

# Impact Assessment of the Thousand Ponds Scheme



*A Study Conducted by*



***State Institute of Rural Development***

*(Nongsder, Meghalaya—793103)*



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# IMPACT ASSESSMENT OF THE THOUSAND PONDS SCHEME



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## **PREFACE**

The State Institute of Rural Development, Meghalaya was entrusted to conduct an Evaluation of Thousand Pond Scheme in Meghalaya. This is quite an extensive study. The data, information and observations were collected from Government officials, Bank officials, beneficiaries of the Thousand Pond Scheme from all the districts of the state. It took quite some time to complete the study because of the fact that data had to be collected from all over the state. However, with the tireless efforts made by my colleagues in the SIRD, this evaluation could be made successful and meaningful. I hope this will to a great extent, help in the formulation and implementation of policies in future.

I express my sincere thanks to Shri K N Kumar, IAS, Principal Secretary, Community & Rural Development, Government of Meghalaya for perusing the draft and also for guiding us in fine tuning it. Without the hard work of my colleagues and friends in the SIRD and ETC, Nongsder, I think it would not have been possible to complete this evaluation, therefore, I express my gratitude to them too.

Sd/-  
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## **CHAPTER I**

### **BACKGROUND AND OBJECTIVES**

Aquaculture is the farming of aquatic animals and plants. Globally the aquaculture sector witnessed a growth of over 8 percent per annum in the past two decades and fish production reached about 53 million tons in 2008. There are about ten million fish farmers around the world, most of them living in developing countries and using low intensity production methods. Globally 60 percent of the aquaculture is undertaken, in fresh water followed by 32 percent and 8 percent in salt and brackish water respectively. However the brackish water systems tend to concentrate on higher value species and account for 13 percent of production value (FAO 2010).

India is now the second largest producer of freshwater fish in the world. Fisheries sector occupies an important place in the socio economic development of the country. It is also a source of livelihood for 14.49 million people in the country. It is a powerful income and employment generator as it stimulates growth of a number of subsidiary industries and is a cheap and nutritious food besides being a foreign exchange earner. The contribution of fisheries to the agricultural GDP has been showing a rising trend.

Aquaculture development is an ongoing part of the extension services of the Meghalaya State Department of Fisheries with responsibilities under the District Fisheries Offices and Superintendents of Fisheries. Till 1972, the activities for promotion of fisheries in Meghalaya were part of the Department of Agriculture. In due course of time, a separate Department of Fisheries was created for better implementation of fishery related programmes in the state.

Meghalaya with its vast inland fisheries resources in the forms of rivers, reservoirs, lakes and ponds and an average rainfall of 1200 mm offers tremendous scope for developing the fisheries sector but lags behind in harnessing the potential of these natural resources. The available land in most parts of Meghalaya is uneven in terrain that makes it somewhat difficult to develop fisheries on commercial lines. However, rainwater can be impounded in small ponds for the production of fish and inland fisheries and therefore does offer the potential that can be successfully exploited by the people of the State. The State produces about 4,500 tons of fish that is insufficient for a population of 29,66,889 (2011 Census) leaving an estimated gap of 14,500 tons annually. As a consequence, most of the fish consumed in the state are imported from other states like Andhra Pradesh.

To augment the fish production in the State, the Department of Fisheries launched the credit linked Thousand Ponds Scheme in 2005 to increased the water area under fisheries. Though the TPS has been in operation since 2005 to 2011, no systematic study had been taken up to assess the impact nor had any evaluation study been conducted to make an assessment of the changes that have taken place as a result of the intervention.

A few critical remarks over the implementation of the TPS have found mentioned in the local newspapers and some reports. One such article reported that “This scheme has been implemented quite well in the state and has benefitted the farmers. It has increased their incomes and in particular the education of their children to a large extent. It has also led to farmers increasing sizes of the ponds and a few have even ventured into production of fingerlings to meet the high demand and reduce buying of fingerlings from fish farmers from Assam and across the Bangladesh border which, was not only high priced, but also had a high mortality rate.”

Another government report stated that under the ‘Thousand ponds scheme’ very little impact was felt. Weak data collection on the part of the department could be one of the reasons. Moreover, as the ponds were in remote areas and there has been no systematic effort to collect the data from private fishponds and hence it was quite possible that the fish production figures are quite inaccurate.

A report in the IBDLP publication, (In Conversation with People of Meghalaya: Aquaculture Mission, Vol. 6 October 2014) states that under the ‘Thousand ponds scheme’ (TPS), a small beginning had been made, but the scheme did not provide for any forward and backward linkage. Even when the scheme could be termed as a success, the impact of the TPS has been limited basically because it was implemented in a schematic mode and therefore the implementation process was very laborious and time-taking. Some of the components of the typically schematic approach of the TPS needed to be addressed urgently to make it a dynamic scheme. Even better, if the whole scheme itself was revamped and launched in a mission mode, it would likely be faster and better, as more appropriate technology and knowledge had since entered into the fisheries domain.

The documentation of the impact of the TPS through the present study will bring out useful information about the TPS that maybe replicated, and a direction may be obtained for future interventions.

### **1.1 Design of the intervention and delivery of the Thousand Ponds Scheme:**

With an aim to generate rural employment particularly among the educated unemployed youth and meet the gap of supply and demand in fish, as well as increase the fish production in the State, the Department of Fisheries in addition to the centrally sponsored scheme viz. Fish Farmer Development Agency (FFDA) has also introduced a number of schemes such as “Aquaculture for Development of Thousand Ponds”, Integrated Fish Farming, Community Fishery Projects, Culture and Breeding of Ornamental Fishes etc.

Given the wide gap between demand and supply, and to exploit the full potential of the sector which would help in increasing the supply as well as ensuring the economic prosperity and livelihood security of the rural people, the state government of Meghalaya introduced a scheme known as the ‘Thousand ponds scheme ‘ (TPS) in 2005. The innovative scheme with very limited investments had brought in about 500 ha of additional water area under fisheries and provided assistance to 2336 fish farmers over a six-year period. A credit of Rs 17 crores has been advanced to the farmers through this scheme.

The Thousand Ponds Scheme (TPS) had the objective of increasing the water area under fish production with a long-term development goal of strengthening the socio-economic position and physical well being of the fish farmers. This was to be achieved through increased fish production for consumption, marketing and generating employment, especially in rural areas, to raise incomes and to improve general nutritional status

The Thousand Ponds Scheme was launched vide a government notification framing the non-statutory rules for the Meghalaya Fishery grant-in aid to private fish farmers, community/ village, collective body of fishermen and Pisciculture societies for implementation of the scheme “Aquaculture Development - One Thousand Ponds”. Under this scheme the financial assistance was provided as a back-ended subsidy of 75 percent and a loan component of 25 percent based on the approved NABARD Model scheme of 2002-2003. The Meghalaya Cooperative Apex Bank (MCAB) Ltd was the banking partner for the scheme. As per the MoU signed between the Government and the MCAB Ltd, 25% of the project costs would be provided through a loan from the bank and 75% percent would be disbursed as a subsidy. A one-time financial assistance was also included for provision of inputs under the scheme. This target for the financial assistance was to the private fish farmers, community/ village cooperative societies and collective bodies of fishermen, with preference for unemployed fisheries graduates, unemployed graduates, and

educated unemployed rural youth and fish farmers. Application for financial assistance under the Thousand Ponds Scheme was to be made to the Superintendent of Fisheries together with relevant documents and other eligibility certificates.

The beneficiaries had to sign an undertaking to manage and maintain the ponds created under the scheme. Financial assistance was provided to the beneficiaries only after scrutiny and local inquiry regarding the technical feasibility of the application. The minimum water area eligible for financial assistance under the scheme should not be less than 0.20 Ha or 2000 sq meters with the cost norm of Rs. 72000/-. Persons having received previous financial assistance under other fisheries development programmes were not eligible for this scheme.

### **1.2 Management:**

The administrative set up of the scheme included setting up of the District Advisory Committee (DAC) with the Deputy Commissioner as the Chairman and members were constituted from the DRDA, Animal Husbandry and Veterinary, the Department, Registrar of Cooperative Societies, Soil & Water Conservation Department and the Meghalaya Cooperative Apex Bank Ltd. The functions of the DAC were to approve the list of beneficiaries and issue of work order to be done by the Superintendent of Fisheries. The MCAB Ltd was to release the 1<sup>st</sup> installment as soon as the projects are approved and sanctioned. Upon completion of 50% of the works the 2<sup>nd</sup> installment was released.

Periodic inspection and supervision, monitoring and evaluation were the responsibility of the Superintendents of the Fisheries Department at the District level.

At the Directorate level, the data regarding progress of work, fish production data, difficulties encountered, follow up action were to be carried out. The State Level Coordination Committee (SLCC) was set up for the purpose of monitoring the scheme. The function of the SLCC was to suggest modalities for the implementation of the scheme and take up any matters related to guidelines of the scheme as and when required.

The number of beneficiaries covered under the Scheme from 2005-06 to 2010-11 was 2336 throughout Meghalaya. The total investment was Rs. 13, 92,74,900. However, a general review of the performance of the Aquaculture-One Thousand Ponds Scheme from 2005 to 2011 indicated that in spite of the concerted efforts of the Department, the intervention was more like a schematic intervention.

### **1.3 Objectives of the Study**

This study is being conducted for documenting the working and impact of 'Thousand ponds scheme' (TPS) on the socio-economic position and the physical well being of people within the areas selected for the study. More specifically the objectives of the study are as follows:

- Examine the impact of the scheme on the family income, health, education and living standards in general among the beneficiaries.
- Assess the loan repayment performance under the scheme.
- Identify the reasons for functionality and non-functionality of the projects implemented.
- Examine the impact of the scheme on women empowerment and addressing gender issues.
- Study the role of different agencies involved in implementation of the scheme.
- Examine the attitude, behavior, beliefs and opinions of the beneficiaries toward fish farming as an enterprise.

### **1.4 Expected Outcome of the Study:**

This study will be useful in terms of throwing light on the different aspects of the 'Thousand Ponds Scheme' as well as suggest corrective measures for effective implementation of such programmes. In terms of the way forward, the study will draw lessons learned and identify key operational experiences that maybe used for future interventions and also add to the experience of the implementation of the Meghalaya State Aqua Mission (MSAM) which has a key role in changing the face of Meghalaya's economic development

## **CHAPTER II**

### **STUDY AREA AND METHODOLOGY**

#### **2.1 Study Area and Sampling**

The study was done on the interventions made in the entire state of Meghalaya. All the eleven districts of the State were covered. However, since bifurcation of new districts was not done during the TPS implementation period the reporting was done on the erstwhile seven districts of the State only.

