

**THE ROLE OF MICROFINANCE IN FISHERIES SECTOR:  
A Case Study of Ibrahim Hyderi District Karachi (EAST) Sindh Pakistan****Abbas Ali Chandio***PhD Scholar,**Faculty of Economics and Management, Sichuan Agricultural University.**Wenjiang Chengdu Sichuan 611130, China***Prof Dr. Jiang Yuansheng (Corresponding Author)***Faculty of Economics and Management, Sichuan Agricultural University.**Wenjiang Chengdu Sichuan 611130, China*[yjiang@sicau.edu.cn](mailto:yjiang@sicau.edu.cn)**Mumtaz Ali Joyo***Assistant Professors, Department of Agricultural Economics, SAU TandoJam, Sindh, Pakistan***Sanaullah Noonari***Assistant Professors, Department of Agricultural Economics, SAU TandoJam, Sindh, Pakistan***Javed Hussain Sahito***PhD Scholar, Maize Research Institute, Sichuan Agricultural University.**Wenjiang Chengdu Sichuan 611130, China***ABSTRACT**

*The overarching objective of this study was to investigate the role of microfinance in fisheries sector and its development: a case study of Ibrahim Hyderi District Karachi East Sindh. This study was based on primary data and samples of 120 small scales of fishermen were selected through random sampling method. Interview schedule was used as a tool of data collection. The data was analyzed by using descriptive statistical techniques like means, percentages and frequencies distribution etc. The results of this study showed that total cost reported by fishermen was Rs.7665 per day. Whereas, the average yields of fishermen was 37.5 Kg per day at the rate of Rs.400/ Kg. Moreover, the net return earned by fishermen was estimated to be Rs.7335 per day. For return to investment, overall input-output ratio was calculated 1:1.95 and cost benefit ratio was calculated 1:0.95. It is clear that microfinance played a significant role in the development of fisheries sector in Ibrahim Hyderi District Karachi East Sindh. However, since a decade microfinance has been providing small loan and small business loan for fish catching equipment purpose. Our results suggest that ZaraiTaraqiati Bank Limited, Commercial Banks and Microfinance banks should supply credit on flexible terms and conditions which is helpful for small scale fishermen to increase their income and improve life standard. Government of Pakistan should support small scale fishermen through the allocation of proper incentive structure and supply of loans on affordable interest rates. It may be a helpful to strengthen fisheries sector performance and raise the per capita income of a fisherman.*

**Keywords:** Fisheries Sector, Microfinance, Marketing cost, Net return, Cost Benefit-Ratio

**INTRODUCTION**

Agriculture is the key sector of Pakistan's economy .It accounts 20.9 percent to the GDP, 43.5 percent total labour force engaged this sector (GOP 2014-15). Agriculture sector provides raw material to domestic agro based industries and it is also a prime source of foreign exchange earnings. Almost 68% of population lives in rural areas and directly or indirectly engaged in agricultural activities. Fishery sub-sector plays a vital role in socio-economic development of rural households. It contributes 2.1 percent in agriculture value addition during 2014-15. However, Fishery sub-sector growth rate has been greatly increased at 5.8 percent in the year of 2014-15 as compared to 1.0 percent in 2013-14. Fishery sub-sector, Pakistan has a costal line about 1,050-km and has been famous for fishing in the region. Pakistan sell good quality seafood's abroad to various countries such as China, Thailand, Malaysia, Middle East, Srilanka and Japan etc. Ibrahim Hyderi Fish Harbour is a jetty located near Korangi, Karachi. One of the main supply sources for Karachi's fish markets. Every business is operated on own capital or borrowed capital. Similarly, fishing also had required capital. In Pakistan, there are two

