

# IJSST

## International Journal of Social Science Tomorrow

Published by **SPIRI** (Society For Promoting International Research and Innovation)



## Shrimp Culture in Some Areas of Paikgacha and Its Socio-Economic Implications

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### Abstract

Shrimp sector creates a huge employment sector and it is one of the vital foreign currency earning commodities of our country. However, it has an immense bad impact too. The government, policy makers and shrimp traders are encouraging shrimp culture without considering the social, environmental, cultural, political and many other pessimistic impacts of it. Some researchers and journal reports show the negative impact of unplanned shrimp culture on cropland and biodiversity. Shrimp culture has created environmental hazards, i.e. loss of biodiversity, loss of soil fertility of land, decrease of forestry such as homestead forest, agro-forest, deplete of horticulture, decrease of poultry and livestock and many other adverse effects on nature. These bad impacts are obviously affecting the social life, as environment and social lives are interwoven. Moreover, unplanned shrimp culture is creating critical situation in the shrimp culture area, which is a warning for the whole country. For example, though shrimp culture is economically profitable for the big farmers, it is increasing landlessness fellow and women are losing their jobs too. It results occupational, cultural, power structural and other changes. This sector demands comparative study in the coastal region. The limited idea and information about the socio-economic and many other impacts of shrimp culture making the issue more critical. Therefore, it is necessary to identify the problems and study in the grass root level. However, there has been a very few study in this context. Therefore, at present it is very rational to select the problems as an area of study.

### 1. Introduction

In Bangladesh shrimp is the third largest foreign exchange earning commodity. Garments and jute come before it. The farmer traditionally culture shrimp and fish by entrapping them in low lying coastal areas with

construction of embankments. Starting in late 1950's, many low lying coastal areas have been empoldered under the "Coastal Embankment Project" for preventing saline intrusion in order that paddy could be grown in areas otherwise it is not suitable for rice production. However, because of high financial returns many farmers within the polders have taken up shrimp farming over the last few years. In recent years shrimp culture has been extended even to non-poldered areas and to some extent in areas where mangrove forests have been cleared off.

Shrimp culture is generally practiced in rotation with rice or salt in a given area and also as a single crop in other areas. Considering the importance of foreign exchange earnings in our national economy, the Government of Bangladesh has laid top priority in extending the area of shrimp culture and thus raising production there from. In order to harness this potential, it would be necessary to address the constraints as well as the socio-economic problems faced by the shrimp farming industry and these have so far been identified as follows: (1) shortage of seed stock, (2) land-lease and land-use conflicts, (3) short-term land-leasing, (4) lack of technical know-how for achieving higher productions, and (5) lack of sufficient credit facilities (Rahman 1986). The expansion of shrimp culture in recent years has been accompanied by growing debate on its compatibility with other land-use patterns. Interactions have, however, been made primarily with paddy cultivation. An estimated 60,882 ha of land in Khulna areas (south-west region) is currently used for farming of shrimp in rotation with paddy. These production-interactions have financial implications for land holders and shrimp farmers, as well as socio-economic and environmental consequences and trade offs for the country.

The conflict arises in Khulna area, where shrimp farms are concentrated and shrimps are cultivated in rotation with paddy. People of these areas opined that apart from reducing paddy production any expansion in shrimp cultivation will decrease the grazing land, most essential for supporting cattle population. Moreover, shrimp cultivation expedites the process of social polarization by reinforcing the position of landlords and entrepreneurs on the one hand and by generating labour displacement and increasing the level of poverty for subsistence and small farmers on the other. In practice, whatever the socio-economic consequences may be, the individual farmers make their decisions for shrimp culture in rotation with paddy on the basis of incremental benefit from shrimp culture compared to reduction in value of paddy as a result of using their land for shrimp culture.

The land-leasing is another major social problem in shrimp culture. In most cases, the lands from small farmers are taken on lease for shrimp culture and the leasers are mostly from urban areas and as absentee landlords they employ local labor in their farms for shrimp culture. As a result, the small farmers who leased out their lands to live at the mercy of the rich and powerful people with no bargaining power. The owners of the land feel alienated and frustrated for fear of losing physical possession of their lands once leased out to the outsiders.

It is evident from the above discussion that there is a great potentiality of increasing shrimp production in the large tidal areas. The Government should immediately take up a positive and better management policy coupled with an action program in order to help in overcoming the constraints faced by shrimp industry. To attain this end, it would be most imperative to carry out a detailed survey on socio-economic impact of shrimp culture and to identify the problems and constraints therein, since no comprehensive survey covering the entire shrimp growing areas has so far been made.

On the other hand the economic and life leading household condition of the worker of the shrimp gher is very miserable. The long-term distance of the worker from family makes a lot of family and social problem. Moreover, the impact of shrimp culture of overall environments is very harmful.

### **1.1 Objective of the Study**

The main focus of the present study is to find out the environmental change and the income discrimination among the local people in comparing with the past income resource and the dominant attitudes of gher proprietor to their workers.

The specific objectives of the study are to:

- Identify the change in present environment in comparison to the past.
- Investigate the changes in the land using pattern in the study area.
- Enquire the income variation of people in comparison to the past and present situation.
- Examine the nature of the gher proprietor to their workers.
- Find out the investment tendency of the gher proprietor.
- Observe the impact of international politics.
- Measure the involvement of local politics in gher farming.

The study was conducted on some selected areas of Paikgacha Thana in Khulna district where the number of prawn gher is 2,735 covering land area 16,265 ha and the number of lobster gher is 102.

## 1.2 Shrimp Culture Scenario in Bangladesh

Asaduzzaman showed the general features of coastal zone with other factors such as traditional marine, coastal and estuary fishing focusing mainly on shrimp aquaculture and coastal afforestation. The author argued that:

In the late fifties more than 100 paddy-cum-fish farms were reported in the present Satkhira area alone. In 1982/83, some 51.8 thousand hectares of land were under brackish water shrimp farming. By 1984/85, the area rose to an estimated 68.8 thousand acres or by about a third. The old district of Khulna alone accounts for some two-thirds of the shrimp farm acreage. At least 7 types of marine shrimps and two types of freshwater ones have potential for brackish water aquaculture of them generally the larger ones are raised in farms for export. In the south-western region, shrimp fry are stocked from December to June/July while harvesting begins from April and may continue up to October (in case of shrimp alone). Khulna-Satkhira farms are generally uniformly large compared to others elsewhere. However the size varies from 13 to 178 hectares. In the south-western districts ownership-control are of various nature e.g., single or household operation on own land, single control but with hired labor (on own rented land), many owners all or most of whom control and participate in cultivation, small number of owners and local people to carry out shrimp culture on land which is partly theirs, partly rented and shrimp culture basically controlled by outsiders.