Random sampling was done to cover minimum 20% of the beneficiaries.

#### **2.2 Methodology**

The study that has been taken up was considered on a large number of variables. The data were mainly of two kinds, namely Primary and Secondary. However, keeping in mind the dearth of the latter, primary data has been used significantly. Thus data generation was very essential. A tentative scheme of the database was as follows:

1. Primary data generation by which fieldwork and collection of first hand data through questionnaires was considered to be more appropriate.
2. Secondary information, wherever available, was used and incorporated.
3. Suitable tables, charts and graphs including the photographs have also been prepared and incorporated to support the work on different aspects.

#### **2.3 Prefield Phase:**

During this phase all relevant literatures have been consulted to understand the basics of the selected topic, which also helped in further planning of the work. At this stage, questionnaires for the beneficiaries as well as for the various levels of the Government officials including the Bank officials involved in the implementation of the scheme, have been prepared and finalized to generate data for the study.

#### **2.4 Field Work Phase:**

At this stage, canvassing of pre-tested questionnaires was taken up in all the 39 blocks of the State. Discussion with the Fisheries Department officials and Bank officials was also done to understand the Scheme thoroughly so that necessary inferences can be drawn.



Field photographs have been taken accordingly for documentation.

### **2.5 Postfield Phase:**

In this phase all the collected data have been classified, tabulated and synthesized wherever necessary for interpretation and presentation of the results. A review workshop was organized to obtain feedback and suggestions from the Department and Bank Officials.

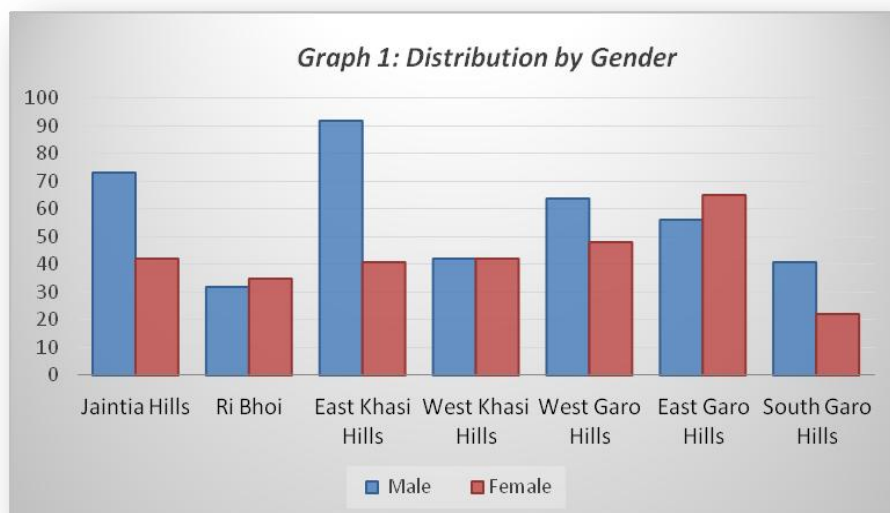
## CHAPTER III

### BENEFICIARIES' PROFILE

The total number of respondents involved in the present study is 695, consisting of 400 (57.55 %) male and 295 (42.44 %) female respondents.

**3.1. Gender status:** From the Table 1, East Khasi Hills has the highest number of male beneficiaries (69.17%) and East Garo Hills has the highest number of female beneficiaries (53.72%). Based on the sample size, it is observed that adequate coverage of women beneficiaries was done through this scheme, which is a positive trend in promoting women run enterprises, to empower them economically.

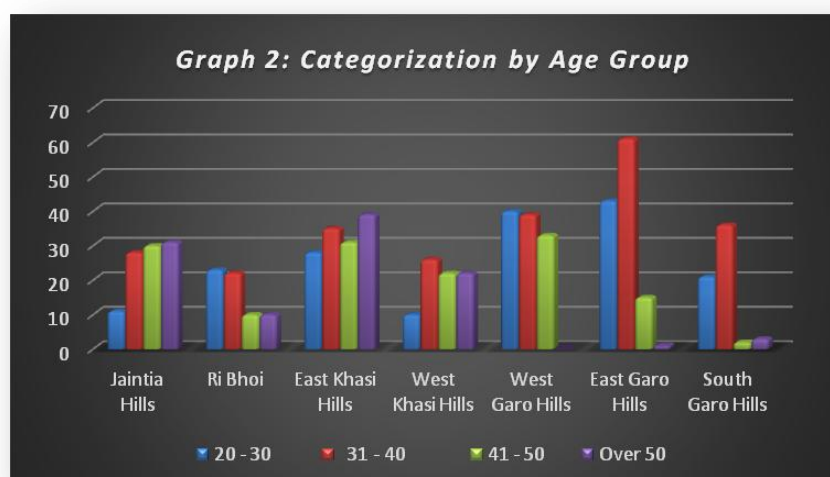
<i>Table 1: Distribution by Gender</i>		
DISTRICT	Male	Female
<i>Jaintia Hills</i>	73	42
<i>Ri Bhoi</i>	32	35
<i>East Khasi Hills</i>	92	41
<i>West Khasi Hills</i>	42	42
<i>West Garo Hills</i>	64	48
<i>East Garo Hills</i>	56	65
<i>South Garo Hills</i>	41	22
MEGHALAYA	<b>400</b>	<b>295</b>
Percentage	<b>57.55 %</b>	<b>42.44 %</b>



**3.2 Age Group:** From the Table 2, it can be seen that 176 respondents belong to the age group of 20 to 30 years of age, 247 belong to the age group of 31 to 40 years, 143 belong to 41 to 50 years of age, and 106 belong to age group of over 50 years. About **36.77%** and **26.19 %** of beneficiaries belong to the age group 31-40 and 20-30 respectively. As the scheme focused on providing assistance mainly to the educated unemployed youth, it was found that larger number of beneficiaries belonging to the age group of 20-30 years and 31-40 years were provided assistance. Hence it can be assumed that one of the major objectives of providing employment opportunity to the rural youth was met.

<b>Table 2 : Categorization by Age Group</b>				
<b>DISTRICT</b>	<b>20 – 30</b>	<b>31 - 40</b>	<b>41 - 50</b>	<b>Over 50</b>
Jaintia Hills	11	28	30	31
Ri Bhoi	23	22	10	10
East Khasi Hills	28	35	31	39
West Khasi Hills	10	26	22	22
West Garo Hills	40	39	33	0
East Garo Hills	43	61	15	1
South Garo Hills	21	36	2	3
<b>MEGHALAYA</b>	<b>176</b>	<b>247</b>	<b>143</b>	<b>106</b>
<i>Percentage</i>	<b>26.19%</b>	<b>36.77 %</b>	<b>21.27 %</b>	<b>15.77 %</b>

*\*23 respondents did not report of their age*

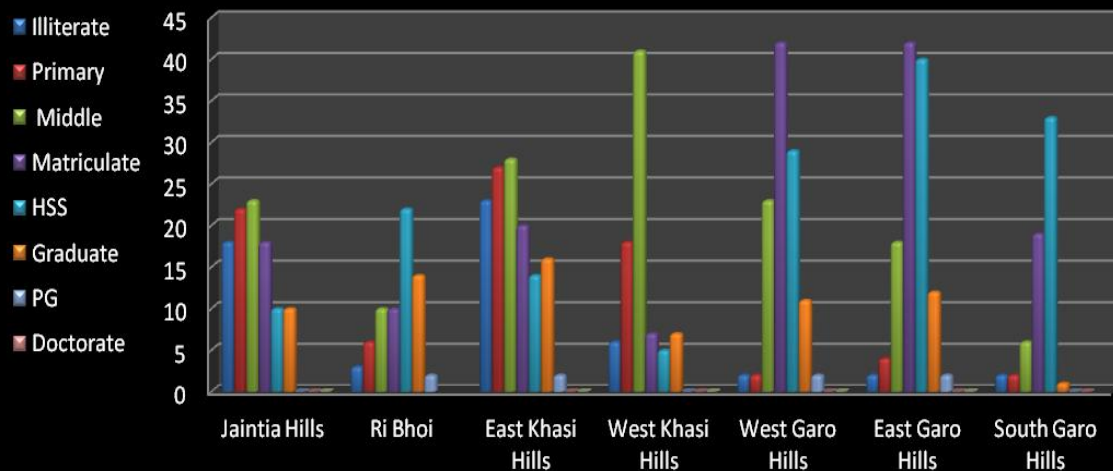


**3.3 Educational Status:** On assessment of the educational status of the respondents, the figures in Table 3 show that **23.37 %** of the respondents are matric pass, **22.63%** have passed their higher secondary education and **22.04 %** have completed middle school. Graduates (10.50 %) and Post Graduates (1.18%) also availed the Thousand Ponds Scheme. It can be inferred that larger number of beneficiaries covered under TPS belonged to the educated class from matriculate and above (79.73%). The beneficiaries under the primary level schooling and illiterate category accounted for 20.27%.