sources of credit formal and informal. Formal credit source consists of financial institutions like Zari Taraqiate Bank Limited (ZTBL), United Bank Limited, Allied Bank Limited, Muslim Commercial Bank Limited, National Bank of Pakistan, First Microfinance Bank Limited, Tameer Microfinance Bank Limited etc. Informal source of credit include friends, relatives, commission agents, arthi and input supplier etc. The impact of formal credit has positive and significant on agricultural production in Pakistan (Iqbal et al., 2003). Micro credit create massive opportunity to improve standard of living and increase income of poor people (Vogt, 1978). Microfinance programme is the power full tools of socio-economic development approach intended to benefit low income poor people. Microfinance organizations are providing such as credit, insurance and payment services (Mitchell, 2003). MFBs have been providing benefits to the rural and urban people such as generate income activities, enhance physical infrastructure in the undeserved area and creating economic integration of women in the developing countries (Shirazi and Khan, 2009). MFBs are supplying credit to poor people who are unable to borrow credit from commercial banking system (Jaffari, Abideen, Kaleem, Saleem, Raza, and Malik, 2001). Several MFBs like National Rural Support Programme in Sindh (NRSP), Aga Khan Rural Support Programme (AKRSP), Khushali Bank, First Microfinance Bank Limited and Timeer Microfinance Bank Limited are providing micro-credit in Pakistan for income generating activities in rural and urban areas (Shah et al 2008). Microfinance has been playing vital role to create massive employment opportunities and it is a powerful tool for poverty reduction in developing countries (Haq et al 2008). Bashir and Azeem (2008) tried to found that the small farmers faced several problems during getting loan. The results of their study suggest that credit should be supply through flexible terms and conditions it may help small farmers and increase agricultural productivity. Saboor, et al (2009) found that impact of credit has significant on wheat crop and livestock sector in study area. Their study suggests that supply of credit should be further improved so that small farmers get full benefits from credit and increase their income. However, many microfinance banks and NGO'S have been providing small loan and small business loan to enhance increase income of small scale fishermen. ASA Pakistan Limited( MFI) is one of them provides small loan as well as small business loan to fishermen in Ibrahim Hyderi District Karachi (East) since 8 years for financial facilities to purchase working capital product and long term investment such as boats equipment, net, construction of cold storage, pond tanks, etc. After considering the importance of the Microfinance, the study investigates the impact of microfinance on fisheries sector and its development: A case study of Ibrahim Heydri District Karachi (East). This present research is beneficial for researchers, policymakers, teachers and students to identify the impact of Microfinance.

## MATERIALS AND METHODS

### Study area is presented in figure 1 as given below:

The current study was based on primary data collected by researcher from Ibrahim Hyderi District, Karachi East, Sindh. The sample of the present study was males belong to area of Ibrahim Hyderi district, Karachi east, Sindh who borrowed credit from MFBs. A well-designed questionnaire was developed to explore the research objective. The samples of 120 fishermen were randomly selected among the different categories of fishermen from different areas of Ibrahim Hyderi district, Karachi East, Sindh.

### Data Collection and Analysis

The selected small scale fishermen were interviewed face to face through a well-designed questionnaire prepared for the purpose. The data was entered in to (SPSS) statistical package for social sciences and brake down into tabulated form of its average, percentage, comparison of means and frequency distribution were given below: Percentages and Averages

Percentage was calculated by using the following formula.

$$\text{Percentage} = F/N \times 100$$

Where

F= frequency

N= total number of frequencies

Average was calculated by using the following formula

$$\text{Average} = \sum Xi / n$$

Where

$\sum Xi$  = sum of values

N=number of observed

### Estimation Procedure of Data

Estimation of each term such as labour cost, marketing cost, total cost during fish caught, total revenue, net revenue, (CBR) cost benefit ratio and IOPR input-output ratio as given below:

### Estimation of Labour Cost

$$Lhf = HC + WR + NR/As$$

Where,

Lhf = Labour hired for fish catch

Hc = Hiring charges.

Wr = Wage rate

Nr = net repairing rate

As = Per day

### Marketing Cost

The marketing cost was estimated by using the following formula:

$$Mc = Qm + Lc + Trc + Ic + Efc + Pc / As$$

Where,

Mc = Marketing cost.

Qm = Quantity of produce marketed.

Lc = loading cost.

Trc = Transportation cost

Ic = Ice cost

Efc = Engine fuel cost

Pc = Packing cost

As = per day

### Estimation of Returns

The estimation of returns was developed by using the following formula:

$$VP = Qsk + Prk / As$$

Where,

VP = Value of Product

Qks = Quantity of sold Kg.

Prk = Price per Kg.

