SUMMARY

Title : **A Micro Analysis of Problems of Displaced Women Agricultural labourers with Special Emphasis to the Pokkali fields of Vypinkara**

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Funded by : **Kerala Research Programme on Local Level Development, CDS, Thiruvananthapuram**

The Pokkali field in a unique ecosystem prevailing in the coastal saline tract of central Kerala with rich biodiversity and amazing capacity to generate organic paddy and shrimp alternatively. Year by year the area under Pokkali cultivation in decliming. The total labour involved for Pokkali farming in 207 mandays per hectare- 84 men and 123 women. Labour requirement of seasonal Pokkali fields for Chemmeenkettu is estimated at 246 per hectare-181 man and 65 women.

The present study was aimed at analysing the impact of conversion of Pokkali fields in Vypin Island. The study was based on person to person interaction with the various stake holders.

Conversion of Pokkali fields can ultimately result in displacement of female labourers who are traditionaly farm hands. On the traditional front of rice-fish cultivation the labour days of women and their income is systmatically getting reduced. There is displacement. But the concentration of shrimp peeling sheds in Kuzhuppilly is providing job opportunity to these displaced women agricultural labourers. They are capable of providing 150-200 days of employment to these women. In Nayarambalam the situation is different. Due to the absence of export oriented peeling sheds the displaced women are not easily absorbed. The employment scene is worse for men than for women and hence it is difficult to conclude that the gender inequalities prevelant in this section is the sole result of income disparities resulting from displacement from Pokkali fields.

I

Introduction

The Pokkali field is a unique eco-system prevailing in the coastal saline tract of central Kerala with rich bio diversity and amazing capacity to generate organic paddy and shrimp alternatively. The raising of fish in paddy fields either together with rice or after the harvesting of paddy is an age-old system. The system of fish culture varies depending on the ecological settings of the rice fields. However it is carried out on a significant scale in the coastal wetlands than on the upland rice fields. While this farming has received some attention from agricultural and fisheries scientists, the socio-economic and institutional factors and process shaping rice- fish farming have hardly received analytical scrutiny from social scientists. Such an analysis, however, is significant since in recent decades, the wetlands under rice-fish farming has been facing severe threats owing to a variety of factors including the shift from ecologically sensitive rice- fish farming to semi intensive or intensive fish/prawn farming affecting adversely the environment and livelihood of the poor.

This exclusive farming system of Vypeenkara, Ernakulam district is known as Pokkali krishi. Pokkali fields are low lying and immersed in water. The tidal flows have to be regulated to do the farming activities. These fields are naturally connected to the Arabian Sea through backwaters and canals. The total Pokkali lands were originally estimated to be 25000 hectares[1]. Large areas are converted for coconut cultivation and other purposes. The present area is estimated to be 9000 hectares. Year by year the area under Pokkali cultivation is declining. The present area under regular cultivation is 5000

htrs. In another 2000 hectares paddy cultivation is done occasionally i.e., only when the climatic conditions are favourable.

The number of farmers involved in regular Pokkali cultivation are estimated to be 11605. The preparation for Pokkali cultivation starts by around the month of May. The work starts by raising bunds. It is followed by taking mounts with one-meter base fifty cms height. The mounts are allowed to dry up by preventing entry of water to the field. With the onset of monsoon, salts and other toxic elements get washed out. When the topsoil is cleared of salt, germinated paddy seeds are sown on the mounts. The mounts act as a nursery. When the field becomes free of salt and toxic elements and the seedlings are 30 to 40 days old, transplanting is done which is known as *nirathu.* Water management for a few days are of utmost importance. Once the seedlings are established it will grow quickly without being affected by floods, which may follow.

The variety mostly used are local flood tolerant strain known as Pokkali. Other verities like *chettivirippu* , V*yttila1,* V*yttila 2* etc., are also becoming common. Sprouting of seeds are done locally; seeds are tightly packed in baskets made of coconut leaves with an inside lining of banana ore teak leaves. This is soaked in fresh water for 12 to 15 hrs and then kept for sprouting. This will remain quiescent for more than a month.

Water management is done by managing the sluices. Chemical fertilizers and pesticides are not used. Organic manure are being applied and the system of cultivation is of organic nature. The crop will be ready for harvest after four months from harvest.