<b>Table 3: Educational Status of Beneficiaries</b>								
<b>DISTRICTS</b>	<b>Illiterate</b>	<b>Primary</b>	<b>Middle</b>	<b>Matriculate</b>	<b>Higher Secondary</b>	<b>Graduate</b>	<b>Post Graduate</b>	<b>Doctorate</b>
Jaintia Hills	18	22	23	18	10	10	-	-
Ri Bhoi	3	6	10	10	22	14	2	-
East Khasi Hills	23	27	28	20	14	16	2	-
West Khasi Hills	6	18	41	7	5	7	-	-
West Garo Hills	2	2	23	42	29	11	2	-
East Garo Hills	2	4	18	42	40	12	2	-
South Garo Hills	2	2	6	19	33	1	-	-
<b>MEGHALAYA</b>	<b>56</b>	<b>81</b>	<b>149</b>	<b>158</b>	<b>153</b>	<b>71</b>	<b>8</b>	<b>-</b>
<i>Percentage</i>	<b>8.28 %</b>	<b>11.92%</b>	<b>22.04 %</b>	<b>23.37 %</b>	<b>22.63 %</b>	<b>10.50 %</b>	<b>1.18 %</b>	<b>-</b>

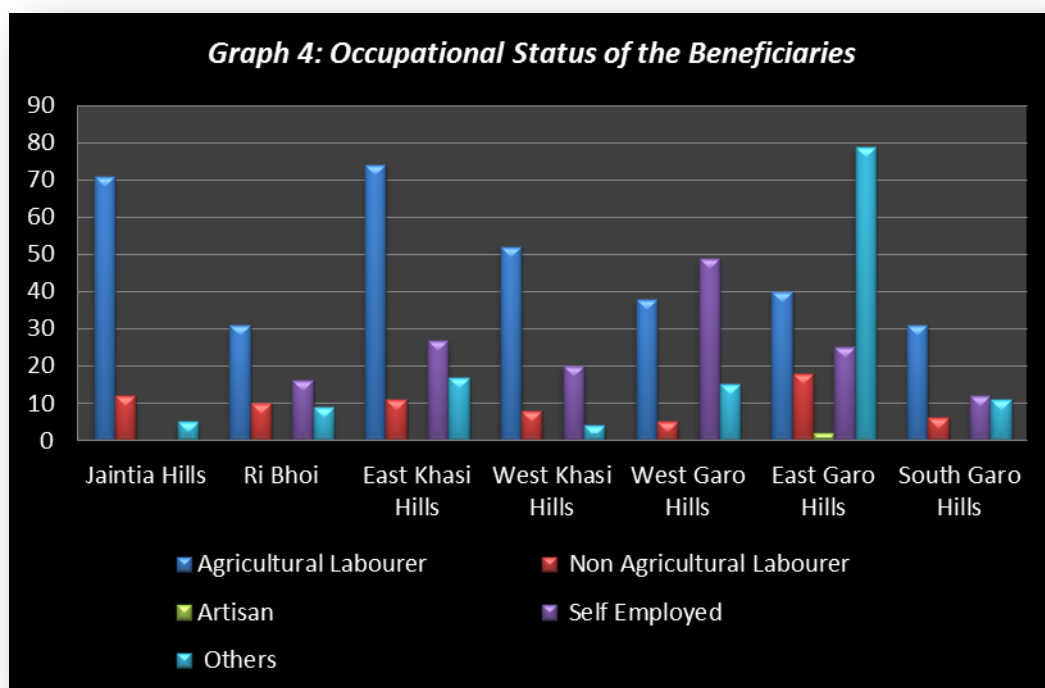
\*19 respondents did not mention their educational qualification

**Graph 3: Educational Status of Beneficiaries**



**3.4 Occupational Status:** The occupational status of the respondents constitute mainly of agricultural labourers (48.49%), Non Agricultural Labourers (10.07%), entrepreneurs of diverse activities (21.01%) and others like teachers, weavers etc., (20.14%). It was observed that most of the respondents were engaged in other primary livelihood activities besides fishery. Though in many regions of the state, fishery is not a traditional activity, beneficiaries came forward to avail the benefits that could be derived from the scheme.

<b>Table 4 :Occupational Status of Beneficiaries</b>					
<b>DISTRICT</b>	<b>Agricultural Labourer</b>	<b>Non Agricultural Labourer</b>	<b>Artisan</b>	<b>Self Employed</b>	<b>Others</b>
Jaintia Hills	71	12	0	0	5
Ri Bhoi	31	10	0	16	9
East Khasi Hills	74	11	0	27	17
West Khasi Hills	52	8	0	20	4
West Garo Hills	38	5	0	49	15
East Garo Hills	40	18	2	22	79
South Garo Hills	31	6	0	12	11
<b>MEGHALAYA</b>	<b>337</b>	<b>70</b>	<b>2</b>	<b>146</b>	<b>140</b>
<i>Percentage</i>	<b>48.49 %</b>	<b>10.07 %</b>	<b>0.29 %</b>	<b>21.01 %</b>	<b>20.14 %</b>



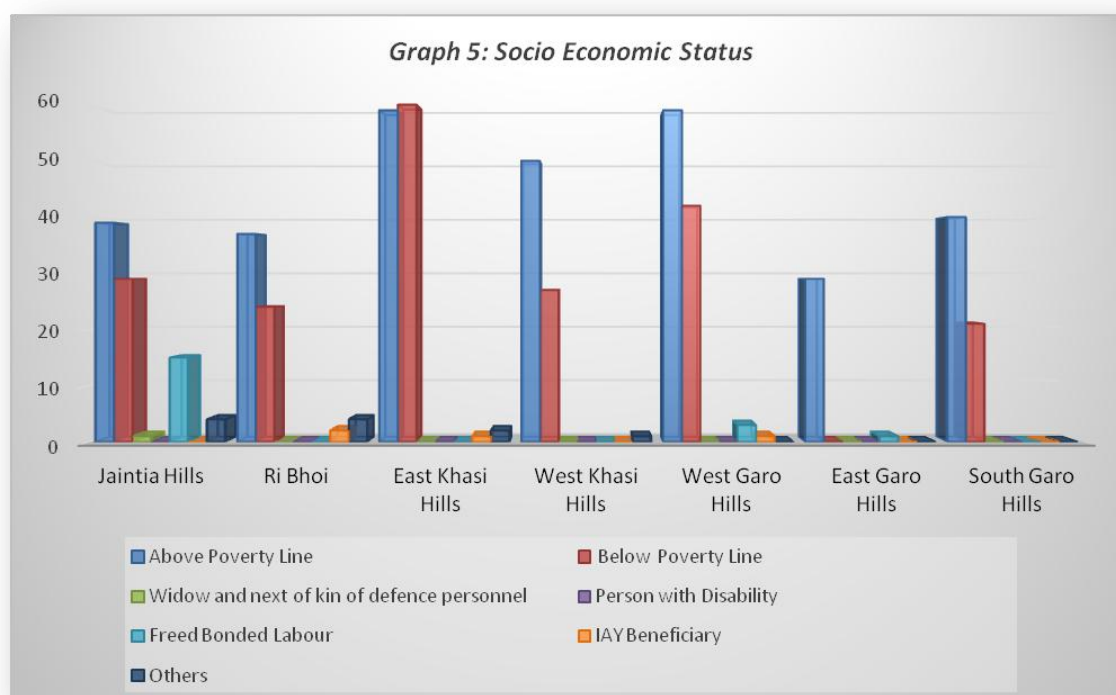


**3.5 Socio Economic Status:** From the 551 respondents who revealed their social and economic status it was found that most of the beneficiaries belonged to the above poverty line category (58.80%). The percentage of BPL beneficiaries was 41.02%.

**Table 5: Socio Economic Status**

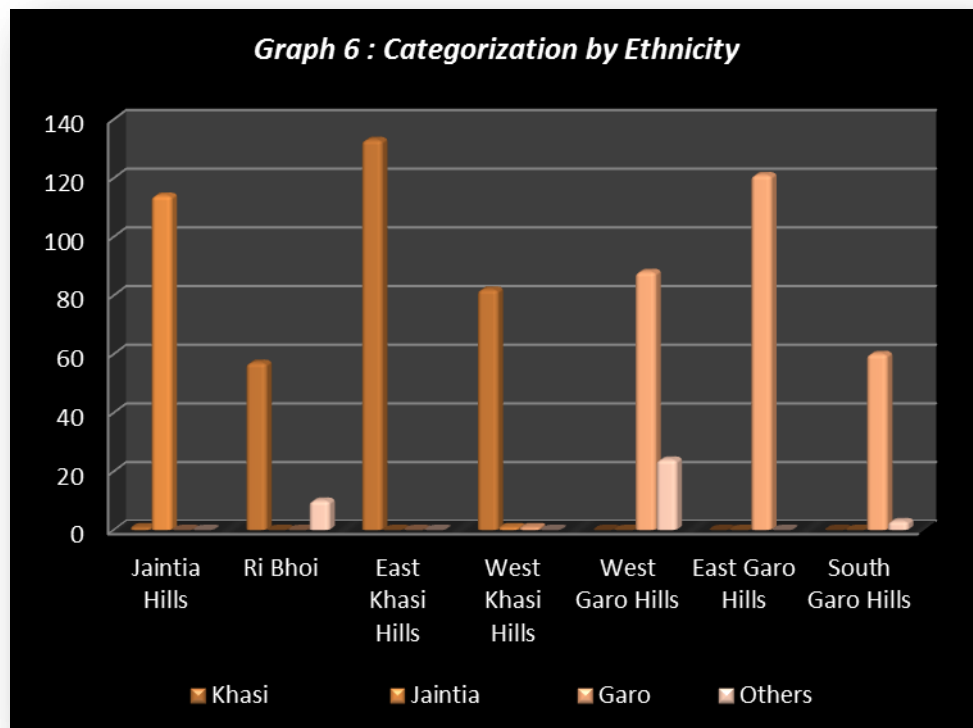
DISTRICT	Above Poverty Line	Below Poverty Line	Widow and next of kin of defence personnel	Person with Disability	Freed Bonded Labour	IAY Beneficiary	Others
Jaintia Hills	39	29	1	-	15	-	4
Ri Bhoi	37	24	-	-	-	2	4
East Khasi Hills	59	60	-	-	-	1	2
West Khasi Hills	50	27	-	-	-	-	1
West Garo Hills	59	42	-	-	3	1	-
East Garo Hills	29	-	-	-	1	-	-
South Garo Hills	40	21	-	-	-	-	-
<b>MEGHALAYA</b>	<b>313</b>	<b>203</b>	<b>1</b>	<b>0</b>	<b>19</b>	<b>4</b>	<b>11</b>
<b>Percentage</b>	<b>56.80 %</b>	<b>36.84 %</b>	<b>0.18 %</b>	<b>0</b>	<b>3.44 %</b>	<b>0.72 %</b>	<b>1.99 %</b>