As = per day

### Total Cost of Production

Total cost of production was estimated by using the following formula:

$$Tc = Tfc + Tvc$$

Where

Tc = total costs of production

Tfc = total fixed cost

Tvc = total variable cost

### Net Returns

Net returns were estimated by using the following formula:

$$Nr = Ti - Tc$$

Where

Nr = Net revenue

Ti = Total income

Tc = Total cost

### Input-Output Ratio

The input-output was estimated by using the following formula:

$$IOR = \frac{TI}{TC}$$

Where

IOR = Input-Output Ratio

### Cost-Benefit Ratio

Cost-Benefit Ratio was estimated by using the following formula:

$$CBR = \frac{NR}{TC}$$

Where

CBR = Cost Benefit Ratio

## RESULTS AND DISCUSSION

### Socio-Economic Characteristics of Respondents

Table 1 presents the frequency distribution of age group of respondents. The data indicates that majority of 45.8 percent of fishermen were from the age group of 31 to 40 years. However, 29.2 percent were the age group of 41 to 50 years. While 20.8 percent were the age groups of 20 to 30 years. Moreover, 4.2 percent were up to age of 51 to 60 years.

### Frequency Distribution of Education

Table 2 presents that the frequency distribution of education level of respondents. According to this table among these majority of fishermen (54.2 percent) were illiterate. However, 33.3 percent of fishermen were primary educated and at least 12.5 percent of fishermen were educated up to middle level.

### Loan Period of Fishermen and Distribution of Respondents by Amount of Credit

Table 3 indicates that loan taking period and distribution of respondent by amount of credit. In this table data show that the 37.5 percent of fishermen were getting loan since two years and loan amount disbursed Rs. 21000 to Rs. 25000. However, 27.5 percent of fishermen were obtaining loan during 3 years and loan amount disbursed Rs2600 to Rs 30000. While, 16.7 percent of fishermen were taking loan during 1 year and loan amount disbursed at Rs15000 to Rs 20000, Whereas, 12.5 percent of fishermen were getting loan since 4 years and loan amount disbursed Rs 31000 to Rs 35000 and 5.8 percent of fishermen were taking loan since 5 years and loan amount disbursed Rs 36000 to Rs 40000.

### Purpose of Loan Taking In Study Area

Table 4 showed that the purpose of loan getting. In this table data indicating that the majority of fishermen 54.2 percent were taking loan is to buy nets equipment. However, 25 percent of fishermen were taking loan for purchase of boat engine equipment and 20.8 percent of fishermen were taking loan for boat repair and maintenance.

### Labor Costs:

Expenses received from employing services of humans whether skilled or non-skilled in producing goods and services (Parkin, 2001). In fish catching labour cost is the function of fish catching, net repairing, and equipment / implements repairing.

The results on average per day labour costs incurred by the fishermen in Ibrahim Hyderi area of District Karachi East, Sindh are presented in table -5. The results in the above table showed that fishermen incurred an average per day cost of Rs 750 as labour costs with standard deviation of 92.5. The results in table further indicate that the total cost in the study area ranged between Rs 600 to Rs 900 per day.

### Marketing Costs:

In fish catching marketing costs are the function of catching, loading cost, ice cost, transportation cost, storage cost and commission charges.

The results indicate that the average per day marketing costs incurred by the fishermen in Ibrahim Hyderi Area of District Karachi East, Sindh are presented in table – 6. The results shows that fishermen spent an average per day cost of Rs 6915 as marketing cost including loading, unloading, transportation and commission charges with standard deviation of 359.8. The results in table –6 further indicate that the marketing cost in the study area ranged between Rs 6320 to Rs 7510 per day.

### Costs of Production

#### Total Cost of Production

TCP defined as sum of fixed cost plus variable costs make the total cost of production The results on average per day total costs incurred by the fishermen in Ibrahim Hyderi District Karachi East, Sindh are presented in table – 7. The results shows that fishermen incurred an average per day cost of Rs 7665 as total cost of production including labour cost and marketing cost with standard deviation of 452.3. However, the further results indicating that the total cost in the study area ranged between Rs 6920 to Rs 8410 per day.

### Total Physical Productivity

This refers to the output from some enterprise expressed in terms of physical units. In our study, this is termed as kilogram. The results show that the average per day Physical Productivity obtained by the fishermen in Ibrahim Hyderi area of district Karachi East is presented in table 8. The results revealed that fishermen in the

study area realized an average per day Physical Productivity of (Kg 40) with standard deviation of 6.3. Whereas, the results in table shows that that gift quantity of (Kg 1) and House hold consumption for (Kg 1.5) and net fish sold (37.5 Kg) respectively.