Distribution of income from shrimp field is as follows- take the land owners first. They receive nearly Tk.5000 as rent per hectare of land rented out to shrimp farmers as the shrimp farmers are in general influential people. They may not always pay their rentals to the landowners. In shrimp farming nearly all labor is hired while in rice farming hired labor constitute no more than 70-80% of total labor use. Some 232 man days of labor employment per ha (including 13 man days for management) are created in farms cultivating only shrimps. In farms where shrimps are alternated with rice, some 30% more employment is created. In one year paddy yields inside the gher were higher than these outside. The next year the yields inside were comparatively better. Hence no definite conclusion regarding yield emerges. Indeed, no differences in soil salinity were observed inside or outside ghers. However, paddy production may suffer if land primarily devoted to irrigated rice is converted to shrimp farming as these two conflicts with each other. Complaints have been made that exactly this is happening in quite a few places as influential and powerful people are forcibly inundating such paddy lands owned by others to ultimately force them to lease out land for shrimp culture. Precisely for this reason the government is trying to popularize *M. Rosenberger* (freshwater giant prawn) which can be cultured in rice fields without any harm.

Although no significant difference has been observed in soil acidity inside and outside shrimp farms during rice growing season, however availability of minerals may be affected. Availability of zinc may fall and iron-toxic may result. But up to recently, no adverse effect on rice yield has been observed. Shrimp culture influences land preparation by changing the time and number of ploughings. In shrimp fields, continuous sub-mergence leaves the soil soft and only 2/3 instead of 6/9 ploughings are necessary. Also labor for weeding is required less for the reason of submergence. Other operations like sowing and transplanting start late in shrimp fields to avoid conflict with shrimp harvest and to flush the land with rain water. After the construction of polders, the process stopped inside the embanked area to be replaced by a new water management system which requires intake of irrigation water via sluices and other openings during the dry period and drainage of excess rains. Now the sediments taken in with tidal water settles in the field and the canals around the inlet and elsewhere. As drainage and irrigation is hampered sedimentation may thus affect rice yield adversely. Also as the available volume of water inside the ghers and canals fall, production of fin fish and also of shrimp may suffer. On the other hand sedimentation if it contains nutrients may increase rice yield. On the whole then sedimentation and erosion may have several negative effects. However, these are still to be understood properly.

Shrimp culture is replacing HYV cultivation during boro period due to socio-political factors operating at the local level. One could perhaps argue that farmers can still use the land for HYV Aman. This may not be possible, however, because HYVs need chemical fertilizer and also sometime pesticides. Previously this was made possible during the dry season as the land now devoted to ghers used to remain fallow. In vast areas in southern districts remain submerged for most part of the year, vegetation cover is bound to suffer reducing income and consumption of various fruits, affect adversely supply of tree biomass for fuel and may over the long run decrease rainfall. Several study reports shows that if one place where shrimp culture has been practiced for 15 years 'the last few coconut trees are at the point of dying, with a few brown leaves remaining. Drinking water problems have always been present in saline areas. However, as shrimp culture is spreading, ponds situated inside ghers no longer contain sweet water during the dry months when these are needed most. A recent survey ( in early 1986) has found that while during January one could catch 2000 post-larva per net in a day during 1986, the present rate is only 200. An MPO study during peak abundance period in April found the rate of catch to be only 183. The average was found to be only 83. These certainly are full of bad omens and need serious investigation regarding the impacts of ecological changes particularly the impact of the changes in the Sundarban mangroves [1986].

‘Studies on the Impact of Shrimp Farming on Mangrove and Estuarine Environment of Greater Khulna District’ was edited by Majid [1999] emphasizing mainly on the impact of shrimp farming on mangrove and estuarine environment. Most of the water quality parameters between inlet and outlet were similar, but transparency, turbidity, total suspended solid (TSS), phytoplankton concentration, zooplankton concentration and primary productivity were significantly different within inlet and outlet. A few farmers in Shyamnagar, Satkhira and Dacop, Khulna are reported to have engaged in shrimp farming within the reserve area. This should be strictly prevented for the better management of the Sundarbans mangrove forest and conservation of aquatic and terrestrial biodiversity of the Southwest coastal area of Bangladesh. He also said that the major environmental factors having negative impacts on mangrove fisheries are mangrove destruction, heavy siltation, increased salinity, oxygen fluctuations, chemical pollution, semi-intensive and extensive shrimp farm effluents etc. Mr. Majid included that natural events like flooding, eutrophication and erosion may cause relatively large changes to the nature of mangrove ecosystem. In Bangladesh, shrimp culture was first introduced at Sundarbans during 1929 – 30. From 1,445 ha of brackish water shrimp ponds in early 1980’s, the area expanded to about 1, 15,000 ha in 1986 and the present culture area is around 1, 41,353 ha. The rapid and preferably due to the horizontal expansion of shrimp farming, particularly in the greater Khulna region, the natural mangrove ecosystem faces a threat caused due to the human intervention and expansion of shrimp farming.

‘Survey Assessment of Shrimp Fry and other Aquatic Resources of Bangladesh’ survey by Islam [2001] focused on the destroying shrimp fry and other aquatic resources of Bangladesh. Shrimp culture in Bangladesh was first introduced at Sundarbans region during 1929 – 30 (Kurien and Sebastain, 1976). Bangladesh has a large fertile tidal flooded coastal area suitable for shrimp culture. He added that lack of scientific knowledge, ownership pattern, land use conflict, institutional credit problem, security, shortage of shrimp PL, non – availability of feed and fertilizers, shrimp diseases, production management, marketing and transportation are the general problems of shrimp culture in the country. A huge numbers of precious aquatic organisms are being destroyed by the seed harvesters which are alarming and also a threat to natural food cycle as well.

Shafiquzzoha [2001] focused on the destroying causes of soil, water and productivity of gher fishery. In the work it has been mentioned that traditional shrimp farming in Bangladesh is characterized by low lying coastal water flooded areas that allows entering shrimp, finfish and seeds of other species through tidal wave. Shrimp culture environment encompasses a wide variety of parameters, particularly state of soil, water and their productivity, which are essential for growth and production of shrimp and fishes.

