'H' lines were darkened with a pen. The indicator/livelihood need to be assessed was written at the top centre of the H form. On the left of the horizontal line of 'H', the score of '0' representing 'poor' and on the right side, the score of '10' representing 'extremely good' were written (Figure 2). The groups were asked to discuss and place their group consensus score along the line between 0 and 10. They were also asked to justify their

scores by giving positive and negative reasons for the same. For each livelihood need, each H form was constructed. The index was calculated for each livelihood need as the ratio of actual group consensus score to the maximum possible score (10), and expressed in percentage.

The resource base of the locale of study was assessed using participatory rural appraisal (PRA) tools such as resource map and transect walk map (Figure 3). From the PRA of the resources, it was found that the villages had rich fishery resources both in capture and culture sectors, by way of artisanal marine fishing, fishing through Chinese fishing nets and cast nets in backwaters, estuaries and ponds, and culturing prawn in aquaculture ponds. Crab and oyster culture also supported the livelihood of fisher folk. The vast backwater resources and aquaculture ponds also provided a huge potential for aqua-tourism in the study area.

The agricultural resources include paddy, mango, coconut, banana, jackfruit, tapioca and vegetable crops. The typical 'Pokkali' (Pokkali (Malayalam) is a unique saline-tolerant rice variety that is cultivated in an organic way in the water-logged coastal regions of Kerala) paddy cultivation is also in practice. Mangrove plantations are also available. There is huge potential for marketing of these agricultural produces in fresh and processed form, and making them into different value-added edible products for marketing in nearby retail markets or urban markets. Figure 3 (maps) also reveals the livelihood

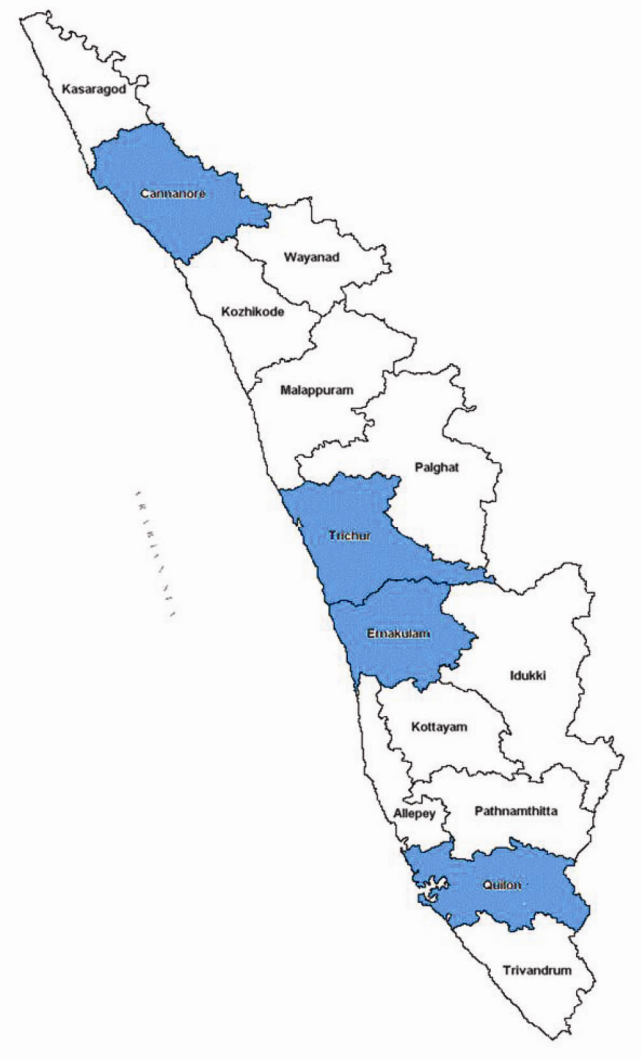


Figure 1. Study area.

