



SOCIO-ECONOMIC CONDITIONS OF THE WOMEN DEPENDING ON THE RESOURCES OF THE *SUNDARBANS*: A STUDY OF THE IMPACT ZONE

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Abstract: The limited resources of the *Sundarbans* are indiscriminately extracted which has profound impacts on the overall environment and the economy of the region and the country, at large. A good number of women are involved in extracting the limited resources of the *Sundarbans*. The women extracting the resources of the *Sundarbans* are characterized by low level of income, low level of education, do not get the fair price of their products, do not have legal status of extracting the resources and not much scope for engaging in other alternative jobs and socially down looked. It is pertinent to formulate a policy of sustainable resources extraction of the forest for overall betterment of the stakeholders. In this respect, there is need for adequate and updated knowledge about the socio-economic status of the people including the women who are dependent on the resources of the forest, particularly living in the vicinity of the *Sundarbans* so as to undertake appropriate policy measures in order to reduce their dependency on the resources of the forest. The present study is aimed to present pertinent information on the women who are dependent on the resources of the *Sundarbans* for their livelihoods.

Key Words: The *Sundarbans*, resource extractors, the impact zone, socio-economic conditions, crisis coping

Introduction

The *Sundarbans*, the world's largest mangrove forest, is located at the southern extremity of the Ganges river delta bordering on the Bay of Bengal. It lies between the latitude 20°34' N and 26°33' N and longitude 88°01'E and 92°41' E partially incorporating Bagherhat, Khulna and Satkhira districts within Khulna Division of Bangladesh. The mangrove forest extends 80 kms inland from the coast. Its area is 577,100 ha including 407,100 ha of mangrove forest and 170,000 ha of river channels, canals and creeks. The *Sundarbans* has an altitude of 0 – 3m. It is intersected from north to south by a large numbers of rivers or estuaries, which are connected by numerous interlacing channels and a large number of flat and marshy islands. The *Sundarbans* is endowed with a lot of natural resources. The forest is very rich in biotic diversity and support 330 species of plants, possibly as many as 400 species of fishes, at least 35 species of reptiles, over 270 species of birds and 42 species of mammals.

The forest as such plays a significant role in the economy of the southwestern region of Bangladesh in particular as well as in the national economy, in general. The forest generates large scale of employment opportunities because of the availability of extensive and diverse resources in the *Sundarbans*. In addition to traditional products like timber, fuel-wood, pulpwood, large-scale harvest of thatching materials, honey, bees-wax, fishes, and other resources of the forest take place regularly.

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It has been noticed that people living near the *Sundarbans* area are heavily dependent on the resources of the forest for their livelihood. The limited resources of the forest are also being indiscriminately extracted. Besides, people are not adequately informed about the resources of the forest, how to use the resources of the forest, and other pertinent information thereof. Moreover, the people who are directly involved with the *Sundarbans* for their livelihood are not being effectively addressed by the projects undertaken by the government organizations so far i.e., the local people's participation - the users of the resources in resource management has not been duly addressed nor ensured. It has also been observed that a good number of women are involved directly in extracting the resources of the *Sundarbans*. But not much information pertinent to those women in terms of their reasons of being involved in extracting resources and thereof problems and issues and their socio-economic conditions are known neither is researched nor published. The present study is an attempt to find out the socio-economic conditions of the women dependent on the resources of the *Sundarbans* who are living in the impact zone (IZ) and identification of their problems in extracting the resources of the *Sundarbans*.

Materials and Methods

The study area – the impact zone (IZ) of the Sundarbans: The IZ (Fig. 1) comprises 17 upazilas of 5 districts viz. Khulna, Satkhira, Bagerhat, Pirojpur and Barguna around the periphery of the forest. The IZ supports a population of about 4 million people living in 17 upazilas and 154 unions. Table 1 shows the details of zilas, upazilas and numbers of unions in the IZ of the *Sundarbans*.