A survey report prepared by M. Enamul Huq (1995) focused on the aim of evaluating the socio-economic impacts of shrimp culture in respect of land lease, land use conflicts, employment, income generation as well as identification of constraints arising out of social, economic, technical and institutional aspects. The land leasing rate as observed in the study areas was Tk. 1200 to Tk. 1800 in Khulna region. The integrated farmers (paddy-cum-shrimp and salt-cum-shrimp) are economically benefited from rotating pattern of farming. Availability of credit for shrimp culture mostly came from the non-institutional sources as supply from institutional sources was insufficient and the formalities in obtaining credit were quite lengthy.

## 2. Methods of the Study

This study was conducted through survey method, focus group discussion (FGD) and ethnography on the people of selected areas of Paikgacha Thana in Khulna district.

This study is very heterogeneous in nature. As a result, purposive sampling procedure was followed to and the following steps were maintained. Firstly I’ve selected the most significant area of my study then find out which cases are more perfect for my study. Finally I chose 70 informative cases and started my field work.

Collected data were analyzed in terms of various statistical techniques and specially used statistical package for social science (SPSS) program and were presented through various tables, figures etc. Follow up studies conducted several times due to reliability and validity of data.

The hypothesis of the study was - with the invention of the shrimp culture significant changes in different levels of gher oriented rural life and vital degradation on environment.

### Category of Interviewers

	Type	Number	Place
1	Big farmer ( over 100 bighas of land)	5	Soladana & others
2	Medium farmer ( 50 – below 100 bighas)	10	Paikgacha & others
3	Small farmer ( below 50 bighas)	15	Sorol and others
4	Worker	20	Masiara & others

5	Villagers	15	Koruli & others
6	NGO activists and others	5	Batikhali & others
	Total	70	

### 3. Environment Policy

Global environmental degradation in recent years calls for serious environmental planning making and effective implementation of policies. The industrial countries have made good progress in the management of environmental concerns of their priorities. However, the art or science of environmental policy-making in a developing country is a new area, with not much of experience. The process of governance and environmental priorities of developing countries also differ from those of the industrial world. There is an acute lack of data as well as inter/multi-disciplinary expertise needed for policy planning. This makes the task all the more difficult.

With its physical and socio-economic parameters, Bangladesh can be said to present a test case of sustainable environment management. The pressure of a huge population of about 130 million on a very limited resource base has, perhaps, surpassed the country's carrying capacity in terms of both the source and sinks functions of the environment. Recurring natural disasters and huge casualties are largely man-made. In such an all-pervasive predicament, the importance of environmental policy-making in Bangladesh cannot be overemphasized.

In recent years, environmental protection has become a priority agenda of the Government of Bangladesh. The governments as well as the civil society are showing increasing concerns about the rapid degradation of both urban and rural environments. Implementation of the government's commitments to the environment and the mitigation of other environment-related problems are possible only through a well-defined national policy. The successive governments have initiated a series of policies and programme aimed at putting development on a sustainable path, including the adoption of an Environment Policy in 1992.

The objectives of Environment Policy are: (a) to maintain ecological balance and overall development through protection and improvement of the environment; (b) to protect the country against natural disasters; (c) to identify and regulate activities which pollute and degrade the environment; (d) to ensure environmentally sound development in all sectors; (e) to ensure sustainable, long-term and environmentally sound use of all national resources; and (f) to actively remain associated with all international environmental initiatives to the maximum possible extent. Environmental activities encompass all geographical regions and development sectors of the country.

Environment policy encompasses fifteen sectors, such as - agriculture, industry, health and sanitation, energy and fuel, water development, flood control and irrigation; land, forest; wildlife and biodiversity; fisheries and livestock, food; coastal and marine environment; transport and communication; housing and urbanization; population; education and public awareness; science, technology and research.

### 4. Presentation and Analysis of Qualitative and Quantitative Data

#### Family size of the respondent:

Family member	Number of respondent	Percent (%)
01-Feb	7	10
02-Apr	14	20
04-Jun	45	64.3
10 above	4	5.7
Total	70	100

*Source: Fieldwork 2005*

#### Family size according to male:

Male	Number of respondent	Percent (%)
01-Feb	45	64.3
02-Apr	21	30
10 above	4	5.7
Total	70	100

#### Family size according to female:

Female	Number of respondent	Percent (%)
01-Feb	35	50
02-Apr	31	44.3
10 above	4	5.7
Total	70	100

Above tables shows family size of the studied population. The first table shows the overall family size of the respondents. We see population is high in the 'family member' group (4-5) and the number of respondents in that group is 45. The second tables show the family size according to male and we see male number is high in 'family member' group (1-2) and the number is 45. The third table shows the number of female in the family size group and we see in the 'family member' group 1-2 the number of female is high and the total number is 35.

**Distribution of age group of the respondents:**

Age group	Number of respondent	Percentage
15-20	3	4.28
20-25	11	15.71
25-30	15	21.43
30-35	9	12.86
35-40	8	11.43
40-45	9	12.86
45-50	6	8.57
50-55	3	4.28
55-60	4	5.71
60+	2	2.86
Total	70	100

*Source: Fieldwork 2005*

The above table shows the age distribution of the respondent. We see 21.41 is the highest percentage among the age group 25-30 and in that age group number of respondents is 15. On the contrary the lowest percentage of studied population in the age group 60+ and the number is only 2. Over all feature of the above table is to show the number and percentage of studied population according to age group. It shows the total respondents are divided into two religious groups that are Hindu and Muslim. The number of Hindu respondents is higher than the Muslim respondents and the percentage of Hindu population is 55.7%.

**Before introducing to shrimp culture:**

Occupation of the respondent	Number of respondent	Percent
Agriculture	14	20.0
Service	21	30.0
Business	35	50.0
Total	70	100.0

*Source: Fieldwork 2005*

Above table shows the occupation status of the respondents before introducing of shrimp culture. It shows 50% of total respondents engaged in business before introducing shrimp cultivation. The lower number of involvement is in agriculture and the percentage is 30%.

**Annual income of the respondent:**

Income	Before introducing shrimp culture		After introducing shrimp culture	
	Number of respondent	Percent	Number of respondent	Percent
No income	56	80.0	7	10.0
5000-10000	14	20.0	21	30.0
10000 above			42	60.0
Total	70	100.0	70	100.0

*Source: Fieldwork 2005*

The above table shows the amount of annual income of the respondents before and after introducing of shrimp culture. It shows income from shrimp was almost absent before shrimp cultivation and percentage is 80%. This table also shows after introducing shrimp culture respondent's income increases from this sector and about 60% of the respondents earned over Tk.10000 annually.