### **Total Revenue**

Total revenue of fishermen is the amount of money received from sold fish. This is computed by multiplying the total Physical Productivity with the price received per Kg of commodity.

The table - 9 shows that average per day total revenue obtained by the fishermen in Ibrahim Hyderi area of district Karachi East Sindh. The results indicate that fishermen in the study area realized an average per day net revenue of Rs 15000.0 with standard deviation of 5220.4. Moreover, the results further indicate that rate per kg in the study area ranged between Rs 300.0 to Rs 550.0 per day.

### **Net Return**

Net Return or profit is the residual amount remains with the fishermen after incurring all the production costs from the total revenue. This is obtained by subtracting total revenue from the total costs of production. The average daily net income received by a fisherman in Ibrahim Hyderi area of the district Karachi East, Sindh is shown in table 10. The result revealed that fishermen in the study area had an average daily net return of Rs 7335 with standard deviation of 4768.1. However, the minimum and maximum net returns were Rs 580 to Rs 20740 per day, whereas the net income was Rs 7335 in the proposed research area.

### **Input-Output and Cost - Benefit Relationship**

The input-output ratio is calculated by dividing total income with the total cost of production. However, the cost benefit ratio refers to net returns as compared to the cost of production. It is calculated by dividing net returns with cost of production.

### **Input – Output and Cost Benefit Ratio**

Table 11 shows that Input-Output and Cost - Benefit Relationship of the respondents. The results indicate that input-output and cost benefit ratio, Out-put ratio was 1:1.95 and 1:0.95 respectively. It is clearly indicates that a certain profit achieved upon fish catching by each fisherman in the study area and further financial support can stabilized their average income. Micro-credit raises the living standard of the poor and self-employment. However, microfinance has significant and positive impact on poor people's income (Kudi et al, 2009). According, (Iqbal et al, 2003, Azeem 2008, Saboor et al 2009 and Chandio et al, 2015) found that impact of micro credit have significant on field crops and livestock sector. However, the overarching objective of this current study was to investigate the role of microfinance in fisheries sector: a case study of Ibrahim Hyderi District Karachi East. Our results showed that microfinance has positive and significant impact on small scale fishermen's income.

### **CONCLUSION AND RECOMMENDATIONS**

The main purpose of this research was to investigate the role of microfinance in fisheries sector and its development: a case study of Ibrahim Hyderi District Karachi East Sindh. The study was based on primary data, which was collected from small scale fishermen of Ibrahim Hyderi District Karachi East Sindh. A random selection of small scale fishermen of Ibrahim Hyderi District Karachi East Sindh was carried out to insure the generalization of research finding. From the sample of 120 fishermen, this equally distributed from different areas in Ibrahim Hyderi District Karachi East Sindh. Analysis was done by using statistical techniques like as means, comparison of means, percentage and frequency distribution etc. The microfinance played a significant role in the development of fisheries sector. On the other hand, since ten years microfinance has been providing small loan and as well as small business loan for fish catching equipment purpose and develop their business. The study regarding impact of microfinance on fisheries sector was found that the positive relation and impact .The overall IOPR was 1:1.95 and CBR was 1:0.95. Whereas, Net return earned by fishermen were Rs.7335 and total Fish caught 37.5 Kg per day. On the expenditure side fishermen contributed variable costs was Rs 750 and marketing costs was Rs 6915per day respectively. Therefore, our study suggest that Zarai Taraqiati Bank Limited (ZTBL), Commercial Banks and Microfinance Institutes should supply credit on flexible terms and conditions which is helpful for small scale fishermen to increase their income and improve life standard. Government of Pakistan should support small scale fishermen through the allocation of proper incentive structure and supply of loans on affordable interest rates. It may be a helpful to strengthen fisheries sector performance and raise the per capita income of a fisherman.