The nature of labour involved in Pokkali paddy cultivation along with corresponding man days is shown below.

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[1] Project for the Development of Paddy Cultivation in Kerala- 2000.

The estimation of man days requirement/ha for paddy cultivation in seasonal Pokkali fields at Vypeen[1]

Paddy cultivation (monsoon)

Sl.No	Details	Mandays	Mandays
.		**Men**	**Women**
1	Bund raising and channelling	10	00
2	Mount Raising	35	5
3	Seed soaking and soil	5	3
4	*Payal* removal	2	25
5	Weeding	2	25
6	Transplanting	2	25
7	Preparation of threshing ground and fabrication of shed	4	2
8	Harvesting	11	20
9	Post harvest labour	10	15
10	Measuring and storing	3	3
Total		84	123

Total man days 207/ha

K.S.Purushan, " The operational economics and Gender-wise Man Power Utilization For Eco friendly Cultivation of Paddy and Shrimp in the Pokkali Fields at Cochin, Kerala during 2002-2003, p.16 as presented in the International Conference and Exposition on Marine Living Resources of India for Food and Medicine 27-29Feb 2004 IMAGE, MRC NAGAR,CHENNAI.

The Pokkali fields are effectively used for fish/prawn farming after the harvest of the Pokkali crop. The seasonal rice and fish farming is effectively done over centuries. In this natural system the ecological balance is maintained and a reasonable profit is obtained by the farmer. When the monsoon subsides the backwaters and canals becomes saline and juvenile prawns and fingerlings of other fishes come in large quantities in the outer canals. They are guided to the fields through trap sluices and the sluice gates

1

prevent them from going out. Thus they are allowed to grow in the field. The waste materials of Pokkali rice cultivation forms the natural food material and will meet all the food requirements of the fish crop.

In prawn farming the juvenile prawns or prawn seeds carried by tidal water is allowed to grow up in the farm. Sluice gates are effectively used for the purpose of allowing the juvenile prawns to get into the farm for growing up. Pokkali paddy fields used for prawn filtration is locally known as *chemmeen kettu* and the type of capturing is called *chemmeen vattu*.

Sluice gates play an important role in prawn farming in Pokkali area. This is used for regulating the water flowing in and out of that field throughout the prawn farming season. It is fitted in such a way so as to have the maximum entry of saline water and fish seed to the field. These trap sluices prevent the escape of fingerlings and fish from the farm, but helps easy water exchange. During harvesting period also sluices have a vital role. At the time of low tide fish will be caught in the sluice net, locally known as *thoombuvala*. This is a cheap but effective system of fishing. Based on the size of the padasekharam the number and size of the trap sluices are decided. Traditional sluice gates are made of local timbers like Kanjiram, Irul, Thembavu, Mango etc. The size of the gate is with four meter length and 1.5 meter height and 1 meter width. Master sluices to the main channel are usually double the size. When *thoombuvala* is in operation a hurricane lamp is hung at the inner mouth of the sluice gate to attract prawns. Fishing operation continue for 2 to 3 hrs. majority of the prawns are caught during the initial one to one and a half hour.

Estimation of man days requirement for *Chemmeenkettu* in Seasonal Pokkali fields at Vypeen[2]

Chemmeenkettu (summer)

Sl.NO:	Details	Man days Men	Man days Women
1	Fabrication of sluice gates and its installation	8	0
2	Raising ofdikes and excavation of canals	18	6
3	Eradication of weeds and predators	4	4
4	Fabrication of work shed and shelter	2	0
5	Fabrication of bamboo/plastic screens	2	0
6	Setting of nets, baskets and basins	3	2
7	Nursery operation and feeding	4	2
8	Sluice gate operation, filtration etc.	90	0
9	Fishing operations such as cast netting, gill netting and hand picking	35	25
10	Terminal operations	5	5
11	Cleaning and categorization of yield	2	5
12	Icing	2	3
13	Peeling and deveining	2	8
14	Weighing and packing	2	5
15	Transporting/ marketting	2	0
Total		**181**	**65**
Total mandays		**246**	

[2]

K.S.Purushan, " The operational economics and Gender-wise Man Power Utilization For Eco friendly Cultivation of Paddy and Shrimp in the Pokkali Fields at Cochin, Kerala during 2002-2003, p.16 as presented in the International Conference and Exposition on Marine Living Resources of India for Food and Medicine 27-29Feb 2004 IMAGE, MRC NAGAR,CHENNAI.