**Before introducing to shrimp culture:**

Home stead garden (in decimal)	Number of respondent	Percent
Jan-50	52	74.3
50-100	14	20
100 & above	4	5.7
Total	70	100

**After introducing of shrimp culture:**

Homestead garden (in decimal)	Number of respondent	Percent
Jan-50	16	22.8
50-100	10	14.2
None	44	62.8
Total	70	100

Source: Fieldwork 2005

Above table shows the amount of homestead garden of the respondents before and after introducing of shrimp culture. It shows all the respondents had homestead garden before starting shrimp cultivation. Among them 74.3% of respondents had homestead garden under (1-50) decimal. However, after introducing to shrimp culture most of them lose their homestead garden. Therefore, it is clear that marginal income group losing their own land.

**Before introducing to shrimp culture:**

Rice cultivable land (in decimal)	Number of respondent	Percent
No land	10	14.3
1-500	35	50
500-1000	7	10

**After introducing of shrimp culture:**

Rice cultivable land (in decimal)	Number of respondent	Percent
no land	24	34.3
1-500	39	55.7

Source: Fieldwork 2005

Above table shows the amount of rice cultivable land of the respondents. It shows 50% of total respondents have rice cultivable land before introducing of shrimp culture. It also shows that only 14.3% respondents have no rice cultivable land in the same duration and 10% respondents have more than 2000(decimal) rice cultivable land. After introducing of shrimp culture 34.3% respondents, lose their total land. On the contrary large amount of agricultural land gradually decreased. Therefore, shrimp cultivation hampered the ecosystem a lot.

**Before introducing to shrimp culture:**

Shrimp cultivable land (in decimal)	Number of respondent	Percent
no land	49	70.0
1-500	14	20.0
500-1000	7	10.0
Total	70	100.0

**After introducing of shrimp culture:**

Shrimp cultivable land	Number of respondent	Percent
no land	21	30
1-500	7	10
500-1000	31	44.3
1000-2000	4	5.7
2000 above	7	10
Total	70	100

Source: Fieldwork 2005

Above table shows, that before introducing shrimp culture 70% respondents had no shrimp cultivated land. It means that they are involved with shrimp cultivation. It also shows few percent respondents have some relations with shrimp cultivation but that was natural. We can also say that after introduction of shrimp culture 44.3% respondents have medium scale land for shrimp cultivation and they are directly involved with it. From this table we also can observe that the number of landless people increases in that locality.

**Case – 1 Name: Amal Krishna Ray Age: 60 Village: Soladana Union: Soladana Family Members: 20**

Changes in the sources of income of Amal's family before introducing to shrimp culture and at present (in 2005 price)

Sources of income	Income before introducing to shrimp culture	Income after introducing to shrimp culture	Change
Agriculture	1,20,000	24,000	- 96,000
Coconut + Bettlenut	55,000	-----	-55,000
Sale of Livestock	90,000	-----	-90,000
Shrimp + Other fishes	10,000	1,30,000	+ 1,20,000
Sale of milk, egg, poultry (including consumption)	20,000	-----	- 20,000
Sale of ghee	25,000	-----	-25,000
Sale of vegetables (including consumption)	35,000	-----	- 35,000
<b>Total</b>	<b>3,55,000</b>	<b>1,54,000</b>	<b>-2,01,000</b>

*Source: Fieldwork 2005*

There has been a significant decline in the economic position of Amal's family since 1984. This was the time from when the shrimp farming was initiated in this area on a commercial basis. Following table gives a comparative picture of the changing income structure of the family.

Even though Amal's family has not been sub-divided, nor it disinvests any of its tangible assets yet its income earning capacity has declined drastically. Amal Krishna lost on both counts. His land being saline and did not yield enough paddies. Again he lacked running capital to produce shrimp properly from the farm.

Changes in asset structure of Amol's family (before and after shrimp culture)

Assets	Before introducing shrimp culture	After introducing shrimp culture	remarks
Agricultural land	10.5 ha	1.5ha	Most of the land has gone under shrimp culture and existence others become barren
Non-agricultural land around homestead	1.24ha	.65ha	-----do-----
Pond	1(.45 ha)	1(.45 ha)	Various carps were produced. There is none now
Buffalo	25	08	Shortage of space and grass land Lack of open place
Cows/ Bullocks	35	06	Going to die
Ducks	80	0	No fruits
Chickens	50	15	--do--
Mango trees	32	07	Lack of land and salinity
Coconut trees	52	17	No vegetable
Bettlenut trees	120	05	
Banana, papua, other trees	many	0	
vegetables	Plenty	0	



Even if income from both paddy and shrimp remained same, Amal krishna would have still lost income from other sources, which have been affected by shrimp culture. The intensity of the consequences of shrimp culture on the asset portfolio of this family is clear from the table.

Amol is very annoyed with shrimp culture. He thinks it is shrimp, which has uprooted many of the sources of livelihood (e.g. milk, ghee, fuel, vegetables, and fruits) from his homestead. This shrinkage in livelihood capacity has been affecting Amol and his family socially and culturally. These days the family hardly enjoys much of the festival and social functions. The family peace has gone. Social stability has also been destroyed. The family now really has lost intimacy with soil and is not sure how long all their members will stick together in the present status. Many of them may migrate out of the village as well.

**Wage for rice cultivation (per acre):**

Wage	Number of respondent	Percent
400-500	35	50.0
500-600	35	50.0
Total	70	100.0

*Source: Fieldwork 2005*

From the above table it is shown that 50% respondents said that for cultivating for rice for per acre of land one have to expense 400-500 Tk. On the other hand another 50% respondents said that one have to expense 500-600 Tk. But in case of shrimp cultivation properly one has to expense on an average 200Tk for per acre of land.

**Expenditure on rice and shrimp cultivation for per acre of land:**

Land preparing cost for rice	Number of respondent	Percent
50 -100	24	34.3
100-200	18	25.7
200-300	21	30
300above	7	10
Total	70	100

Land preparing cost for shrimp	Number of respondent	Percent
100-500	25	35.7
500-1000	31	44.3
1000-2000	7	10
2000above	7	10
Total	70	100

*Source: Fieldwork 2005*

From the above tables we can say that 34.3% respondents said that for preparing per acre of land for rice cultivation one have to expense 50-100 taka, on the other hand 35.7% respondents said that for preparing the same land for shrimp cultivation one have to expense 100-500 taka. From field experience, it can be noted that for preparing shrimp cultivation land one have to pay high amount of money.