**Graph 5: Socio Economic Status**



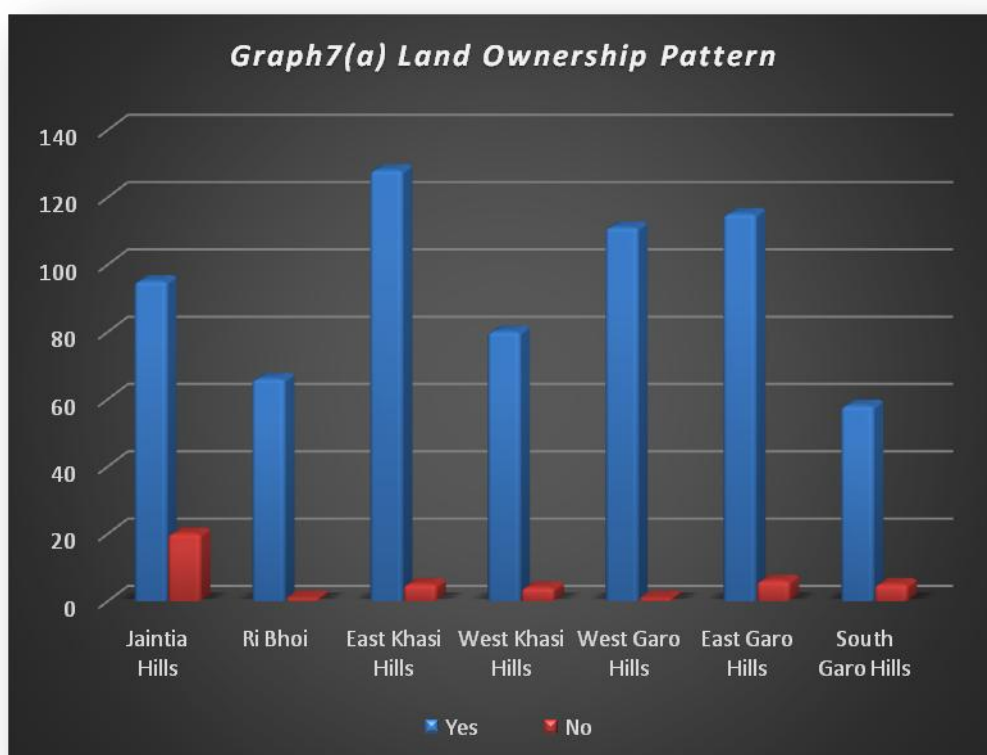
**3.6 Ethnicity:** All the three major tribes of Meghalaya dominated the number of beneficiaries under the scheme. The scheme also took care of other communities residing in the state of Meghalaya like the Hajong, Rabha, Bodo and Karbi and 5.32% of the beneficiaries fall under this category and specifically in the districts of Ri Bhoi, West Garo Hills and South Garo Hills.

<b>Table 6 : Categorization by Ethnicity</b>				
<b>DISTRICTS</b>	<b>Khasi</b>	<b>Jaintia</b>	<b>Garo</b>	<b>Other</b>
Jaintia Hills	1	114	-	-
Ri Bhoi	57	-	-	10
East Khasi Hills	133	-	-	-
West Khasi Hills	82	1	1	-
West Garo Hills	-	-	88	24
East Garo Hills	-	-	121	-
South Garo Hills	-	-	60	3
<b>MEGHALAYA</b>	<b>273</b>	<b>115</b>	<b>270</b>	<b>37</b>
<i>Percentage</i>	<b>39.28 %</b>	<b>16.55%</b>	<b>38.85%</b>	<b>5.32%</b>

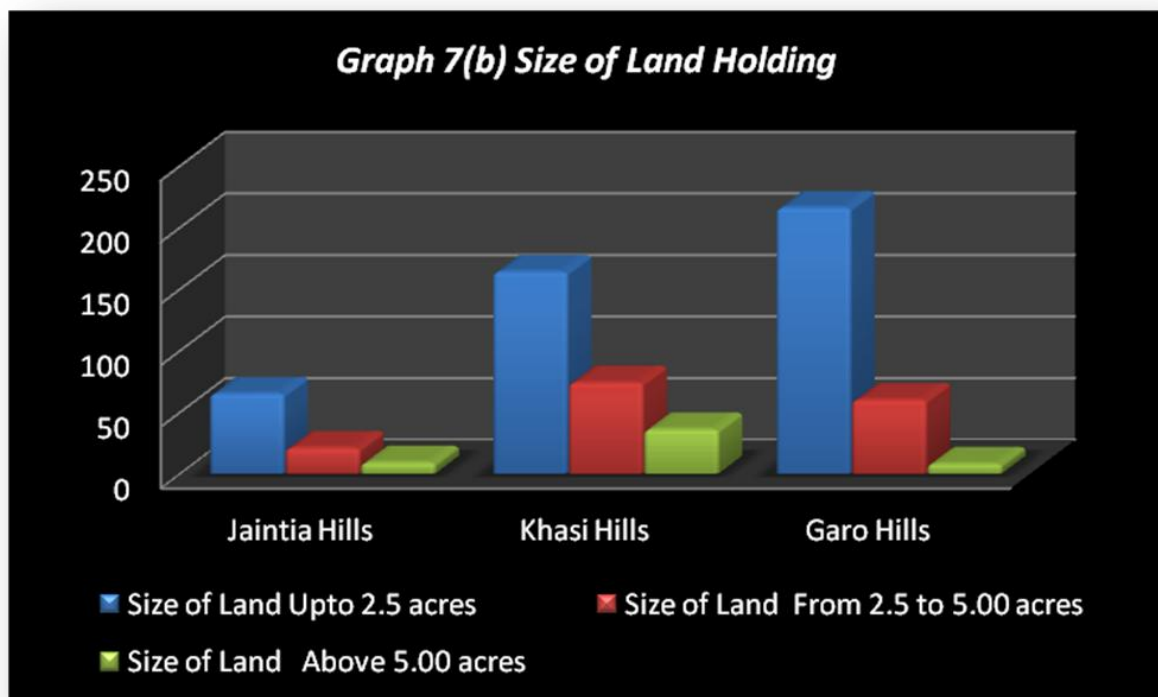


**3.7 Land Ownership Pattern:** The pattern of land ownership was analysed and it was found that 93.96% owned land and 6.04% did not own land and obtained the land on lease.

<b>Table 7 (a) Land Ownership Pattern</b>		
<b>DISTRICTS</b>	<b>Yes</b>	<b>No</b>
Jaintia Hills	95	20
Ri Bhoi	66	1
East Khasi Hills	128	5
West Khasi Hills	80	4
West Garo Hills	111	1
East Garo Hills	115	6
South Garo Hills	58	5
<b>MEGHALAYA</b>	<b>653</b>	<b>42</b>
<i>Percentage</i>	<b>93.96 %</b>	<b>6.04%</b>

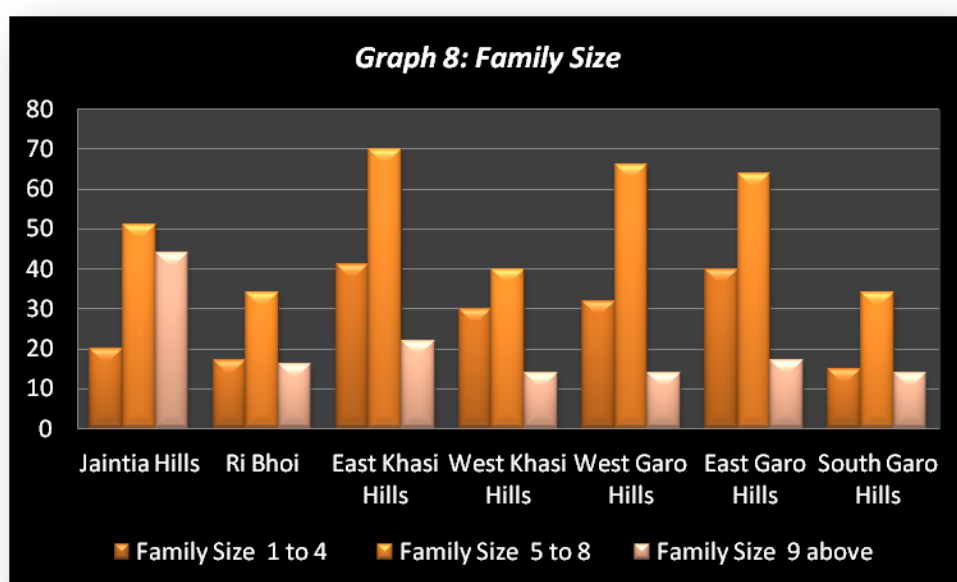


<b>Table 7(b) Size of Land</b>						
	<b>Upto 2.5 acres</b>		<b>From 2.5 to 5.00 acres</b>		<b>Above 5.00 acres</b>	
	<b>Nos.</b>	<b>%</b>	<b>Nos.</b>	<b>%</b>	<b>Nos.</b>	<b>%</b>
<b>Jaintia Hills</b>	<b>65</b>	<b>14.61</b>	<b>21</b>	<b>13.55</b>	<b>9</b>	<b>16.98</b>
<b>Khasi Hills</b>	<b>164</b>	<b>36.85</b>	<b>74</b>	<b>47.74</b>	<b>36</b>	<b>67.92</b>
<b>Garo Hills</b>	<b>216</b>	<b>48.54</b>	<b>60</b>	<b>38.71</b>	<b>8</b>	<b>15.09</b>
<b>Meghalaya</b>	<b>445</b>	<b>68.15</b>	<b>155</b>	<b>23.74</b>	<b>53</b>	<b>8.12</b>



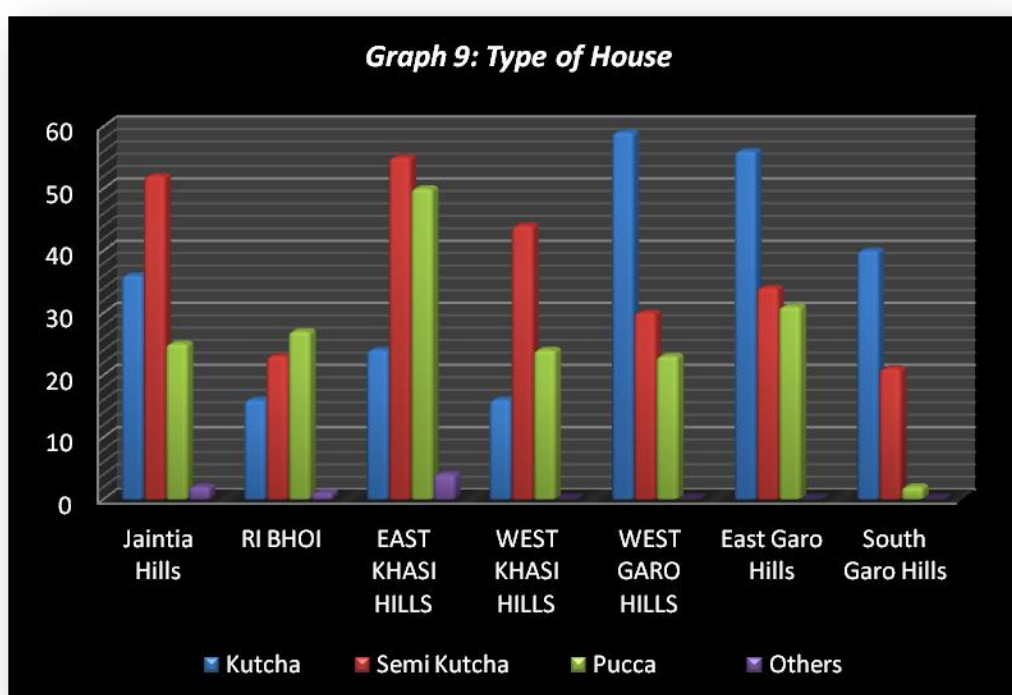
**3.8 Family Size:** From Table 8, 51.65% of the respondents have family sizes of 5 to 8 members, 28.06% of them have family sizes of 1 to 4 members and 20.29% have family sizes of 9 to 14 members.