Pokkali is a traditional indigenous method of cultivation and have a great role in maintaining the eco-system of the region. The practice of taking a paddy crop followed by prawn filtration practice provide labour and regular income to the farmers all round the year. The stubble and residues of the paddy crop left after harvest creates a favourable situation for the growth of prawn in the succeeding future. The fish and prawn in the field feeds on the pest and disease carrying weeds and stubble of the paddy left in the field and hence favours the ensuing paddy crop. The demand for the organic farm produce is very high in the international markets. The Pokkali rice being purely an organic produce there is ample scope in the international markets. The export demand of Pokkali prawns is already very high.

Change in Area, Production and yield of Paddy in Kerala

Year	**Area (000 Ha)**	**Production (000 tons)**	**Yield (kg/ha)**	**Index (55-56=100)**		
				Area	**Prod.**	**Yeild**
55-56	759	884	1164	100	100	100
60-61	779	1068	1371	103	121	118
65-66	802	1000	1246	106	113	107
73-74	875	1257	1437	115	142	123

Report of the Expert Committee On Paddy Cultivation In Kerala Volume 1.

II

Objectives

Pokkalikrishi is indegenious method of agriculture in wetlands and seasonal cropping or both rice and shrimp in an eco-friendly, and sustainable method of agriculture. Any change in the seasonal cropping pattern can upset the ecosystem prevailing. Due to changing economic realities, farmers are showing a tendency to convert these seasonal lands to single crop-shrimp- system. Under this environment, a study on conversion related displacement was thought of with the specific objective of

1. To analyse the specific impact of conversion of Pokkali fields in Vypin Island
2. To investigate the relation of padday field conversion and cosequent decrease in earning of women and resultant aggravated gender inequalities.

III

Methodology

The study was initially decided to be done in Nayarambalam Panchayat of Vypinkara. Due to various reasons, including some strong objections from some militant political outfit. The study was forced to be shifted to Kuzhuppally Panchayat, though a small portion of the work was done at Nayarambalam as well.

This issue was discussed with Kuzhupally Panchayat officials, Krishi Bhavan, ADAK, Rice Research Station, Vyppin and Fish Research Station Puthyvypin. Finally it was decided to do a person to person interaction with the help of a questionnaire. But unfortunately the field realities were different and the objectives envisaged in the questionnaire was drastically reduced. In reality the field information was the result of person to person interaction with agricultural labourers, Panchayat officials, and other Govt. Agenices. Infromations from different sources were contradicting to each other and many of the information are subjective interpretations of facts.

IV

Results and Discussion

The fast changing scenario of conversion of indigenous Pokkali cultivation to a variety of other activities can ultimately result in displacement of female labourers who are traditionally farm hands. The displacement, if any, can result in greater gender disparities and a financial over dependence on their male counterparts. Hence a study to look into the issue whether there is displacement and to what extent it results in the marginalisation of agricultural women labourers was thought essential. The study was mainly conducted in Kuzhippilly and Nayarambalam Panchayaths. Twohundred women were interviewed on the basis of a questionnaire. The sample population was randomly selected from the list of *koythadayam* kept in the Kuzhippilly Krishibhavan. They were in the age group of 45-70. They belonged either to *Pulaya* or *Kudumbi* community.

Most areas of the Kuzhippilly *padasekharams* remain uncultivated. Though no accurate data of non cultivated land is available either with the Panchayath or any other Govt. bodies, the interview revealed that no woman is getting more than one week labour days during cultivation and another one week during harvest. In other words, they are getting only a maximum of 14 days during one season of rice cultivation. The possible 30 days of man-days shown in Chapter I is calculated on the presumption that the entire cultivable land available is cultivated. However the lesser number of labour days revealed

by the interview points to the fact that the area under cultivation is considerably reduced. This is due to a general feeling among the farming community of non-profitability of Pokkali rice cultivation on the one hand and the possibility of huge profit margin from shrimp farming. This feeling also motivates the farmer from skipping even some essential traditional steps of cultivation. This may ultimately lead to low yield and lesser profit.