**Productivity from per acre of land and its price:**

Price of rice	Number of respondent	Percent
1000-5000	45	64.3
5000-10000	7	10
10000-15000	11	15.7
15000-20000	7	10
Total	70	100

Price of shrimp	Number of respondent	Percent
2000-5000	4	5.7
5000-10000	35	50
10000-15000	7	10
15000-20000	10	14.3
20000above	14	20

*Source: Fieldwork 2005*

From the above tables we see that 64% respondents tells that for rice cultivation from per acre of land the productivity price is among 1000-5000 Tk. On the other hand 5.7% respondents tell that for shrimp cultivation from per acre of land the productivity price is among 2000-5000 Tk. Where 10% respondents tell the production

price 15000-20000 Tk. for rice cultivation whereas 20% respondents tells that more than 20000 taka production price for shrimp cultivation for per acre of land. From field research, it shows that for the cause of saline water the production of rice decreasing day by day.

**Annual expenses of the respondent:**

**Before introducing of shrimp culture:**

Food and drinking water	Number of respondent	Percent
5000-10000	31	44.3
10000-20000	7	10
20000-50000	14	20
50000-100000	11	15.7
100000above	7	10

**After introducing of shrimp culture:**

Food and drinking water	Number of respondent	Percent
5000-10000	21	30
10000-20000	17	24.3
50000-100000	14	20
100000above	18	25.7
Total	70	100

*Source: Fieldwork 2005*

From the above tables we can say that 44.3% of respondents said that they had to expense 5000-10000 Tk. annually for food and drinking water purposes. On the other hand, 30% respondents said that they have to expense 5000-10000 Tk. for this purpose annually. Similarly, when 10% respondents expend over 100000 Tk. for food and drinking purposes before introducing to shrimp culture then 25.7% respondents expend over 100000 Tk. for the same purposes after introducing shrimp cultivation. These data shows that after introducing shrimp cultivation the expenditure is gradually increasing.

**Case – 2 Name: Abdul Majid Sana Age: 50 Village: soladana Union: Family Member: 16**

Abdul Majid Sana started shrimp cultivation from 1980's. He started with a small area of gher but now he is owner of numbers of big gher. In 1980's he had 10 acres of land and most of them was related to agro farm and rice cultivation. From those sectors, he earned about 2, 00,000 Tk. per year. Even all of his necessary rice, vegetables and fishes he got from his own land. He had home stead garden from where he got all necessary fruits and also earned some money by selling them. However, after engaging in shrimp culture he used most of his rice cultivation land for shrimp farming. Within a few years, he was benefited a lot and become a rich person. After that, he got a verse area of land, as lease for shrimp cultivation and in that period of 1983 – 1990 he become a rich person. Gradually he engaged with politics and now he is the chairman of Soladana union. Now his income above 50 lacks taka each year but he argues that he faces many problems in the locality after introducing with shrimp culture that was not existed before introducing to it. He said with the increasing of salinity of water and lands the growing capacity of crops decreasing. Decrease the food varieties and natural beauty. He argued that rice production is hampered a lot. For taking artificial food, people are losing their strength and become weaker. He himself suffers from various physical problems. For medical purpose, he had to expend lacks of taka every year. He also argued that the unity among people is decreasing day by day as a result social problems increases. He mentioned that shrimp culture make a vital change in our cultural life. Finally he argues that though it creates some problems, it has a great impact on the socio-economic changes in our life.

**Annual expenses of the respondent:**

**Before introducing of shrimp culture:**

clothes	Number of respondent	Percent
1-500	17	24.3
500-1000	14	20
1000-5000	7	10
5000-10000	14	20
10000above	18	25.7

**After introducing of shrimp culture:**

Clothes	Number of respondent	Percent
1-500	14	20
500-1000	7	10
1000-5000	24	34.3
10000above	25	35.7
Total	70	100

*Source: Fieldwork 2005*

From the above tables we see that before introducing to shrimp culture 25.7% respondents expend above 10000 Tk. for clothing. Besides after introducing to shrimp cultivation 35.7% respondents expend above 10000 Tk. for the same purpose. This data shows that after introducing shrimp cultivation expenditure for clothing increases.

**Before introducing of shrimp culture:**

Medicine	Number of respondent	Percent
1-500	31	44.3
500-1000	7	10
1000- 5000	25	35.7
5000above	7	10
Total	70	100

**After introducing of shrimp culture:**

Medicine	Number of respondent	Percent
1-500	31	44.3
500-1000	7	10
1000-5000	7	10
5000above	25	35.7
Total	70	100

*Source: Fieldwork 2005*

From the above tables we see 10% respondents expend above 5000 Tk. for medicine purpose before introducing of shrimp culture. On the other hand 35.7% respondents expend above 5000 Tk. for this purpose. So we can say that after introducing shrimp cultivation the expenditure on medicine purpose increases.

**Annual expenses of the respondent:**
**Before introducing of shrimp culture:**

Education	Number of respondent	Percent
no expense	28	40
100-1000	10	14.3
1000-5000	7	10
5000 - 10000	7	10
10000 above	18	25.7

**After introducing of shrimp culture:**

Education	Number of respondent	Percent
no expense	28	40
1000-5000	10	14.3
5000 – 10000	7	10
10000above	25	35.7
Total	70	100

*Source: Fieldwork 2005*

From the above tables we can say that 25.7% of respondents said that they had to expense above 10000 Tk. annually for education purpose. On the other hand 35.7% respondents said that they have to expense above 10000 Tk. for this purpose annually. These data show that after introducing shrimp cultivation the expenditure for medicine purpose is gradually increasing.

**Before introducing of shrimp culture:**

Dwelling place	Number of respondent	Percent
0	10	14.3
1-500	28	40
1000-5000	11	15.7
5000above	21	30
Total	70	100

**After introducing of shrimp culture:**

Dwelling place	Number of respondent	Percent
1-500	38	54.3
1000-5000	7	10
5000above	25	35.7
Total	70	100

Source: Fieldwork 2005

From the above tables we see 30% respondents expend above Tk. 5000 for dwelling place purpose before introducing of shrimp culture. On the other hand 35.7% respondents expend above Tk.5000 for this purpose. So we can say that after introducing shrimp cultivation the expenditure on dwelling place purpose increases.