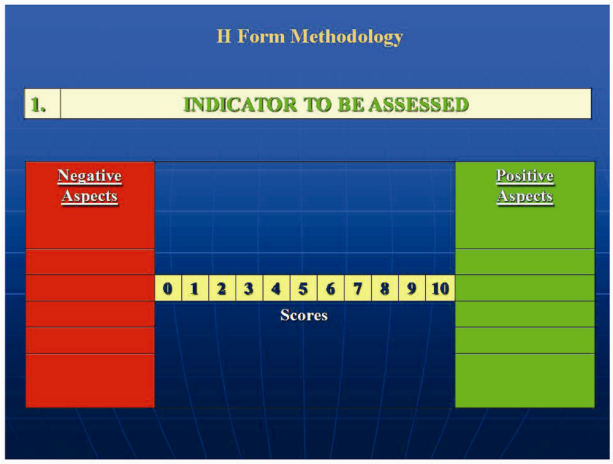
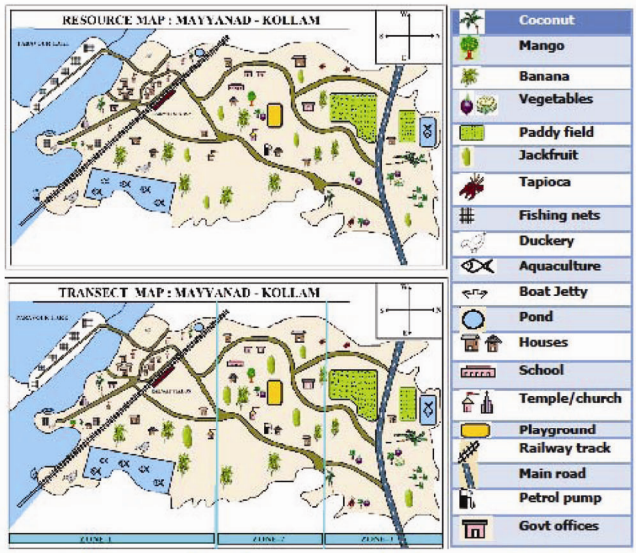


Figure 2. 'H form' method.



Pattern	Zone-1	Zone-2	Zone-3
Land use pattern	Cultivated area	Cultivated, habitat areas	Cultivated, habitat areas
Land slope	S→ W	S→ W	S→ W
Water bodies	Sea, estuary	Ponds	Ponds
Crops	Nil	Paddy, tapioca, banana	Paddy, tapioca, banana
Trees	Coconut, jackfruit, mango	Coconut, mango, jackfruit	Coconut, mango, jackfruit
Plantation	Mangroves	Nil	Nil
Livestock	Cattle, goat, poultry, duckery	Cattle, goat, poultry, duckery	Cattle, goat, poultry
Fisheries	Capture (sea, estuary)	Aquaculture (ponds)	Aquaculture (ponds)
Fishing method	Cast net, gill net, traps, line fishing	Nil	Cast net

Figure 3. Resource and transect maps.

Table 1. Participatory assessment ('H form' method) of need-based and sustainable livelihood options for women self-help groups (SHGs)

Potential livelihood opportunities	Group consensus scores (maximum score of 60 on 10-point rating scale)						
	Kollam (n_1 = 60)	Ernakulam (n_2 = 60)	Thrissur (n_3 = 60)	Kannur (n_4 = 60)	Overall score (max. 240)	Index	Rank
Aqua-tourism	52	54	48	46	200	83.33	1
Fish drying units	48	54	45	46	193	80.42	2
Preparation of value-added fish products	44	52	44	45	185	77.08	3
Catering units	44	52	44	45	185	77.08	4
Fish/prawn feed manufacture	36	50	36	44	166	69.17	5
Fish/prawn seed collection	32	46	32	44	154	64.17	6
Collection of bivalves (oyster, clam, etc.)	32	48	32	36	148	61.67	7
Coastal aquaculture (fish, prawn, bivalves culture)	28	48	28	32	136	56.67	8
Herbal medicine preparation	24	45	32	26	127	52.92	9
Collection of seaweeds	30	36	28	32	126	52.50	10
Tailoring	22	44	30	30	126	52.50	11
Vegetable cultivation/marketing	25	44	32	22	123	51.25	12
Collection of ornamental fishes	26	36	26	30	118	49.17	13
Small-scale units*	30	36	32	18	116	48.33	14
Aquarium units/ornamental fish culture	29	32	24	28	113	47.08	15
Backyard poultry	18	32	32	18	100	41.67	16
Traditional health sector	18	32	30	16	96	40.00	17
Petty shops	12	32	25	14	83	34.58	18
Floriculture	16	32	24	8	80	33.33	19
Making coconut by-products	12	30	22	12	76	31.67	20
Agriculture	8	24	30	12	74	30.83	21
Dairy unit	12	30	16	12	70	29.17	22
Milling units (flour mills)	14	25	18	8	65	27.08	23
Processing of fruits and vegetables	12	22	18	12	64	26.67	24
Making of jute-based products	8	18	14	8	48	20.00	25
Goatery	8	18	8	8	42	17.50	26
Cora grass-based products	8	16	12	6	42	17.50	27
Florists (bouquet making)	6	12	8	12	38	15.83	28
Units making coir-based products	8	12	12	4	36	15.00	29
Vermicompost preparation	4	8	8	12	32	13.33	30

*Small-scale units: Tuition centres, paper bags/star-making units, detergent soap-making, pickle-making, marketing of home appliances, textile units, bakery units, candle-making units, jewellery-making units, handicrafts–traditional arts, beauty parlours, etc.