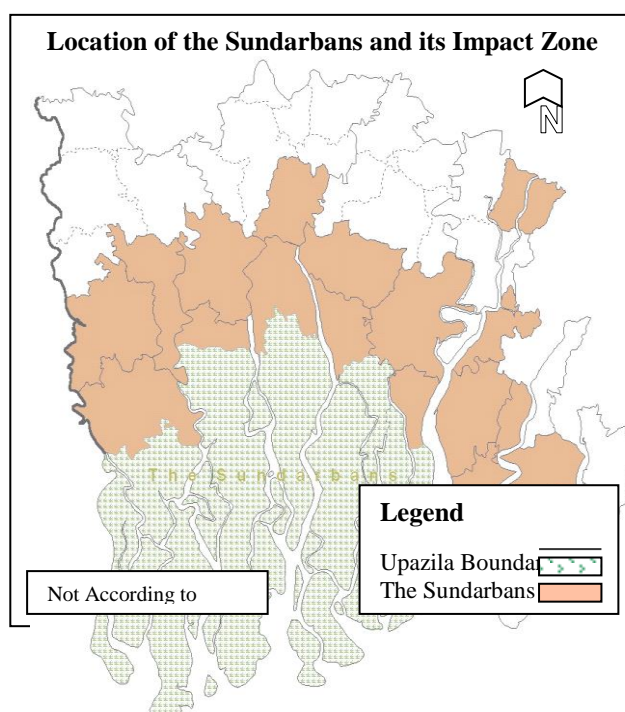


Table 1. Zilas, upazilas and unions in the impact zone

| <i>Zila</i> | <i>Upazila</i> | <i>No. of Unions</i> |
|-------------|----------------|----------------------|
| Khulna | Batiaghata | 7 |
| | Dacope | 9 |
| | Koyra | 7 |
| | Paikgachha | 10 |
| Satkhira | Assasuni | 10 |
| | Kaliganj | 12 |
| | Syamnagar | 13 |
| Bagerhat | Morrelganj | 16 |
| | Rampal | 11 |
| | Sarankohola | 4 |
| | Mongla | 6 |
| Pirojpur | Bandaria | 7 |
| | Mothbaria | 11 |
| | Nessarabad | 10 |
| Borguna | Bamna | 4 |
| | Borguna | 10 |
| | Pathergatha | 7 |
| | Total | 154 |

Data Collection: The data and information of the socio-economic conditions of people of the IZ of the *Sundarbans* have been taken from the *Socio-economic Baseline Study on the Impact Zone of the Sundarbans* launched by the *Sundarbans* Biodiversity Conservation Project (SBCP) under the Ministry of Environment and Forest. This paper focused on the socio-economic condition of women living in the impact zone of the *Sundarbans*. A complete census was conducted during October-December, 2000 in 54 villages encompassing 22,099 households within the IZ for information on the *Sundarbans* resource users considering gender segregation and economic groups. A total of 3,996 households were found to be dependent on the *Sundarbans* resources out of which 750 households were selected for the present study by stratified random sampling considering gender segregation, categories of resource users and economic groupings. Seventeen villages were randomly selected from Khulna, 13 from Bagerhat, 13 from Satkhira, 5 villages from Barguna, and 6 from Pirojpur districts. Of the 750 households 726 (96.8 per cent) were male-headed and 24 (3.2 per cent) were female-headed. The concern in the present study is given on the information on the 24 female headed households whom are directly involved with resource extracting from the *Sundarbans*.

Results and Discussion

Women's involvement in extracting the Sundarbans resources: Women are found involved in extraction of the resources of the *Sundarbans*. The village census results show that altogether 296 women of the impact zone were found to be engaged in extracting resources of the *Sundarbans* most (85.13%) of them are involved as shrimp fry collectors followed by shell/crab collectors (4.05%), *bawalis* (3.38%), boatmen (0.68%) and *dadandars* (0.68%). Highest number of the shrimp fry collectors (40%) are found in Khulna district. However, the concentration of the shrimp fry collectors is more (35%) in Shyamanagar upazila in Satkhira district followed by Dacope Upazila (30%) of Khulna district. Table 2 provides information on primary occupations of the women extracting the resources of the *Sundarbans*.