**Information about livestock and poultry:**
**Before introduction of shrimp culture:**

Cow	Number of respondent	Percent
not any	7	10
01-May	45	64.3
05-Oct	7	10
Oct-15	7	10
20above	4	5.7
Total	70	100

**After introduction of shrimp culture:**

Cow	Number of respondent	Percent
not any	52	74.3
01-May	14	20
20above	4	5.7
Total	70	100

Source: Fieldwork 2005

From the above tables we see that 64.3% respondents tell that they have cows in the range (1-5) before introducing of shrimp culture. On the other hand only 20% respondents tell that they have cows in the range (1-5) after introducing of shrimp culture. From my field observation, I saw that mainly for the lack of food such situation created.

**Case – 3 Name: Jalil Sardar, Age: 38, Village: Mahua, Thana: Tala**  
 Family Member: 5

Jalil is working at Majid Sana's gher for 18 years. He gets 1800 Tk. per month as his salary. He is mainly boatman of that gher. He said his family lives at his village Mahua and he goes to home once in a month for 2 or 3 days. This is the common leave time for the worker of the gher. He said about 45 workers working at that gher. In case of any sudden crisis, they got help from the gher proprietor. His or her salary is fixed and in Eid festival, everyone gets 300 Tk as bonus. Besides, at the time of marriage laborer got some help from the owner. Jalil informed that when he first came to this gher in 1987 he saw there were trees around the gher area and besides that there were villages. Rice cultivation at that time was very high but at present in gher area rice production become very low. Owner of the gher sometimes omit rice cultivation in gher as for this shrimp cultivation hampered. When he first came, he saw there were various types of birds and animals in that area but now all disappeared. The gher area becomes a separated area as the villagers around the gher go out for the lack of food and other necessities. He said people were happy in the past time. He also said he faces many problems to main his family with such small income in comparing with the current market price.

**Information about livestock and poultry:**
**Before introduction of shrimp culture:**

Goat	Number of respondent	Percent
not any	63	90
01-May	7	10
Total	70	100

**After introduction of shrimp culture:**

Goat	Number of respondent	Percent
not any	63	90
01-May	7	10
Total	70	100

*Source: Fieldwork 2005*

From the above tables we see that 10% respondents tell that they have goats in the range (1-5) before introducing of shrimp culture. On the other hand, again 10% respondents tell that they have goats in the range (1-5) after introducing of shrimp culture. From my field observation, I saw that by the home rearing method it is possible to maintain livestock.

**Before introduction of shrimp culture:**

Duck	Number of respondent	Percent
not any	45	64.3
01-May	14	20
05-Oct	7	10
Oct-15	4	5.7
Total	70	100

**After introduction of shrimp culture:**

Duck	Number of respondent	Percent
not any	10	14.3
01-May	14	20
05-Oct	14	20
Oct-15	14	20
20above	18	25.7

*Source: Fieldwork 2005*

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From the above tables we see that 20% respondents tell that they have ducks in the range (10-15) before introducing of shrimp culture. On the other hand, again 5.7% respondents tell that they have goats in the range (10-15) after introducing of shrimp culture. From my field observation, I saw that mainly for the lack of rearing places such situation happens.

**Before introduction of shrimp culture:**

Hen	Number of respondent	Percent
not any	31	44.3
01-May	7	10
05-Oct	7	10
Oct-15	7	10
15-20	7	10
20above	11	15.7
Total	70	100

**After introduction of shrimp culture:**

Hen	Number of respondent	Percent
01-May	14	20
05-Oct	52	74.3
20above	4	5.7
Total	70	100

*Source: Fieldwork 2005*

From the above tables we see that 15.7% respondents tell that they have hens in the range (above 20) before introducing of shrimp culture. On the other hand again 5.7% respondents tell that they have hens in the range

(above 20) after introducing of shrimp culture. From my field observation, I saw that mainly for the lack of rearing places and food such situation happens.

**The number of indebt respondent in various sectors:**

Are you indebted at present?	Number of respondent	Percent
yes	45	64.3
no	25	35.7
Total	70	100

  

Bank	Number of respondent	Percent
no	56	80
100000above	14	20
Total	70	100

  

Mohazan	Number of respondent	Percent
No	63	90
10000-20000	7	10
Total	70	100

  

NGO	Number of respondent	Percent
no	53	75.7
1-10000	7	10
10000-20000	10	14.3
Total	70	100

  

Relatives	Number of respondent	Percent
No	56	80
1-10000	14	20
Total	70	100

*Source: Fieldwork 2005*

From the above tables we see that 64.3% respondents tell that they are in debt at present. It is also shows that they comparatively more indebted to NGO. Specially the poor respondents took debt from NGO for the purpose of small business and expense it for marriage or other purposes. We also see that large the gher owner took huge of loan from bank.

**Are the marginal community and women losing their occupation due to shrimp culture?**

Respondent	Number of respondent	Percent
Yes	56	80.0
No	14	20.0
Total	70	100.0

*Source: Fieldwork 2005*

From the above table we see that 80% respondents tell that marginal community and women are losing their jobs. With the increasing of shrimp cultivation, such situation emerged. Mainly for the lack of rice cultivable land as the main job of rural women was to help men at the time of harvesting rice. Marginal community like potter and hammer losses their jobs due to the lack of necessary needs of agricultural instruments.

**Information about the social impact of shrimp culture on rural people:**

Do you think that your social status has changed after shrimp culture?	Number of respondent	Percent
Yes	56	80
No	14	20
Total	70	100

*Source: Fieldwork 2005*

From the tables we see that 80% respondents tells that their social status have changed after introducing to shrimp culture. But it doesn't show positive changes because most of the local folk loose their traditional income sources.