Since the age group of the labourers are more or less around 55 the general nature of displacement is hard to assess. The younger generation is totally absent in Pokkali related work. Pokkali work is generally hard because all the work has to be done in muddy water and without needed expertise it is impossible to do the work. The present kooly is Rs. 60 per day. This wage factor is not compensatory or attractive to the present generation. The fast declining Pokkali cultivation along with hard labour and low wage rate do not attract the much-needed younger generation.

The traditional shrimp farming provides around 60-70 labour-days. This mostly constitute hand picking of fish and prawn peeling. All the two hundred women interviewed are engaged in prawn peeling activities as well. After *kettukalakkal* on 14th April the older generation *Pulaya* women goes to the field for hand picking of fish. But because of the limited fish resources remaining in the field after *kettukalakkal*, the hand pickers could only pick fish which may satisfy their kitchen needs. On very rare occasions they may get 50-100 Rupees for their catch.

On the traditional front of rice – fish cultivation the labour days of women and their income is systematically getting reduced. From this we can conclude that there is displacement from agricultural front. However, the concentration of peeling shed phenomenon in Kuzhippilly Panchayath is providing job opportunities for these displaced agricultural women labourers. Export oriented shrimp peeling sheds of Kuzippilly is capable of providing 150 – 200 days of employment to these women. Women will either sit in peeling shed and peel or they have the option of taking the prawn home to peel. On an average, they can peel 15-20 kilograms of shrimp per day. This new job avenue is helping the displaced agricultural women in Kuzhippilly, in getting absorbed.

Nayarambalam - Kuzhippilly comparison

In Nayarambalam the situation is slightly different. The number of Pokkali related workdays is around 15-20 apart from the days of harvest. This may be due to the vigilant political activities of different trade unions prevailing there. Farmers are not allowed to keep the land barren. This is managed by preventing the auctioning of the land, which was kept barren, for *chemmeenkettu.* This means the displacement issue is relatively less in Nayarambalam when compared to Kuzhippilly. But this does not mean that there is no displacement at all in Nayarambalam. Since there is no concentration of export oriented peeling sheds the displaced women are not easily absorbed as in Kuzhippilly. The age factor along with the geographical structure and lack of transportation facility in the Panchayath prevents the women from finding out job opportunities elsewhere. Moreover our social structure prevents women from migrating.

V

Conclusions

A very complex socio-economic and political situation prevails in Pokkali cultivation. For many generations farming and related agricultural activities are having a respectable status and existence in the social structure. But the present scenario is quite different. Talking directly about Pokkali, every year Pokkali cultivation is declining and frequent conflicts and unrest is found all-round the area. Farmers are reluctant to do Pokkali cultivation due to so-called economic unviability[3] and non co-operation of agricultural labourers mostly during harvest season. The agricultural labourers on the other hand complaints of low wages and fast reducing labour days. As the study by K.S.Purushan reveals:

> "In the modified fields sowed with hybrid seed, the average production of organic Pokkali was to the tune of 2.5 - 4 tons apart from 2.5 ton hay/ha per season making a net profit of Rs 3675/ha. After improving the carrying

capacity through proper manpower deployment, the same field was subjected to shrimp filtration/ farming along with additional seed induction when a quantity of 815 kilo shrimps and 480 kilo fish equating to a total production of 1295 kilo / ha was obtained. The net margin from shrimp cultivation was Rs. 22870 /ha i.e., six times more than that of paddy cultivation. In total the seasonal cropping pattern helps to realize a net profit of Rs. 26545/ ha per annum."[3]

From the available 123 man days /ha for women, an individual woman is getting hardly 30 days of work due to the large number of women labourers available and the consistent decline in the area of Pokkali cultivation. The labour front is highly unionized and the current fixed wage per day is Rs. 60. However the data obtained from ADAK reveals that the women labourers are paid Rs. 75 per day since they refuse to work for the agreed wage. This data was also supported by K.S.Purushan, the Head, Fisheries Station Puthuvypu. During harvest the *kooly* is given as *pathambu* i.e. one seventh of the harvest. No money is given as wage at this point of time. The work days in Pokkali fields fall during the beginning one month and during harvest. Thus the maximum number of work days for an expert female worker can be calculated as 30 days. In reality an expert female worker can expect 15-20 days of work in one season under the best possible environment. During the seasonal *Chemmeenkettu* , i.e. from December to April, prawn peeling and hand picking of fish are the main source of income for women. During the five months of prawn harvest women get prawns for around 60/70 days. Every month there will be two *thakkams* (prawn availability period. one *thakkam* is seven days.). During this time one woman may get around 5 kilos of prawns for peeling. The rate of peeling is Rs. 4/kg for high quality and Rs. 8 for *thelly*. After *Kettukalakkal* on April 14,

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[3]It is a debatable issue since there is also a view that Pokkali farming is not unprofitable but only less profitable.