<b>Table 8 : Family Size</b>			
<b>DISTRICTS</b>	<b>1 to 4</b>	<b>5 to 8</b>	<b>9 and above</b>
JAINTIA HILLS	20	51	44
RI BHOI	17	34	16
EAST KHASI HILLS	41	70	22
WEST KHASI HILLS	30	40	14
WEST GARO HILLS	32	66	14
EAST GARO HILLS	40	64	17
SOUTH GARO HILLS	15	34	14
<b>MEGHALAYA</b>	<b>195</b>	<b>359</b>	<b>141</b>
<b>Percentage</b>	<b>28.06%</b>	<b>51.65%</b>	<b>20.29%</b>



**3.9 Type of Houses:** Although majority of the respondents who availed the Thousand Ponds Scheme belong to the above poverty line category, yet it is observed that 72.81% of the beneficiaries still live in semi kutcha and kutcha houses and only a mere 26.18% of them live in pucca houses.

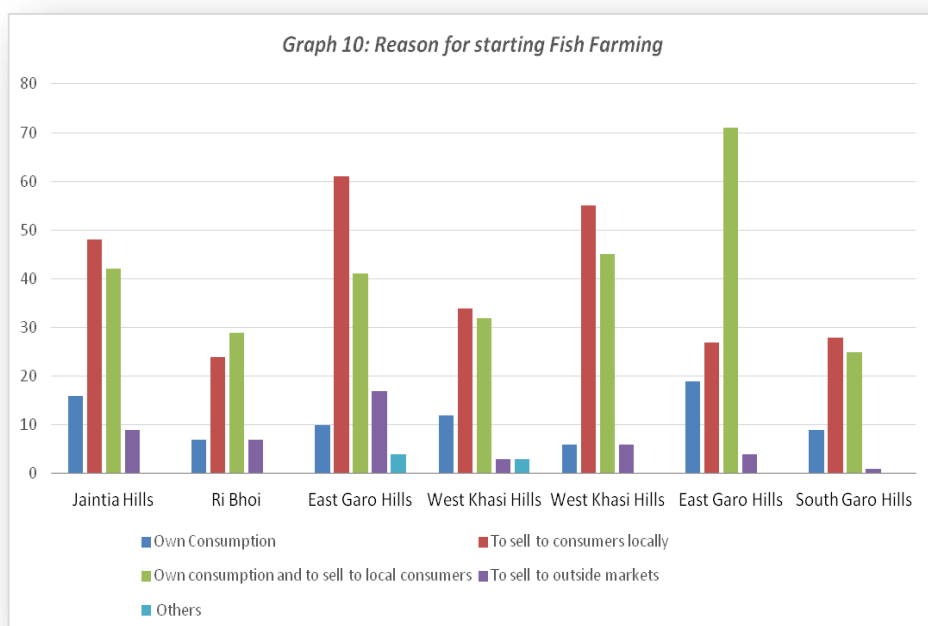
<b>Table 9 : Type of House</b>				
<b>DISTRICTS</b>	<b>Kutcha</b>	<b>Semi Kutcha</b>	<b>Pucca</b>	<b>Any other</b>
Jaintia Hills	36	52	25	2
Ri Bhoi	16	23	27	1
East Khasi Hills	24	55	50	4
West Khasi Hills	16	44	24	-
West Garo Hills	59	30	23	-
East Garo Hills	56	34	31	-
South Garo Hills	40	21	2	-
<b>MEGHALAYA</b>	<b>247</b>	<b>259</b>	<b>182</b>	<b>7</b>
<b>Percentage</b>	<b>35.54%</b>	<b>37.27%</b>	<b>26.18%</b>	<b>1.01%</b>



**3.10 Reasons for starting fish farming:** As one of the main objectives of the Thousand Ponds Scheme was to provide employment to the unemployed educated youth, about 87.62% of the beneficiaries revealed that their objective of availing the scheme was to set up a profitable enterprise whereby selling of their produce would generate income and enhance their living standards. Another positive point that can be inferred from Table 10 is that most of the beneficiaries aspired to enhance their production and marketing skills to sell more produce at the local and other bigger markets.



<b>Table 10 : Reasons for starting fish farming</b>					
<b>DISTRICTS</b>	<b>Own Consumption</b>	<b>To sell to consumers locally</b>	<b>Own consumption and to sell to local consumers</b>	<b>To sell to outside markets</b>	<b>Any others</b>
Jaintia Hills	16	48	42	9	0
Ri Bhoi	7	24	29	7	0
East Khasi Hills	10	61	41	17	4
West Khasi Hills	12	34	32	3	3
West Garo Hills	6	55	45	6	0
East Garo Hills	19	27	71	4	0
South Garo Hills	9	28	25	1	
<b>MEGHALAYA</b>	<b>79</b>	<b>277</b>	<b>285</b>	<b>47</b>	<b>7</b>
<b>Percentage</b>	<b>11.37 %</b>	<b>39.85%</b>	<b>41.01%</b>	<b>6.76%</b>	<b>1.01%</b>

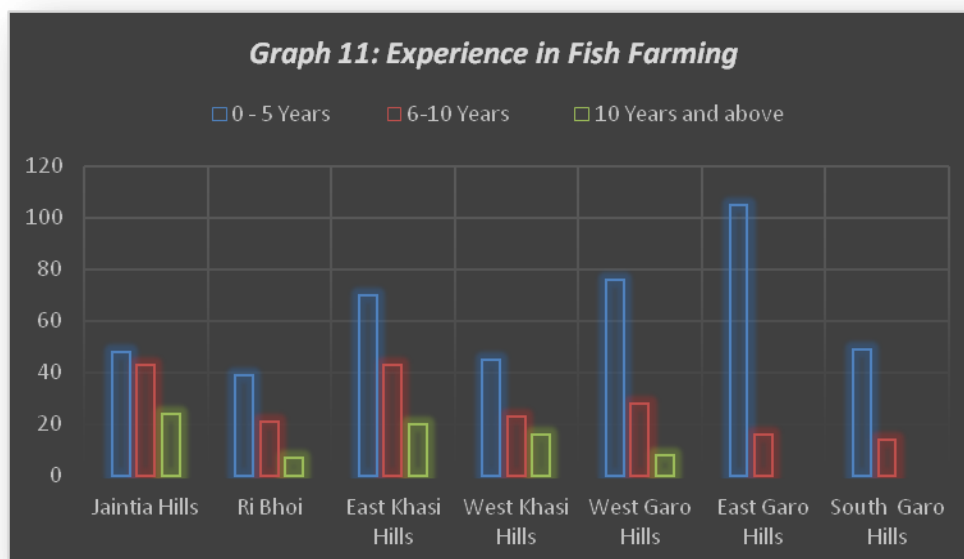


**3.11 Experience in fish farming:** In Meghalaya fish farming activity is a secondary occupation and not a traditional occupation of the rural people in many parts of the state. However, due to its immense potential to provide employment and generate high income, the Thousand Ponds Scheme was availed by rural people from all walks of life in all the districts of the state covering 2336 beneficiaries. A majority of the beneficiaries availing the scheme were new to fish farming activity (62.16%) and these comprised of rural unemployed youth and 37.84% were fish farmers already involved in the activity.

**Table 11 : Experience in Fish Farming**

DISTRICTS	0 - 5 Years	6-10 Years	10 Years and above
Jaintia Hills	48	43	24
Ri Bhoi	39	21	7
East Khasi Hills	70	43	20
West Khasi Hills	45	23	16
West Garo Hills	76	28	8
East Garo Hills	105	16	-
South Garo Hills	49	14	-
<b>MEGHALAYA</b>	<b>432</b>	<b>188</b>	<b>75</b>
<b>Percentage</b>	<b>62.16 %</b>	<b>27.05%</b>	<b>10.79%</b>

**Graph 11: Experience in Fish Farming**

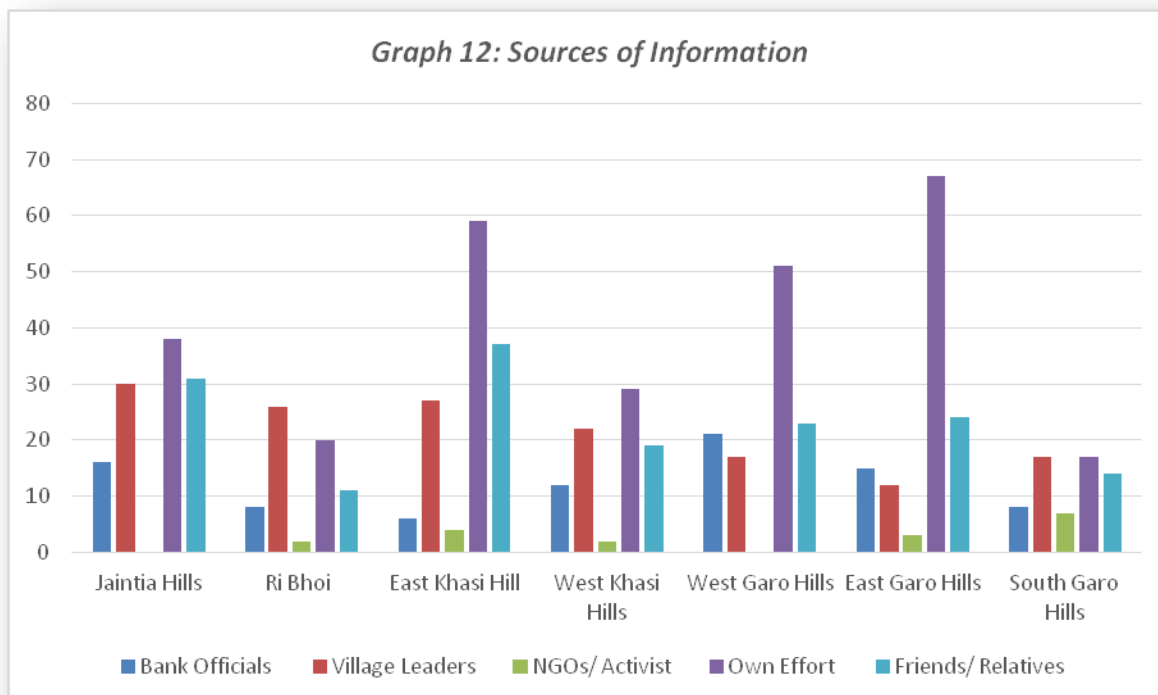


## Chapter IV

### IMPLEMENTATION OF THOUSAND POND SCHEME

**4.1. Source of Information about Thousand Pond Scheme:** It was observed that a larger number of respondents knew about the scheme through the advertisements issued by the Department of Fisheries and therefore came forward on their own (40.43%) to avail the scheme. There were also other agencies and individuals involved in dissemination of information regarding the Thousand Ponds Scheme. From the table below (Table 12), it can be inferred that 12.37% of the respondents received information from bank officials, 21.73% from Village leaders, 2.59% from NGOs existing at the villages and 22.88% obtained information from relatives and friends.