**Social problems of shrimp cultivation:**

Is introduction of shrimp culture increases social problems?	Number of respondent	Percent
Yes	70	100.0

*Source: Fieldwork 2005*

**Increasing social problems as following:**

Divorce	Number of respondent	Percent
yes	56	80
no	14	20
Total	70	100

Polygamy	Number of respondent	Percent
Yes	46	65.7
No	24	34.3
Total	70	100

Theft	Number of respondent	Percent
yes	35	50
no	35	50
Total	70	100

Robbery	Number of respondent	Percent
Yes	24	34.3
No	46	65.7
Total	70	100

Murder	Number of respondent	Percent
no	70	100

Rapt	Number of respondent	Percent
Yes	39	55.7
No	31	44.3
Total	70	100

*Source: Fieldwork 2005*

Above tables shows that 100% respondents tells that introducing of shrimp cultivation increases social problems. Among various social problems the rate of divorce is increasing a lot. Beside this the rate of rapt is also increasing remarkably. For the long distance from the family such types of problems created. They have reported about several conflicts due to capture and maintenance of gher.

**Leader in various functions:**

Who leads in the arbitration, social and cultural affairs?	Number of respondent	Percent
owner of gher	56	80.0
political leader	14	20.0
Total	70	100.0

*Source: Fieldwork 2005*

Above table shows that 80% respondents tell that in the arbitration, social and cultural affairs leads by the owner of the gher. Another 20% respondents tell that political leader leads over various functions. Owner of the gher leads over functions as they donate a lot for those programs.

**Case – 4 Name: Sondha Rani Age: 45 Village: koruli Union: Loskor Family Member: 3**

Sondha Rani widowed in 1979. She had a son (Ganga) and a daughter (komola). Her husband had 9 bighas of agricultural land. She was only 22 years old in 1979. She decided to live alone at that age as the society provided enough security for her and her family. Other members of her husband's family helped her in all possible ways including ploughing and harvesting. She had at that time two cows, 3 goats, 10 ducks and a dozen of hens. She could run the family with the earnings from the livestock and poultry. There was regular surplus from the paddy produced in her land. Ganga started going to the primary school, as per wished of his late father. But this happiness did not last long. Ganga stopped going to school from 1986, as shrimp farming began to be a dominant feature in the area. The paddy production, which began to alternate with shrimp culture, suddenly started falling. Ganga's mother found it very difficult to collect enough fodder and green grasses for the cows once shrimp production became widespread. Milk production too fell. One-day cows and goats were to be sold away. Most of the ducks and hens too disappeared. The paddy production also had to be stopped. Ganga is now 21. However, his mother is anxious about his future. She does not have the guts to get him married as the economic base of the family has been shattered. She cannot repair the old house, how she could erect another for the son.

She still has a few hens, which are so poor in health that cannot lay eggs. The security men of the shrimp farmers have killed all the ducks. Amulla now works as a laborer in a shrimp farm in polder 22 at a salary of only Taka 800 per month. Shandha often collects shrimp fries and sell them for survival. She never thought that

her family would be in such a desperate situation. She feels very insecure. In 1992, she received Tk. 8,000 as lease money but could not produce any paddy in that land. Therefore, she has leased out the land for the whole year and got Tk. 16,000 instead. Nevertheless, Shandha thinks cash money cannot match the food, fruit, vegetables she used to produce earlier. All her trees have died. The barren land hots up in the summer and freezes during the winter. In fine, life is never that happy again.

#### Impact on overall environment:

Do you see any impact on overall environment?	Number of respondent	Percent
Yes	63	90.0
No	7	10.0
Total	70	100.0

Source: Fieldwork 2005

#### Varieties influence overall environment:

Less vegetable production	Number of respondent	Percent
yes	70	100
Air and water pollution	Number of respondent	Percent
yes	32	45.7
no	38	54.3
Total	70	100
Pollution of water resources	Number of respondent	Percentage
Yes	63	90
No	7	10
Total	70	100
Severe salinity	Number of respondent	Percent
Yes	39	55.7
No	31	44.3
Total	70	100
Others	Number of respondent	Percent
yes	21	30
no	49	70
Total	70	100

Source: Fieldwork 2005

From the above tables we see that 90% respondents argues that introducing of shrimp culture created a lot of negative impacts on the overall environment. Among my respondents 100% respondents argues about the loss of vegetation. On the contrary, 90% respondents tell about the pollution of water resources and 55.7% respondents tell about the severity of salinity. From the overall observation, it seems that natural environment is highly affected as the respondents showed me. Few percent of my respondents argued about the positive impact of shrimp cultivation.

#### Ecological problem of the locality:

##### Varieties ecological problems as following:

Do you face any ecological problem in your locality?	Number of respondent	Percent
yes	70	100
Loss of domestic animal	Number of respondent	Percent
Yes	70	100
Loss of fish variety	Number of respondent	Percent
Yes	70	100
Loss of animal variety	Number of respondent	Percent
Yes	70	100
Others	Number of respondent	Percent
Yes	32	45.7
No	38	54.3
Total	70	100

Source: Fieldwork 2005



From the above tables we see that 100% respondents argue that introducing of shrimp culture destructing the overall ecological environment. Among my respondents 100% respondents argues about the loss of domestic animals, loss of fish variety and loss of animal variety. Respondents also argue that at the time of catching shrimp fry from river, with shrimp fry many other water varieties abolished.

**Case – 5 Name: Bakul Mondol Age: 30 Family Member: 3 Village: Koruli Union: Loskor**

Bakul is working in a small gher as both worker and guard of that gher. The gher is situated in his own locality. He gets as salary 1000 Tk per month. He said his entire locality is occupied by gher. He also informed that before shrimp cultivation rice cultivation was very high. In his early age, he saw green grasses occupied all around the field but now days it looks like desert, as there is no grassland. In his early life, he caught varieties types of birds but it is very rare now. There were field in their village but now it is under shrimp gher. As soil becomes barren and saline water flows over it so vegetable cultivation is totally losses. For drinking water, villagers have to go seven miles away from the village. In the past people could somehow manage their everyday life but now days it become quite difficult for the lack of alternatives. Most people pass their time in idleness for the lack of work. In this area, work is seasonal. In most of the time of the whole year, they remain unemployment. He told he somehow manage his family but in the past before introducing to shrimp culture they were quite happy.

## 5. Findings

Paikgacha Thana Krishi Officer claimed that most of the crop varieties are going to be abolished with the invention of shrimp culture and the main factor is the severe use of saline water. Previously Ropa Amon paddy was cultivated about 27000 ha of land. However, at the time of investigation it decreased to 24000 ha of land; even the production was gradually decreasing. HYV paddy was cultivated in 16000 ha land, on the contrary local rice was cultivated in 7400 ha land but the production became very low because of saline water entering. In this Thana, there are about 27000 cultivable lands but shrimp is cultivated in more than half of the areas. However, by using intensive care method, it is possible to cultivate rice in a few part of the land but for the unwillingness of the gher proprietors, it could not be possible. In gher introducing region most of the fruit plants were going to be abolish. Any types of fruit plant can sustain for 3-5 years. In the near past saline water was protected by making embankment but by introducing shrimp culture saline water occupied maximum area.