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Table 2. Primary occupation of women extracting resources of the *Sundarbans*

| Zila | Upazila | Shrimp Fry Collection | Bawali | Shell/Crab Collection | Fishing | Boatman | Dadonder | Medicinal Plant Collection | Total |
|--------------|---------------|-----------------------|--------|-----------------------|---------|---------|----------|----------------------------|-------|
| Khulna | Paikgacha | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 |
| | Dacope | 88 | 2 | 1 | 2 | 0 | 1 | 0 | 94 |
| | Koyra | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 27 |
| | Batiaghata | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Zila Total | 119 | 2 | 4 | 2 | 0 | 1 | 0 | 128 | |
| Bagerhat | Mongla | 20 | 1 | 5 | 15 | 0 | 0 | 0 | 41 |
| | Sarankhola | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 6 |
| | Rampal | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| | Morrelganj | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| Zila-Total | 24 | 8 | 6 | 15 | 0 | 0 | 1 | 54 | |
| Satkhira | Shymnagar | 102 | 0 | 1 | 0 | 0 | 1 | 0 | 104 |
| | Assasuni | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Kaliganj | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Zila Total | 102 | 0 | 1 | 0 | | 1 | 0 | 104 | |
| Borguna | Borguna Sadar | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| | Pathorghata | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | Bamna | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 3 |
| Zila - Total | 7 | 0 | 1 | 0 | 2 | 0 | 0 | 10 | |
| Pirojpur | Nasserabad | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Bhandaria | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Mathbaria | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Zila-Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Grand Total | | 252 | 10 | 12 | 17 | 2 | 2 | 1 | 296 |
| %of Total | | 85.13 | 3.38 | 4.05 | 5.74 | 0.68 | 0.68 | 0.34 | 100 |

Demographic features: About 58 per cent of the total woman headed households collecting shrimp fries are within the age group of 26 – 35 years. There are also young women of the age group of 16 – 25 years and they represent 8.4 per cent of the total engaged in shrimp fries collection. Further, about 33.3 per cent of them are within 46 and above years (Fig. 2).

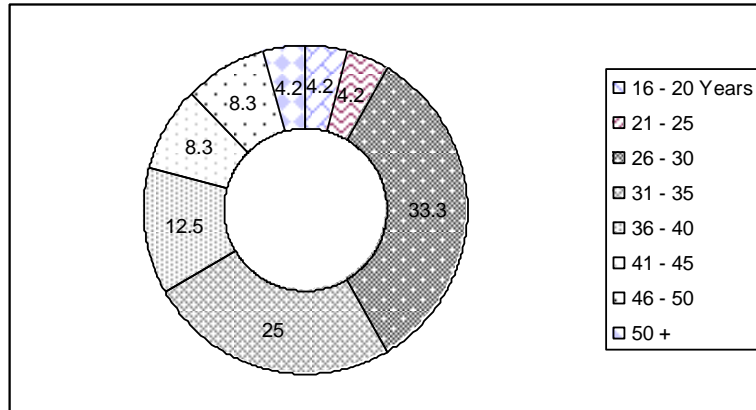


Fig. 2. Age structure of the head of the women headed households extracting the *Sundarbans* resources (shrimp fry collection)

Most (75 per cent) of the women collecting the shrimp fries are illiterate. And only one fourth of them have read within the ranges of Classes I to V. More than 71 per cent of the woman household-heads engaged in the shrimp fries collection is abandoned by their husband. And 21 per cent of them are divorced. It implies that most of the female-headed household heads engaged in shrimp fries collection are the distress women.

Level of income: The monthly income of the women engaged in fry collection ranged from BDT 501 to BDT 1000 only and this represents 66 per cent of the total women. And one fifth (21%) of the women earn monthly BDT 1000 to BDT 1500 only. This also shows the level of poverty of the women collecting shrimp fries in and around the *Sundarbans*.

Women Involvement with the Sundarbans resource extraction: The collection of shrimp fries in and around the *Sundarbans* is not a new job for the women living in the IZ. Only 4.2 per cent of the female headed households have been collecting the shrimp fries for the last 2 years whereas 54.2 per cent collecting for the last 6 and above years (Fig. 3). It signifies that the collection is an old job to the women living in the IZ of the *Sundarbans*. Even there are 25 per cent of the women who have been collecting the shrimp fries for the last 11 years and beyond. The main reason (98.5 per cent) for involvement with the *Sundarbans* resource extraction by the female-headed household heads is poverty and there is no alternative employment in the area.