## REFERENCES

1. Bashir, M.K. & Azeem, M.M. (2008). Agricultural credit in Pakistan: constraints and options. *Pakistan Journal of Life Social Sciences*, 6(1), 47-49.
2. Chandio, A.A. Yuansheng, J. & Koondhar, M.A. (2015). Raising Maize Productivity through Agricultural Credit A: Case Study of Commercial Banks in Pakistan. *European Journal of Business and Management*, 7(32), 159-165.
3. Chowdhury, J. (2009). The Role of Micro-Credit in Alleviation of Poverty: A Study of the Grameen Bank in Bangladesh. Dhaka: University of Dhaka.
4. Government of Pakistan (2015). Economic Survey of Pakistan. Ministry of Finance, Economic Advisor's Wing, Islamabad, Pakistan.
5. Haq, M., Hoque, M., and Pathan S. (2008). Regulation of Microfinance Institutions in Asia: A comparative Analysis. *International Review of Business Research Paper*, 4(4), 421-450.
6. Hulme, D., & Mosley, P. (1996). Finance against Poverty. London: Routledge Int. Publishing Company.
7. Iqbal, M., Ahmed, M., & Abbas, K. (2003). The impact of institutional credit on agricultural production in Pakistan. *The Pakistan Development Review*, 42(4), 469-485.
8. Jaffari, S.I., Abideen, Z.U., Saleem, S., Kaleem M.M., Malik N., Raza, M. (2011). An Examination of challenges and prospects of Microfinance Sector of Pakistan. *European Journal of Economics, Finance and Administrative Sciences*, 31, 146-159.
9. Kudi, T.M., Odugbo, S.B., Banta, A.L., Hussan, M.B. (2009). Impact of UNDP microfinance programme on poverty alleviation among farmers selected local government areas of Kaduna State, Nigeria. *International Journal of Sociology and Anthropology*, 1(6), 99-103.
10. Mitchell, T. (2003). The Role of Microfinance in Economic Development. *Student Economic Review*, 17, 175-186.
11. Saboor, A. M. Hussain, & Muir, M. (2009). Impact of Micro Credit in Alleviating Poverty: An Insight from Rural Rawalpindi, Pakistan. *Pakistan Journal of Life Social Sciences* 7(1), 90-97.
12. Shah, S.R., Bukhari, A.T., Hashmi, A.A., & Anwer, S. (2008). Determination of Credit Programme Participation and Socioeconomic Characteristics of Beneficiaries: Evidence from Sargodha. *The Pakistan Development Review*, 47(4), 947-959.
13. Shirazi, N. S. & Khan, A. U. (2009). Role of Pakistan poverty alleviation fund's micro credit in poverty alleviation: A Case of Pakistan. *Pakistan Economic and Social Review*, 47 (2), 215-228.
14. Vogt. (1978). Broadening to access credit. *Development Digest*, 16:25-32.

**Table 1:** Distributions of Respondents According to their Age.

Age	Frequency	Percent
20-30	25	28.8
31-40	55	45.8
41-50	35	29.2
51-60	5	4.2
<b>Total</b>	<b>120</b>	<b>100</b>

**Table 2:** Distribution of Respondent by Educational Level

Education Level	Frequency	Percent
Illiterate	65	54.2
Primary	40	33.3
Middle	15	12.5
<b>Total</b>	<b>120</b>	<b>100</b>

**Table 3:** Load Period of Fishermen and Distribution of Respondents by Amount of Credit

Loan Period	Amount of Loan	Frequency	Percent
1 Year	15000 to 20000	20	16.7
2 Year	21000 to 25000	45	37.5
3 Year	26000 to 30000	33	27.5
4 Year	31000 to 35000	15	12.5
5 Year	36000 to 40000	7	5.8
<b>Total</b>		<b>120</b>	<b>100</b>

**Table 4:** Purpose of Load Taking in Study Area

Purpose	Frequency	Percent
Purchase of net	65	54.2
Boat Repair and Maintenance	25	20.8
Purchase of Boat Engine Equipment	30	25
<b>Total</b>	<b>120</b>	<b>100</b>

**Table 5:** Average per day labor cost incurred by the selected Fishermen in Ibrahim Hyderi Study Area

Cost Components	Minimum	Maximum	Average (Rs)	Standard Deviation
Labor hired for fish caught	400	600	500	62.5
Net Repairing	200	300	250	30.0
Grant Total	600	900	750	92.5

**Table 6:** Average per day Marketing costs incurred by the selected Fishermen in Ibrahim Hyderi Study Area

Cost Components	Minimum	Maximum	Average (Rs)	Standard Deviation
Loading	200.0	250.0	225	21.3
Ice	700.0	800.0	750	50.2
Pacing Material	320.0	360.0	340	20.0
Eigen Fuel	4500.0	5500.0	5000	268.3
Commission	600.0	600.0	600	0.0
Grant Total	6320	7510	6915	359.8