Table 2. Perceived constraints of coastal women SHG members in carrying out alternate livelihood ventures

Constraints	Overall (n = 240)	
	f	Percentage
Lack of access to institutional finance	112	46.67
Lack of awareness on available technologies	98	40.83
Transportation/mobility constraints	96	40.00
Inadequate storage facilities	92	38.33
Inadequate extension services	88	36.67
Gender discrimination	86	35.83
Livelihood-related health hazards	84	35.00
Seasonal variations in the arrival of raw materials	82	34.17
Seasonal fluctuations in the price of raw materials	82	34.17
Emergence of low-cost products from supermarkets	82	34.17
Lack of access to development departments	80	33.33
Time constraint to look after children and household work	64	26.67
Control of local markets by wholesale dealers	64	26.67
Seasonal variations in sales	52	21.67
Seasonal variations in the business of traditional products	52	21.67
Seasonal unemployment	52	21.67
Constraints of fish drying during rainy season	40	16.67
Water scarcity	40	16.67
Seasonal variations in the arrival of tourists	38	15.83

opportunities through livestock resources such as cattle, goat and poultry. The infrastructural facilities and market avenues of the locale are also depicted in the resource and transect maps (Figure 3).

Table 1 presents the suitability of 30 potential microenterprises for coastal women SHGs identified through participatory H form method of assessment.

Among the 30 potential and sustainable livelihood needs assessed through participatory tools, considering factors such as availability of resources, marketing scope and entrepreneurial skill, aqua tourism (index: 83.33) was found to be the most potential livelihood option for women in the coastal ecosystem, especially as a group activity for the women SHGs. The rich water bodies, including backwaters and the locale being a tourist destination, aqua tourism has a great potential for livelihood security and economic empowerment of women in the coastal ecosystem. Fish drying units (80.42), preparation of value-added fish products (77.08), catering units (77.08), fish/prawn feed manufacture (69.17), fish/prawn seed collection (64.17) and collection of bivalves such as oyster, clam, etc. (61.67) were also found to have high potential as sustainable livelihood options for the women SHGs.

From the review of earlier studies, it could be inferred that there are ample livelihood opportunities for women depending upon the coastal ecosystem, such as aquaculture diversification, bivalve farming, fish marketing, crab fattening, edible oyster cultivation, dry fish production, fishing net fabrication, backwater fishing, pre-processing and processing of shrimp, aqua tourism, preparation of value-added fish products, aqua feed-making and other microenterprises. House-based ventures are generally preferred by women as they are more suitable to the present social fabric[5–8].

Constraints as perceived by the coastal women SHGs in carrying out alternate livelihood ventures/managing microenterprises were documented by collecting data through interview method using structured schedules (Table 2).

Lack of access to institutional finance was reported as a major constraint, which traps the women microentrepreneurs in the clutches of private moneylenders. The technological constraints were lack of awareness regarding the available technologies and lack of actual adoption. The technological needs were mostly unfelt, whereas the need for infrastructural facilities and basic amenities were felt very well. The socio-economic constraints were the low level of literacy, lack of gainful subsidiary occupation, low income, lack of financial assistance and distress sale of fish to money lenders. Apart from lack of access to institutional finance, other constraints were low level of participation in social organizations, lack of contact with extension agency, of input supply to support technology adoption, of proper market structure and lack of awareness and access to welfare or development schemes or technologies.

The results indicate the need for greater interventions in the form of training, technical guidance, facilitating access to institutional finance and entrepreneurship development. Expansion of non-formal education, empowerment of women through promotion of rural women entrepreneurship, market promotion through cooperatives and NGOs, selection of technology transfer programmes by taking into consideration the availability of local resources, integrated approach and formation of Women Demand Groups are some of the immediate concerns. Gender-inclusive policies and approaches are essential to support women empowerment through microentrepreneurship development. Policy development to support women in the coastal ecosystem requires appropriate institutional arrangements and effective organizations and structures, which extend assistance in the areas of training, credit, technology and marketing through SHGs. Focus on the strengthening of fisheries cooperatives, including the promotion of fisherwomen cooperatives, and linking microfinance to appropriate technology development and transfer to women clients are crucial for the success of such microenterprises. Development of gender-friendly technologies and practices can improve the working and living conditions of women. They need to be empowered with information, technology, finance and marketing support, to improve the quantity and quality of microenterprises.

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