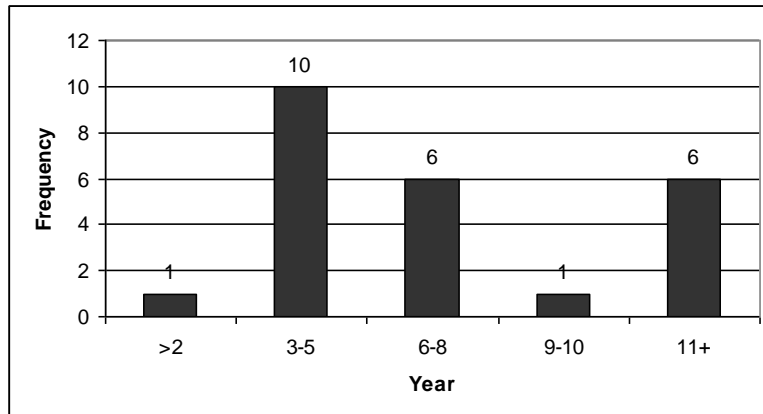


Fig. 3. Duration of involvement of women in extracting the *Sundarbans* resources

More than 29.1 per cent of the women pull nets for 6 hours and above in collecting the shrimp fries in the saline water. Most (62.5 per cent) of them work for 3 to 5 hours (Fig. 4) in a day.

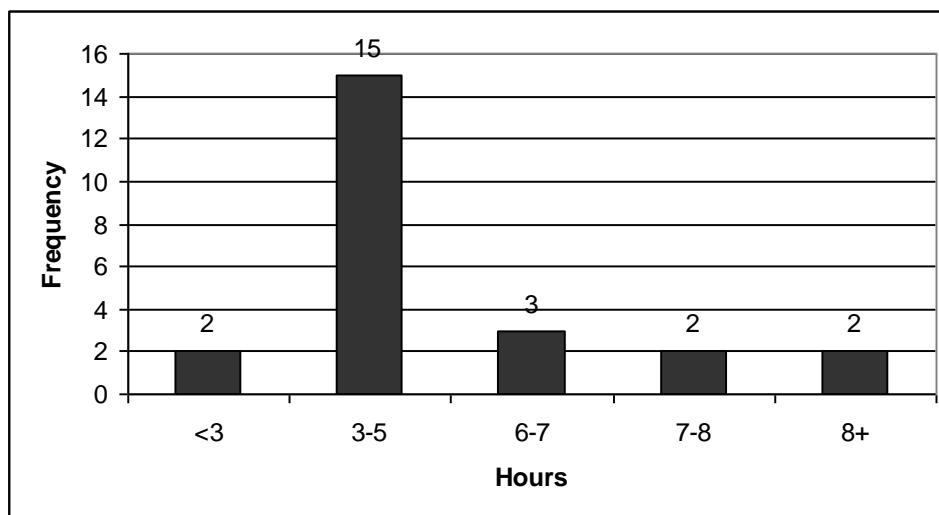


Fig. 4. Duration of work in a day

It is reported that 79.2 per cent of the women accompany with other persons during their work and the rest 20.8 per cent go alone. Extracting resources from the *Sundarbans* is a risky job in terms of safety and security; wild animals, robbers and also the guards became threat for them, so they want company during work-time. Most (73.7%) of the women go to work with their neighbors or co-workers and the remaining accompany their sons/daughters (15.8%), husbands (5.3%) and brothers/sisters (5.3%).

Status of conflict among women during work: About 70.8 per cent of the female headed household heads reported that they indulge in conflict with each other in the work. The main reason (52.9 per cent) for conflict among the women in collecting the shrimp fries is taking rear or frontage position in the time of collection. Each and every one wants to take frontage position. About 47.1 per cent of women conflict in work regarding places of shrimp fries collection.