[33] K.S.Purushan, " The operational economics and Gender-wise Man Power Utilization For Eco friendly Cultivation of Paddy and Shrimp in the Pokkali Fields at Cochin, Kerala during 2002-2003, p.16 as presented in the International Conference and Exposition on Marine Living Resources of India for Food and Medicine 27-29Feb 2004 IMAGE, MRC NAGAR,CHENNAI.

around one and a half months the general public is allowed to catch fish/ prawn from *chemmeen kettu*. Though every one has the freedom to do the fish picking, picking is mostly done by fisher folk and *Pulaya* community women. Hand picking of fish is an exclusive expertise of elder generation *Pulaya* women. Since the licensee of the field tries to get the maximum possible catch before *kettukalakkal*, the left over fish resource is very limited. Getting hold of quality fish or prawn nowadays is a rare occurrence after *kettukalakkal*.

So in traditional practice of rice/ fish farming the maximum workdays of a female worker can be calculated something like 30 days during Pokkali, 70 days during *chemmeenkettu* and 45 days after *kettukalakkal*. That is, a total of 145 days per annum.

Because of the prevalent patriarchal values, younger women are prevented from actively participating in farming activities. Farming activities are taking place under scorching sun in muddy water. Exposure to rough climatic condition affects the physical appearance. This, they fear, affect their marriage prospects.

Intensified poverty forces the people to borrow money from all possible sources available. These include the local money lenders and cooperative bank. The day to day money needs are met by taking a couple of hundreds to thousand rupees from the local lender. He gives and takes money from the doorstep of the individual borrower. This takes place in the whole 365 days an year. Big money needs like dowry for daughters, construction of houses etc., are met by pledging the two or three cents of land to the cooperative bank. They could never repay this loan. They are literally in debt trap. The local moneylender gets back his money on day to day basis. He is willing to accept any little amount, say even one rupee, by way of repayment. This mode of operation helps him to get back his money and the women gets their second loan. This mode of repayment is comfortable for the women and the lender and thus it goes on.

Paddy field conversion and Paddy cultivation is getting reduced year by year. Due to the exclusive nature of Pokkali fields, conversion takes place in the form of shrimp farming throughout the year. This shrimp farming creates some employment opportunities in the form of shrimp peeling activities. Any displacement taking place in

Pokkali rice fields is getting absorbed into shrimp peeling activities. This is very much true in Kuzhupally Panchayat, but not in Nayarambalam.

Since the realities in the employment front for men are more irregular than women, there is no significant gap in the income of men and women. Hence, it is difficult to conclude that the gender inequities prevailing is the sole result of income differences between man and woman related to displacement from Pokkali fields.

There are many legal disputes regarding conversion of paddy fields to permanent Chemmeen Kettu pending before many courts and other authorities. Many of these cases were observed and in two cases courts directed the person concerned not to make any obstruction to paddy cultivation and to limit prawn filtration only to the summer season. Some criminal cases are also registered against the agriculture labourers who agitated against this conversion. They forcefully removed the sluice gates of "Varshakettu" and scenes from this agitation are documented by way of photographs.

The alternate fish/rice cultivation is the only solution for ecological sustainability in Pokkali lands. We are already facing an acute drinking water crisis. Any further conversion of seasonal lands can end up in irrevocable trouble. Any indigenous method can put forward a meaningful resistance in the fight against globalisation.