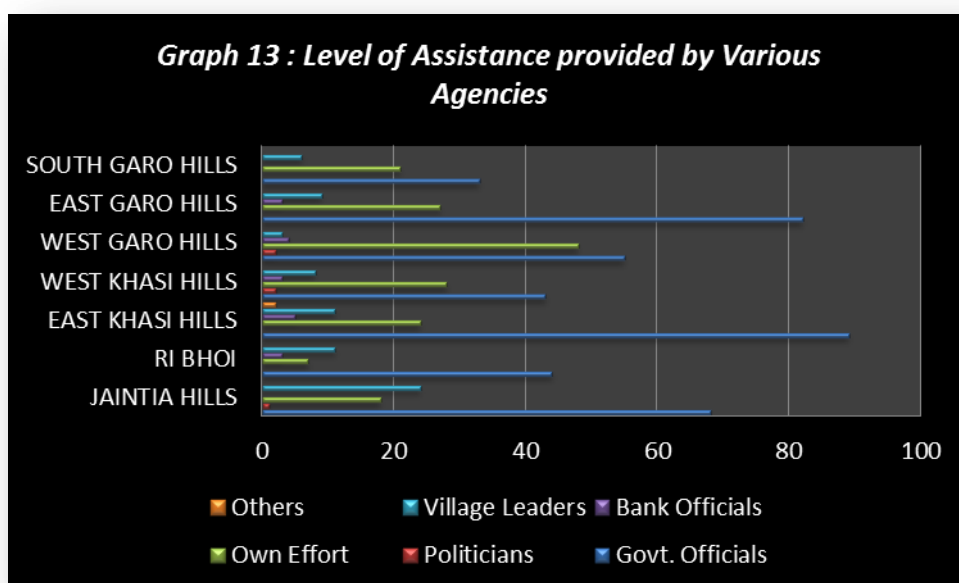
<b>Table 12 : Source of Information</b>					
<b>DISTRICTS</b>	<b>Bank Officials</b>	<b>Village Leaders</b>	<b>NGOs/ Activist</b>	<b>Own Effort</b>	<b>Others (Friends/ Relatives)</b>
Jaintia Hills	16	30	-	38	31
Ri Bhoi	8	26	2	20	11
East Khasi Hills	6	27	4	59	37
West Khasi Hills	12	22	2	29	19
West Garo Hills	21	17	-	51	23
East Garo Hills	15	12	3	67	24
South Garo Hills	8	17	7	17	14
<b>MEGHALAYA</b>	<b>86</b>	<b>151</b>	<b>18</b>	<b>281</b>	<b>159</b>
<b>Percentage</b>	<b>12.37%</b>	<b>21.73%</b>	<b>2.59%</b>	<b>40.43%</b>	<b>22.88%</b>



## 4.2. Selection Process

**4.2.1 Level of Assistance provided by Various Agencies:** Many agencies assisted fish farmers in the process of selection as a beneficiary under the Thousand Ponds Scheme. It can be seen that the officials of the Department provided the maximum assistance to beneficiaries where 414 respondents (59.57%) were assisted by them. 24.89% of the beneficiaries availed the scheme through their own efforts. Table 13 illustrates the assistance provided to beneficiaries by other agencies and individuals.

<b>Table 13 : Level of Assistance provided by Various Agencies</b>							
<b>DISTRICTS</b>	<b>Govt. Officials</b>	<b>Politicians</b>	<b>Own Effort</b>	<b>Bank Officials</b>	<b>Village Leaders</b>	<b>NGOs/ Activist</b>	<b>Other</b>
Jaintia Hills	68	1	18	-	24	-	4
Ri Bhoi	44	-	7	3	11	-	2
East Khasi Hills	89	-	24	5	11	2	2
West Khasi Hills	43	2	28	3	8	-	-
West Garo Hills	55	2	48	4	3	-	-
East Garo Hills	82	-	27	3	9	-	-
South Garo Hills	33	-	21	-	6	-	3
<b>MEGHALAYA</b>	<b>414</b>	<b>5</b>	<b>173</b>	<b>18</b>	<b>72</b>	<b>2</b>	<b>11</b>
<b>Percentage</b>	<b>59.57%</b>	<b>0.72%</b>	<b>24.89%</b>	<b>2.59%</b>	<b>10.36%</b>	<b>0.29%</b>	<b>1.58%</b>

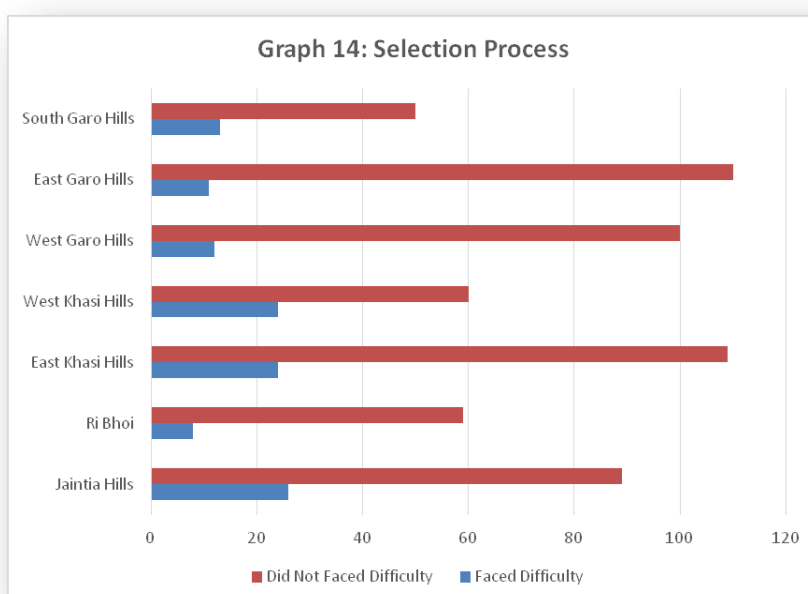


**4.2.2 Problems Faced To Be Selected As Beneficiary:** In the process of selection of beneficiaries, it was reported that some of the beneficiaries availing the scheme (about 16.98%) face problems in getting selected because of the following issues:

- Incidence of poverty of some fish farmers
- High travelling expenditure that had to be incurred in visiting the department and the banks

- iii. Some fish farmers were of the opinion that a lot of documents were required to be submitted for which they had to visit the department several times.
- iv. Some fish farmers received late information on the Thousand Ponds Scheme which resulted in delay of application.

<b>Table 14: Selection Process</b>		
<b>DISTRICTS</b>	<b>Faced Difficulty</b>	<b>Did Not Faced Difficulty</b>
Jaintia Hills	26	89
Ri Bhoi	8	59
East Khasi Hills	24	109
West Khasi Hills	24	60
West Garo Hills	12	100
East Garo Hills	11	110
South Garo Hills	13	50
<b>MEGHALAYA</b>	<b>118</b>	<b>577</b>
<b>Percentage</b>	<b>16.98%</b>	<b>83.02%</b>

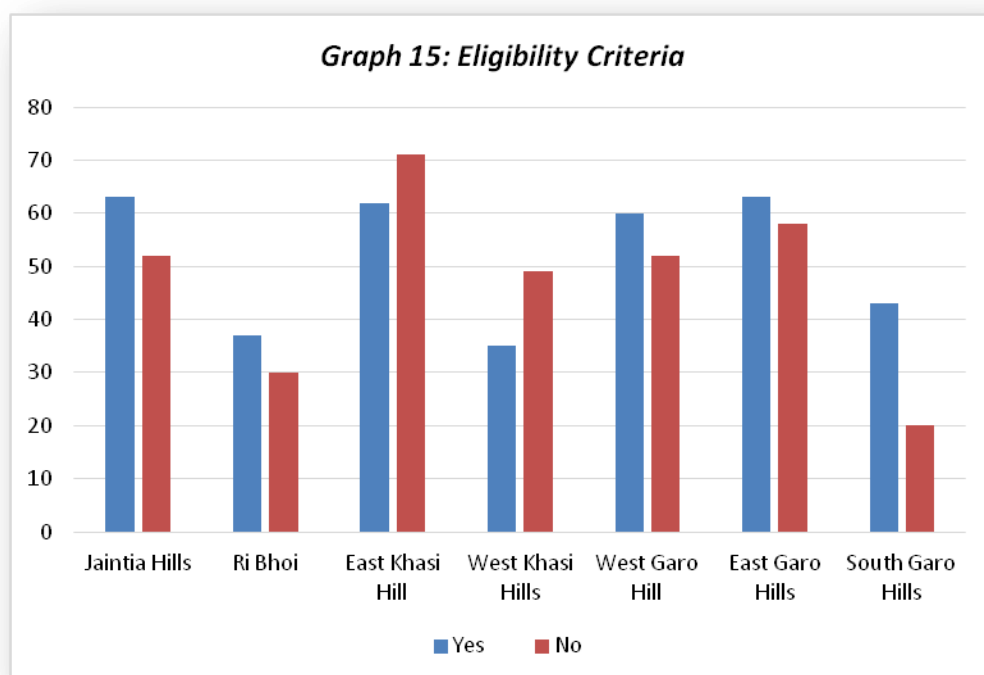




**4.2.3 Awareness of the selection criteria:** The Thousand Ponds Scheme has laid down specific eligibility criteria viz., the minimum water area eligible for financial assistance under the scheme (0.20 Ha or 2000 sq meters) and persons having received previous financial assistance under other fisheries development programmes were not eligible for this scheme. On being selected as a beneficiary, an undertaking to manage and maintain the ponds created under the scheme had to be signed.