The working environment: About 37.5 per cent of the women opine that the overall-working environment in connection with shrimp fries collection is not good and about 25 per cent opine moderate about the working environment. Here, good working environment means that there are no any detrimental factors that harm the resource extractor, moderate working environment means the incidences occur are tolerable while bad working environment means a lot of occurrences are there which are socially offensive.

Legal aspects of shrimp fry collection: Only 8.3 per cent of the woman headed households replied that they take permission from the Forest Department in collecting the shrimp fries. And the rest 91.7 per cent of women do not have any permission to go the Sundarbans to collect the shrimp fries. The reasons behind it, that most of the women do not have ready cash money at their hands that are required as revenue to take permission from the Forest Department and also they are not aware with the system of taking permissions from the Forest Department. Actually, *dalals*/middlemen obtain permission from the Forest Department on behalf of the women to go the forest for collecting shrimp fries. In turn, it means that the women collecting shrimp fries do not directly go to the Forest Department for permission.

Capital and equipment used: The women use thick nets made of nylon of various sizes, aluminum pots/*patil*, plastic/aluminum bowls, shells, etc as equipment for collecting shrimp fries.

The amount of capital used by the women collecting shrimp fries vary from BDT 100 to BDT 2000. It means that the amount of capital needed for procuring the equipment is not much. Majority (52.2%) of the women manage capital from their own source. Money investors/*dadandars* provide capital to about two fifths of the women. The rests are provided money by the NGOs and the banks (Fig. 5).

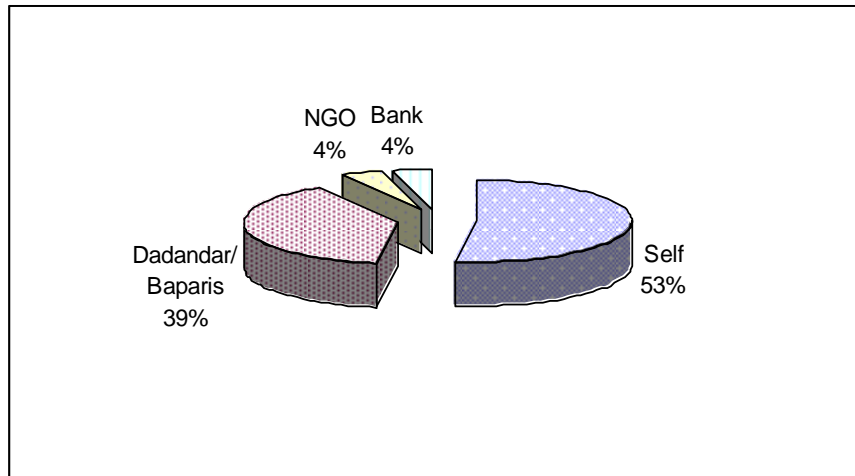


Fig. 5. Sources of capital

Involvement with NGOs: It is noticed that about 20.8 per cent of the women engaged in shrimp fries collection have connection with NGOs activities. Most (79.2%) of them are not involved with NGOs activities. NGOs such as BRAC, *Grameen Bank* Heed-Bangladesh, and *Taraka Mahila Samitee* are involved with women's activities in the study area. It also appears that the women engaged with shrimp fries are not involved with NGOs for a longer period of time. About 80 per cent of the women have been involved with NGOs activities since 3 years back. The money borrowed from NGOs has been spent for purchasing nets to collect shrimp fries by the women.

Financial aspects of extracted resources: The women reported that most of them own their collected resources and have the right to sell the resources by their own. Most (95.8%) of the women sell their catches by themselves. The remaining 4.2 per cent of the women sell the collected shrimp fries through their husbands. About 67 per cent of the women report that they receive fair prices for their collected shrimp fries whereas 33 per cent consider that they are deprived of getting fair prices for their extracted resources from the Sundarbans. The women do not receive the fair prices of their collected shrimp fries; because of they are obliged to sell their products to the *aradars/faria/dalals* from whom they had taken money. They think that the prices they are selling their products are lower than the prevailing market prices. Most (79.2%) of the women decided themselves to spend their earned money. The rest 20.8 per cent of the women do not have any control on their money that earned from untiring labor. It is very difficult to approximate exactly how much they spend for different household affairs. However, it is reported that almost all of the women spend a certain portion of money earned on food, children's education, health, house repairs and religious/social purposes. It reflects that the money earned by the women through collecting shrimp fries is spent mostly for the families' livelihood purposes. Table 3 shows purposes of spending money earned by the women.