He added that vigorous change observed in the gher area during the last 14 yrs. If government could take proper initiative then rice cultivation could also be increased with other crops.

At the time of collecting data from Bangladesh Fishery Research Institute Brakish Water Station, Paikgacha, Khulna; scientific officer Mr. Hindol Kumar Pal said that from their observation they find out that this area is covered by saline water from the past naturally, as it is nearer to Bay of Bengal. However, in gher area people stored saline water for the purpose of shrimp cultivation, it has no vital impact on land. He also informs that at the time of rainy season sweet water covered the gher area and it make a combination with the saline land and make thinner the saline level of soil.

It is possible to cultivate shrimp and rice in the same land and it will be beneficial for both the sectors. At the time of collecting data from Nigera Koree, Paikgacha Thana Branch, a person opined of the respondent to treat shrimp cultivation as an inhuman business. The logic in favor of this observation was that, with the introduction of shrimp cultivation varieties of ecological problems appeared, such as loss of fish variety, loss of animal variety, loss of domestic animal etc. This person considered shrimp culture to create quarrelsome, terrorism, women exploitation and even introduce of prostitution in the locality. Shrimp cultivation is the only cause for increasing severe salinity in that environ. It increased pressure on Sundarban and made severe saline water stock. This trend of shrimp cultivation made people dependent as they are losing their traditional jobs. He said in Soladana Union people were self sufficient before introducing to shrimp culture but after introducing this culture, about 85% people have to buy rice. He also argued that worker in shrimp gher is related with varieties of anti social activities as a consequence divorce rate is increasing. Mr. Rahman said they started their activities here from 1981 and they could able to make some example like Goraikhali Union, which is free from shrimp aquaculture and folk leading happy lives.

When I went to Fishery Office of Paikgacha Thana then Thana Fishery Officer Mr. shahidul Sardar told me that he saw no problem with shrimp cultivation. For reasons he said that, shrimp cultivation not only makes people economically solvent, it also creates many job sectors. Those who tell that this culture hampers the environment is not true as it is very simple as a coastal area the saline level of water will increase day by day.

Mr. Shahidul argues that shrimp cultivation is not hampers rice cultivation rather it is possible to cultivate rice with shrimp by using HYV paddy.

**Income status of the worker of gher per month:**

Category of job	Amount of salary (per month)
Muhuree	2000
Cooker	1600
Goiman	1500
Labor	1300
Sideman	1000

*Source: fieldwork, 2005*

One of the workers Jalil said that he is working there for 18 years. He came from Tala Thana and when he first came, green villages surrounded this place. He complained that they do not get enough leave to meet their family. They get leave only for 3 or 4 days in a month.

One important thing is that the workers have no scope to share with the profit of the gher. They just get a few amounts in major festivals like Eid and Puja. If they fall any major problems, they got some insufficient financial help from the gher proprietor. At first marriage, labors get some more facilities in the case of leave.

Proprietors of gher are unwilling to cultivate both shrimp and rice at a time, as clay land is more productive for shrimp production. However, for rice cultivation, they have to decrease the water level of the gher and it lessens the clay level of land that hamper shrimp production.

Before shrimp culture, local farmers allowed livestock to graze upon the paddy stubble left in the field. The post harvest fallow period has now been substituted by shrimp culture posing a grave problem to the supply of cattle feed. Cattle are of crucial importance as a source of draught power in rural agriculture. Due to the shrinkage of rice acreage with the expansion of shrimp acreage, there has arisen an acute shortage of paddy straws causing great sufferings to the poor farmer families in respect of cattle rearing, cooking etc. On the other hand, due to salinity, the banana leaves also become unsuitable for cattle feed.

In shrimp area green plants besides roads now a days is very rare. It is painful for a folk when go through his village road and see the roads and fields without shining grass and charming birds.

## 6. Conclusion

Shrimp culture in coastal areas needs to be further analyzed for the extension of a particular social economy. Under the present conditions there is no doubt that it is benevolent for a margin group of people, but it is a matter of concern for the great majority of people. Shrimp culture can be advocated only when it ensures welfare to the majority of people. Shrimp farmers should be encouraged to adopt semi-intensive mode of shrimp farming rather than horizontal expansion as this farming pattern may lead to the permanent destruction of agricultural lands. The catchers, however, are more interested in *P. monodon* fry. The other species caught in the net sometimes die while being sorted, and scarcely these are thrown back into the water. From the ecological point of view, it is necessary to consider these colossal wastes, which occur during shrimp fry collection. Policy makers ought to recognize the role of these poor people, who play a key role in generating foreign exchange earnings. From the present study, it has been evident that shrimp culture does not significantly influence the short-term rice production. Because of the introduction of shrimp culture, management practices need to be slightly changed so that target production can be achieved through proper land-use system. Lastly, the socio-economic returns from shrimp fisheries should be obtained in such a manner that it does not interfere with other users. Keeping all these in view, the following recommendations are made;

The shrimp farms (ghers) are scattered everywhere in the locality. Even at the homestead areas, it affects the variety nature of the inhabitants. The farms should therefore, be operated in some designated areas of the coastal regions.

Shrimp culture should not be allowed to any land where it would pose a threat to the existing coastal environment. Making of smaller farms of 0.5 ha or less to 1.0 ha of land can be less destructive for other local species. Farms on co-operative basis should be set up.

Shrimp farmers have to be encouraged to adopt semi-intensive and intensive shrimp culture in brackishwater areas. In case of leasing out Khas lands for shrimp culture, the landless people should get topmost priority.

Government should fix up proper salary for the worker of the gher as they could be able to maintain their family with that amount. Owner of the gher have to give attention to the dwelling and health condition of the worker and have to make sure necessary amenities for maintaining minimum standard of life.

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### Glossary

Bagda	=	P. monodon, a kind of shrimp for which saline water is needed
FAO	=	Food and Agricultural Organization
GDP	=	Gross Domestic Product
Gher	=	Place where shrimp is cultivated
Hari	=	The due rent, which was given owners of the land in a year locally known as hari
HYV	=	High Yield Variety
Khas land	=	Government controlled land
NGO	=	Non Government Organization

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