In the present study, it was observed that 47.77% did not have knowledge on the eligibility criteria of the scheme. The respondents felt that it was difficult to understand the advertisements issued by the department. With regard to this issue, officials of the department were of the opinion that some beneficiaries do not attend the awareness programmes and trainings conducted by the department but instead the beneficiaries send other people to represent them to the trainings.

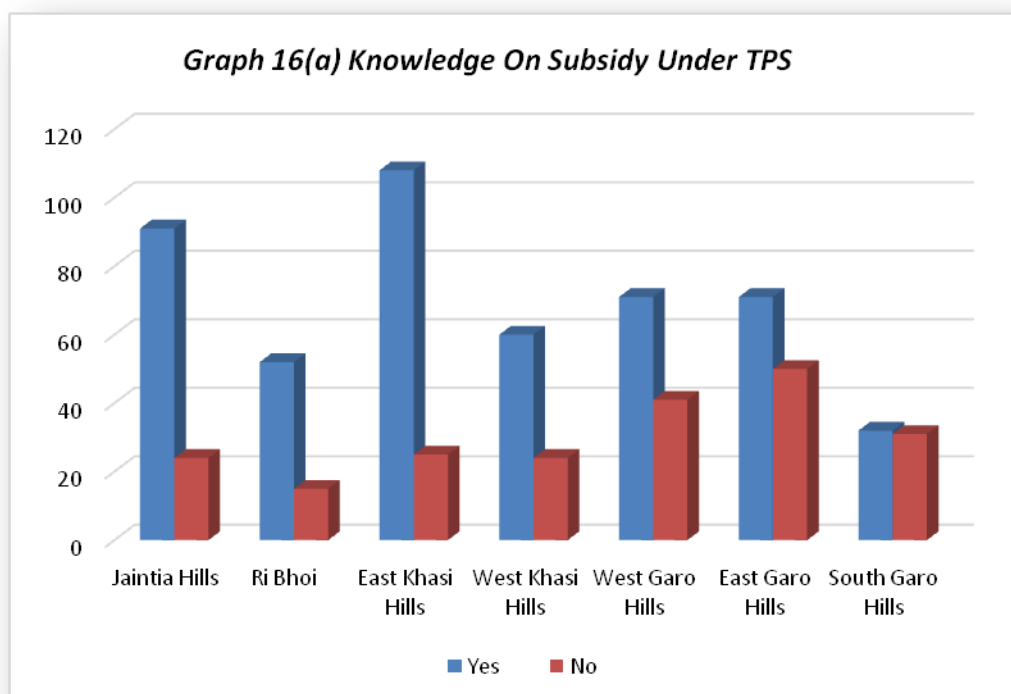
<b>Table 15 : Knowledge on Eligibility Criteria</b>		
<b>DISTRICTS</b>	<b>Yes</b>	<b>No</b>
Jaintia Hills	63	52
Ri Bhoi	37	30
East Khasi Hills	62	71
West Khasi Hills	35	49
West Garo Hills	60	52
East Garo Hills	63	58
South Garo Hills	43	20
<b>MEGHALAYA</b>	<b>363</b>	<b>332</b>
<i>Percentage</i>	<b>52.23%</b>	<b>47.77%</b>



**4.3. Knowledge about the subsidy provided:** The Thousand ponds Scheme provides a back ended subsidy of 75% and a loan components of 25% to beneficiaries availing this scheme. From the table below, 69.78% of the respondents had knowledge on the subsidy component provided under the scheme while 30.22% of them were not aware of this provision.

Some of the problems faced in availing subsidy by the respondents are that they had to visit the department several times incurring a high travelling cost and 66 of them suffered from delay in receiving the subsidy. 7 beneficiaries stated that they had to surrender a part of the subsidy as gratification but it was not clear to whom this gratification was offered.

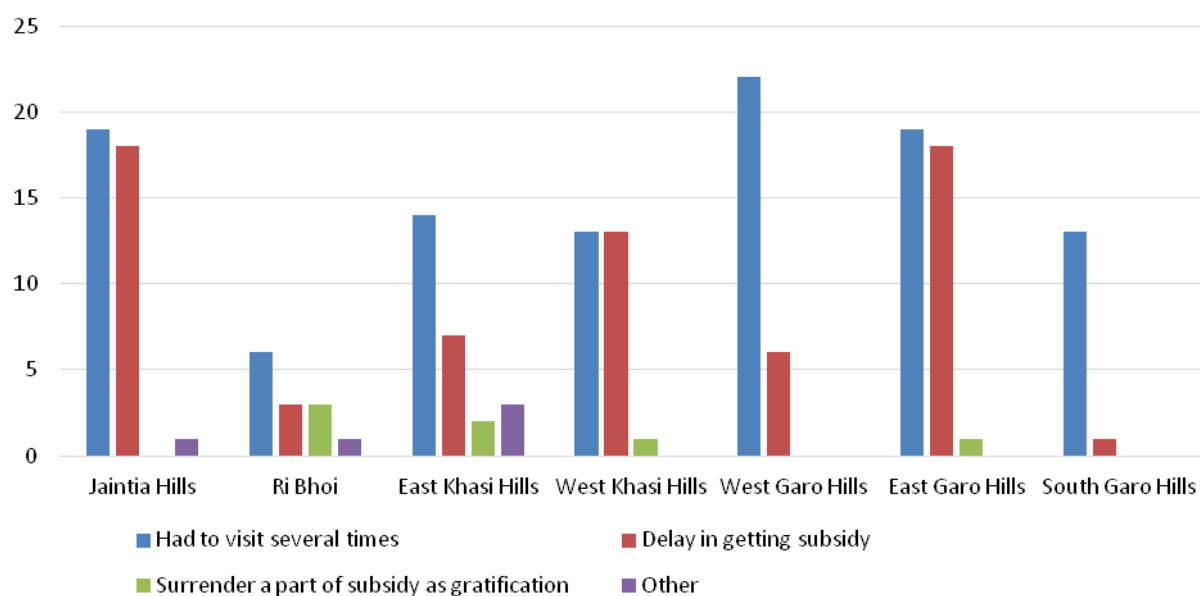
<b>Table 16(a) Knowledge On Subsidy Under TPS</b>		
<b>DISTRICTS</b>	<b>Yes</b>	<b>No</b>
Jaintia Hills	91	24
Ri Bhoi	52	15
East Khasi Hills	108	25
West Khasi Hills	60	24
West Garo Hills	71	41
East Garo Hills	71	50
South Garo Hills	32	31
<b>MEGHALAYA</b>	<b>485</b>	<b>210</b>
<b>Percentage</b>	<b>69.78%</b>	<b>30.22%</b>



**Table 16(b) Problems Faced in Availing Subsidy**

<b>DISTRICTS</b>	<b>Had to visit several times</b>	<b>Delay in getting subsidy</b>	<b>Surrender a part of subsidy as gratification</b>	<b>Any other</b>
Jaintia Hills	19	18	-	1
Ri Bhoi	6	3	3	1
East Khasi Hills	14	7	2	3
West Khasi Hills	13	13	1	-
West Garo Hills	22	6	-	-
East Garo Hills	19	18	1	-
South Garo Hills	13	1	-	-
<b>MEGHALAYA</b>	<b>106</b>	<b>66</b>	<b>7</b>	<b>5</b>
<b>Percentage</b>	<b>57.61%</b>	<b>35.87%</b>	<b>3.8%</b>	<b>2.72%</b>

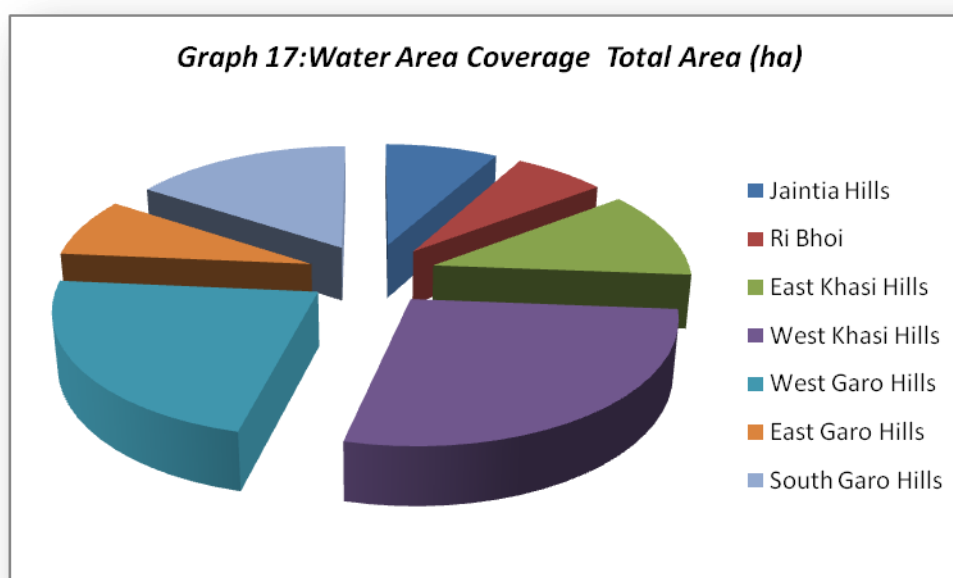
**Graph 16(b) Problems Faced In Availing Subsidy**



#### **4.4. DETAIL OF PONDS CREATED UNDER THE THOUSAND PONDS SCHEME:**

**4.4.1 Area of ponds under TPS:** The scheme was launched with an aim to increase water area under fisheries and where assistance was provided to fish farmers to develop fish ponds measuring 0.2 ha (2000 sq. m) and above. The total area of ponds of the respondents pertaining to this study since inception is recorded to be 190.12 ha (Table 17). It may be mentioned that there was no accuracy in reporting the water area created in most of the cases and some of the respondents were not aware of the size of their ponds. The largest pond of 3.2 ha was reported in West Khasi Hills.