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Table 3. Purposes of spending the earned money

| Purposes | Total | Frequency | Percentage |
|----------------------|-------|-----------|------------|
| Food | 24 | 24 | 100 |
| Children's education | 24 | 3 | 12.5 |
| Health | 24 | 24 | 100 |
| House repairs | 24 | 18 | 75 |
| Religion/Social | 24 | 20 | 83.3 |
| Transport | 24 | 15 | 62.5 |

Social discrimination: About 70.8 per cent of the women have to face some types of social disparity since they are involved with collecting shrimp fries from the rivers in and around the *Sundarbans* and the remaining 29.2 per cent consider that they are not being socially discriminated. About 12 per cent of the women are socially secluded due to their involvement with shrimp fry collection. It is also reported that 41.2 per cent of women face the problem of people's reluctance of getting married with daughters of these women. Further, 41.2 per cent of the women feel that they are looked down by the society (Fig. 6).

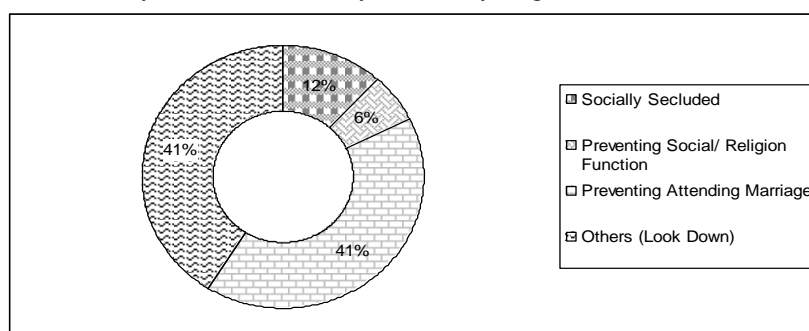


Fig. 6. Types of social discrimination

Health problems: Most (91.7%) of the women suffer from some diseases due to prolonged stay in the saline water for collecting the shrimp fries. About 59.1 per cent of the women are suffering from cold and fever due to collecting shrimp fries and 31.8 per cent of them have some skin diseases (Fig. 7).

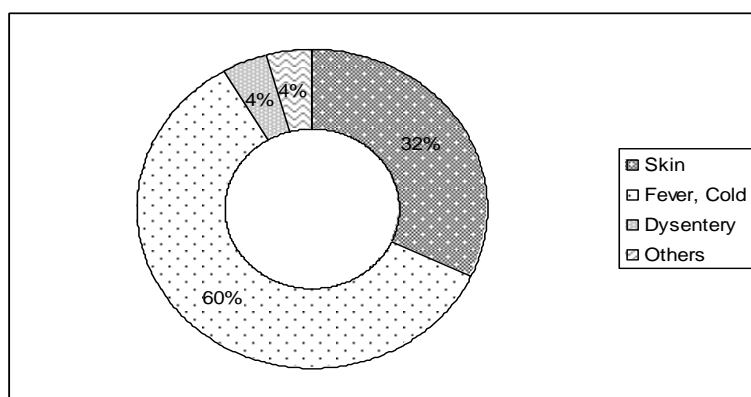


Fig. 7. Diseases occurred due to collecting the shrimp fries

Involvement in alternative jobs: Most (91.7%) of the women indicate that they will be associated with alternative job if such opportunities exist. The problems currently faced by the women in getting involved with alternative jobs other than extracting the *Sundarbans* resources are: lack of capital (33.3 per cent), easy earning through the existing activities (33.3 per cent) and more profits in present jobs (33.3 per cent). Almost all the women are of opinion that the government should provide some sort of monetary help so as to facilitate in creating alternative job opportunities.

Destruction of the Sundarbans resources: Most (87.5%) of the women agree with the view that they destroy other resources of the *Sundarbans* while collecting the shrimp fries. There is massive death of other species of fish fries that happened during the time of sorting the shrimp fries from the catches. This is reported by the 90 per cent of the women collecting shrimp fries. It is found that 41.7 per cent of the women bring some resources from the Sundarbans while returning to home. Most (100%) of the women bring fuel wood from the forest while returning home after collecting shrimp fries.