**Table 7:** Average per day total costs incurred by selected Fishermen in Ibrahim Hyderi Study Area

Cost Components	Minimum	Maximum	Average (Rs)	Standard Deviation
Variable Cost	600	900	750	92.5
Marketing Cost	6320	7510	6915	359.8
Grant Total Cost	6920	8410	7665	452.3

**Table 8:** Average per day physical productivity realized by Fishermen in Ibrahim Hyderi Study Area

Item	Minimum	Maximum	Average	Standard Deviation
Fish caught(kg)	25	55	40	6.3
House Hold Consumption (Kg)	0.0	3	1.5	1.0
Gift (Kg)	0.0	2	1	0.8
Net Sold (Kg)	25	53	37.5	6.1

**Table 9:** Average per day total revenue realized by selected Fishermen in Ibrahim Hyderi Study Area

Net Revenue	Minimum	Maximum	Average	Standard Deviation
Quantity of fish sold	25	53	37	6.1
Rate per (Kg)	300	550	400	137.0
Total Amount	7500	29150	15000	5220.4

**Table 10:** Average per day net income earned by Fishermen in Ibrahim Hyderi Study Area

Particulars	Minimum	Maximum	Average (Rs)	Standard Deviation
Grass Income (a)	7500.0	29150.0	15000	5220.4
Cost of Fish Caught(b)	6920	8410	7665	452.3
Net Income	580	20740	7335	4768.1

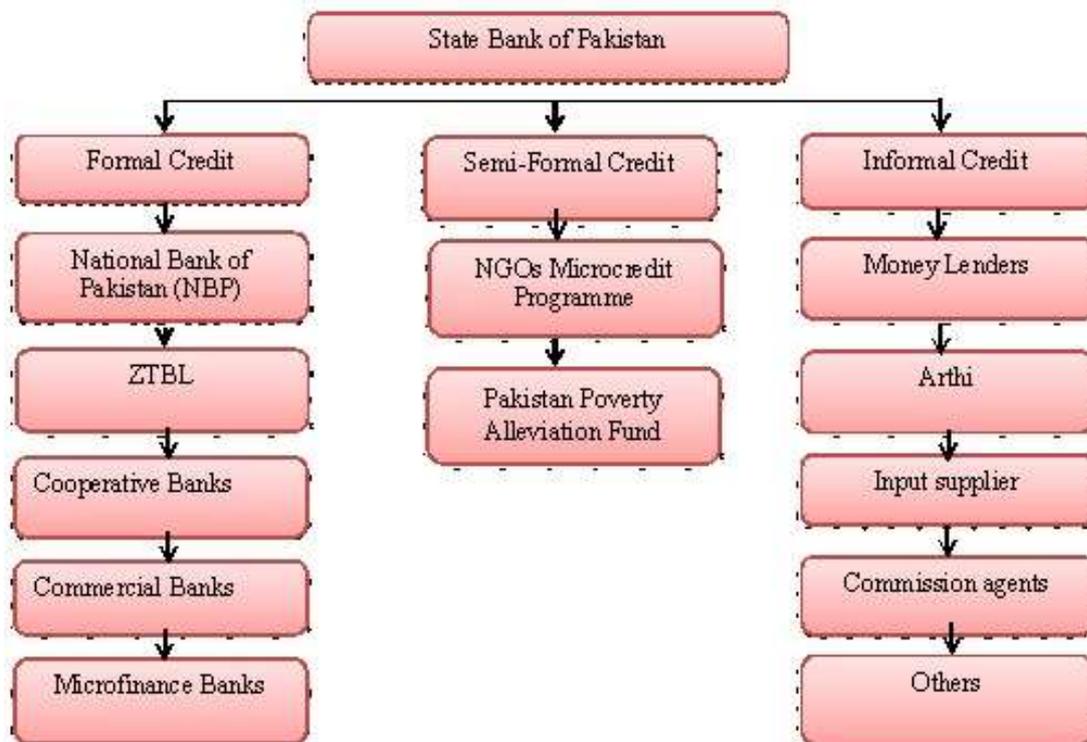
**Table 11:** Input –Output and Cost Benefit Ration calculated of Fishermen in Ibrahim Hyderi Study Area

Particulars	Ratio
Input-Output Ratio	1:1.95
Cost Benefit Ratio	1:0.95

**Purpose of taking Loan:**



**Agricultural Credit System in Pakistan**



### Study Area