Annexure 1

Table 1

Total Brackish water area

Sl. No.	Name of District	No. of Sites	Total Hectares
1	Ernakulam	1476	16212.71

Source: ADAK

Table 2

Ownership details

Sl. No.	Name of District	No. of Sites	Poramboke Area (Ha)	No. of Sites	Private Area (Ha)	No. of Sites	Others Area (Ha)	No. of Sites	Total Area (Ha)
1	Ernakulam	197	8637.53	1246	5903.22	15	1671.96	1476	16212.71

Table 3

KOCHI-TALUK

Village wise Total Brackish water Area

Sl. No.	Name of Village	No. of Sites	Area (Ha)
1	Pallippuram	21	118.84
2	Kuzhupilly	26	691.24
3	Edavanakkad	75	675.01
4	Nayarambalam	108	614.48
5	Elankunnapuzha	47	322.31
6	Njarakkal	49	385.82
7	Puthuvaippu	51	322.43
8	Fort Cochin	2	402.59
9	Mattanchery & Thoppumpady	3	512.21

10	Rameswaram	2	218.68
11	Palluruthy	21	393.29
12	Edacochin	11	457.09
13	Kumbalanghi	40	1352.43
14	Chellanam	31	410.26
	Total	**487**	**6876.68**

Annexure 2

Important dates and times in Pokkali cultivation

April 15 (Medam 1)	Right of the lease holders of prawn cultivation extinguishes and "Kettukalakkal" by traditional fisherman for next 10 days begins
April last week	Drying up the lands, strengthening of bunds
June 1st week (Depends upon raining)	leveling the tops of mounds and sowing
July/August (after 28 days)	replanting
August	removing of weeds
October/November	Harversting
November 15th	Prawn filtration starts/fixing sluices
November last week	prawn siblings are introduced in to the field
After 69 days	Naran harvest starts
After 90 days	Kara harvest starts
April 13th	Final harvest

Annexure 3

Questionnaire for Data Collection

I. Bio-Data of the woman labourer and the basic details of the family

II. a. Are you an agricultural labourer?

b. How long you are in the field?

c. Average income per day?

d. Total work-days available?

III. a. What does the adult members of the family do for an income?

b. Are the male members agricultural labourers?

c. Is there income sufficient to take care of the family?

d. How you'r utilize your income?

IV. a. Does your village have a hospital facility? How much is it helpful to you to maintain your health and the family's?

b. What's your drinking water facility?

c. What's your sanitation facility?

d. What's your food habits? Is it any way different from the male member of the family?

V. a. Do you think dim..Pokkali krishi is affecting your work prospects?

b. What's preventing you from looking for other avenues?

c. What's your job prospects in prawn cultivation?

d. Do you think women will have better prospects of old style Pokkali Krishi restore its old status?

e. Do you want your daughter to continue as an agricultural labourer as you?

Yes/No Why?

f. What's your general feel about the changes that's taking place in job prospects or women or your area?

g. How's "Varshakettu" affecting your life and job prospects?

Annexure 4

Questionnaire used for pilot survey

1. Name
2. Age
3. Marital status
4. Education
5. Total Number of family members Male Female
   Adults
   Children
6. Principal Occupation
7. Subsidiary occupation; if any
8. Wage Agriculture Fishing
9. Average working days
10. Migration from agricultural labour to any other field; if any
11. If there is any difference in number of working days during last season
12. Average daily income Agriculture Fisheries
13. Whether there is any difference in the present mode of aquaculture from the traditional methods
14. How the new changes affect your job opportunities
15. Quantity of grain you can collect from one season harvesting as your wage
16. Approximate weight of prawn you are picking per day
17. Approximate daily income from different sources
18. Loans from financial institution and from others and the need for which it is taken
19. Food pattern Whether consumed by women
    Fish
    Meat
    Egg
    Vegetables
    Milk
    Fruits/others
20. Education

21. Health condition
22. Expenditure for Entertainment Cosmetics Clothes
23. Domestic violence
24. Alcoholism
25. Sexual harassments; if any
26. Participation in struggles against conversion

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5. Migration from agricultural labour to any other field; if any
6. If there is any difference in number of working days during last season
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8. Whether there is any difference in the present mode of aquaculture from the traditional methods
9. How the new changes affect your job opportunities
10. Quantity of grain you can collect from one season harvesting as your wage
11. Approximate weight of prawn you are picking per day
12. Approximate daily income from different sources
13. Loans from financial institution and from others and the need for which it is taken
14. Food pattern Whether consumed by women
    Fish
    Meat
    Egg
    Vegetables
    Milk
    Fruits/others

1. Education

2. Health condition
3. Expenditure for Entertainment Cosmetics Clothes
4. Domestic violence
5. Alcoholism
6. Sexual harassments; if any
7. Participation in struggles against conversion