Livelihood pattern during lean periods and natural calamities: Almost all women report that *Asar*, *Sraban* and *Bhadra* (July, August and September) are not suitable for shrimp fries collection in and around the *Sundarbans*. The activities of women involved during the lean period are maid servant (33.3%), day laborers (25%) and sewing and tailoring activities (4.20%). About 33.3% women do not do any income generating activities except their own household activities. It is reported that 83.3 per cent of the women return home if they face any natural calamity while 16.7 per cent take shelter under nearby trees.

Opinion regarding availability of the Sundarbans resources: The women have expressed the view that the resources of the *Sundarbans* such as *golpata*, shrimp fries, fishes, honey and shells/crabs were abundantly in the past. At present *golpata* (66.70%), honey (79.20%) and shell/crab (75%) are moderately available and the availability of shrimp fry (20.80%) and fishes (50%) is low. Fig. 8 depicts the comparative picture of availability of resources in past and present according to the women extracting resources from the *Sundarbans*.

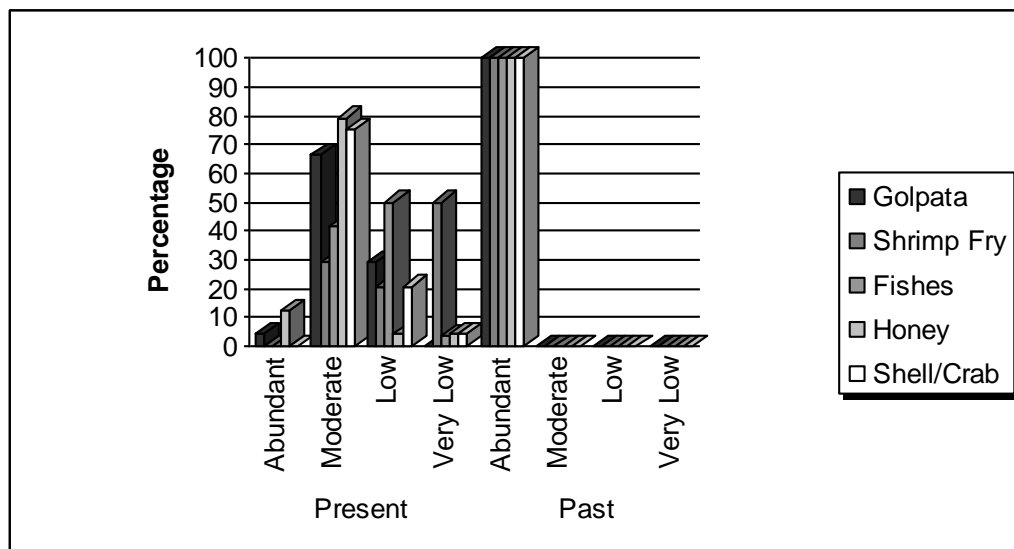


Fig. 8. Opinions regarding availability of the *Sundarbans* resources

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Conclusion

The issues discussed here essentially portray the socio-economic conditions of the women who are engaged in resource extraction of the Sundarbans. The women extracting the resources of the Sundarbans are characterized by low level of income, low level of education, do not get the fair price of their products, do not have legal status of extracting the resources and not much scope for engaging in other alternative jobs and socially down looked. Data and information presented in this paper are taken from a study done in 2001. It is thought that the situation have been changed with the passage of the time. In order to obtain up-to-date information about the women involved with resource extraction of the forest, there is need to undertake similar study. In order to facilitate for wider dissemination of information about the livelihood pattern of the women dependent on the resources of the *Sundarbans*, publication of small write-ups/leaflets in Bangla, arrangements for holding round table discussions, group discussions, seminars, etc are suggested. It is also suggested to conducting issue-wise further in-depth independent research studies on crisis coping, accessibility to credit facilities, economics of resource extraction, income and expenditure pattern of the women-households dependent on the resources of the *Sundarbans*