<b>Table 17: Water Area Coverage</b>	
<b>DISTRICTS</b>	<b>Total Area (ha)</b>
Jaintia Hills	15.50
Ri Bhoi	12.63
East Khasi Hills	21.95
West Khasi Hills	52.74
West Garo Hills	43.07
East Garo Hills	14.84
South Garo Hills	30.19
<b>MEGHALAYA</b>	<b>190.12</b>

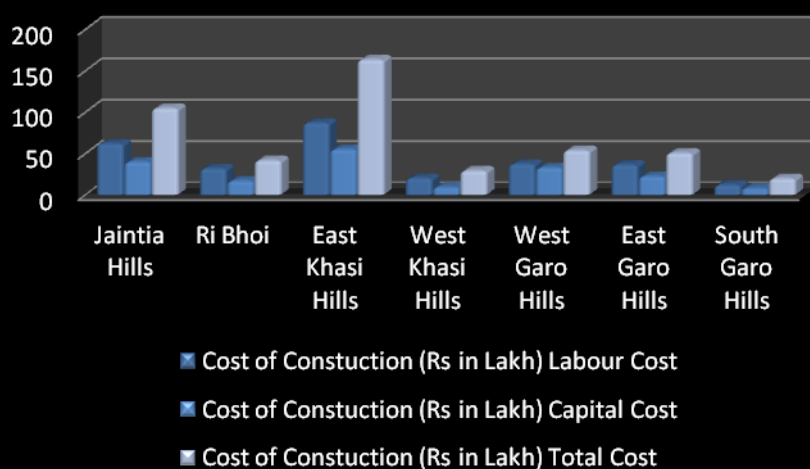


**4.4.2 Cost of Construction:** For creation of 190.12 ha of ponds under the Thousand Ponds Scheme, the total investment on construction of ponds is Rs. 4, 62,94,050/- where it has been observed that the labour cost was higher than the capital cost. This was mainly due to the fact that locally available materials were mainly used to construct the dams and wherever possible dug out ponds were made. The use of these natural and locally available materials proved to be more appropriate for fish culture.

**Table 18 : Cost of Construction (Rs in lakhs)**

DISTRICTS	Labour Cost	Capital Cost	Total Cost
Jaintia Hills	61.63790	39.75710	104.69500
Ri Bhoi	31.66100	16.77700	41.63700
East Khasi Hills	86.82350	54.99000	163.39000
West Khasi Hills	20.03000	9.17000	29.20000
West Garo Hills	37.19650	32.78000	53.68650
East Garo Hills	36.21500	22.28500	50.57400
South Garo Hills	11.87500	7.88300	19.75800
MEGHALAYA	<b>285.43890</b>	<b>183.64210</b>	<b>462.94050</b>
Percentage	<b>61.65 %</b>	<b>39.66 %</b>	

**Graph 18: Cost of Construction**

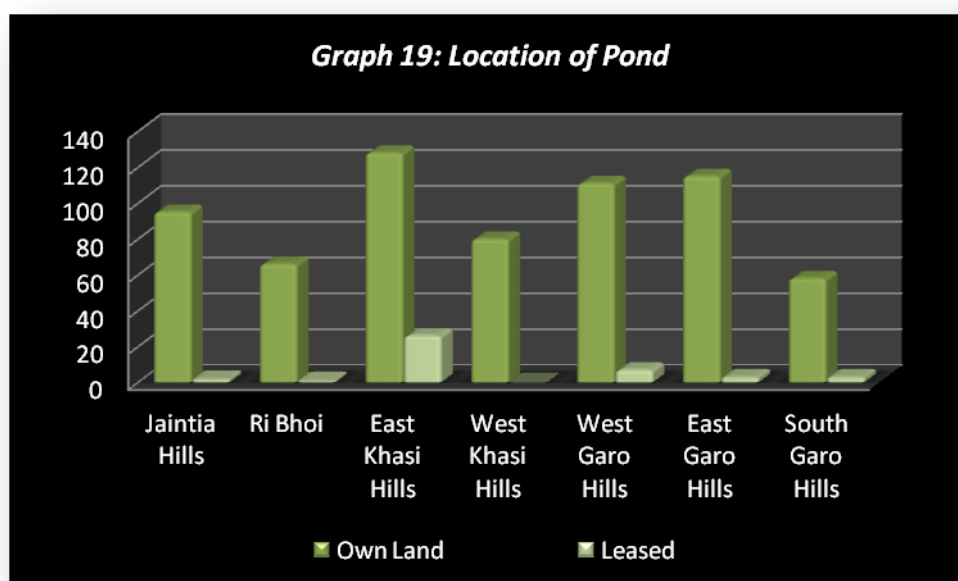


**4.4.3 Location of the Pond:** The ponds under the Thousand Ponds Scheme could be created on land owned by beneficiaries or on land leased out by them. In the present study, it is reported that 93.96% of the respondent created the ponds in their own land and 6.04% created the ponds on leased land.

**Table 19: Location of the Pond**

DISTRICTS	Own Land	Leased
Jaintia Hills	95	2
Ri Bhoi	66	1
East Khasi Hills	128	26
West Khasi Hills	80	0
West Garo Hills	111	7
East Garo Hills	115	3
South Garo Hills	58	3
<b>MEGHALAYA</b>	<b>653</b>	<b>42</b>
<b>Percentage</b>	<b>93.96 %</b>	<b>6.04 %</b>

**Graph 19: Location of Pond**



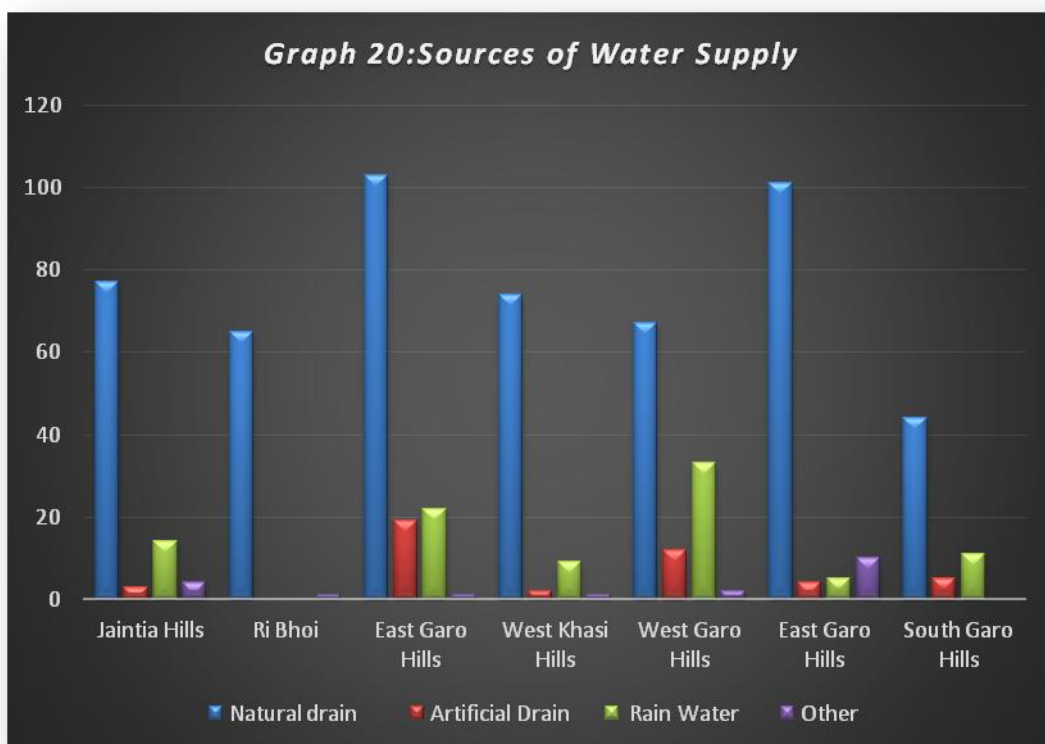
**4.4.4 Source Water Supply:** Consistent water supply is an important aspect for the success of fish cultivation. Meghalaya, with an average rainfall of 1200 mm, has potential water supply and offers tremendous scope for promotion of aquaculture in the state.

The various sources of water supply of ponds created under TPS are reported to be the natural drains, artificial drains, rain water, springs, use of pipelines and others, among which natural drain is the major source of water for the fish ponds (77.06%). From the table, it may also be inferred that rain water harvesting technology was adopted by beneficiaries as 13.64% of the respondents used rain water as a source of water supply. From the figures and percentages mentioned in the table below, the adoption of technologies for impounding natural water sources and rain water harvesting can be further improved to promote the fishery sector in the state.

It may be mentioned that some respondents used one or more source of water supply to maintain the perennial nature of their ponds.

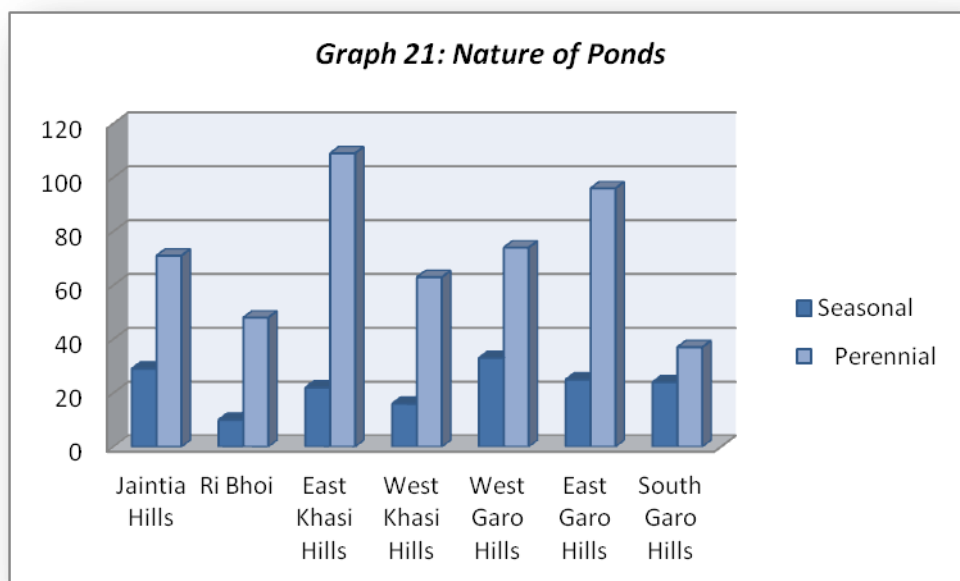
<b>Table 20: Sources Of Water Supply</b>				
<b>DISTRICTS</b>	<b>Natural drain</b>	<b>Artificial Drain</b>	<b>Rain Water</b>	<b>Other</b>
Jaintia Hills	77	3	14	4
Ri Bhoi	65	-	-	1
East Khasi Hills	103	19	22	1
West Khasi Hills	74	2	9	1
West Garo Hills	67	12	33	2
East Garo Hills	101	4	5	10
South Garo Hills	44	5	11	-
<b>MEGHALAYA</b>	<b>531</b>	<b>45</b>	<b>94</b>	<b>19</b>
<b>Percentage</b>	<b>77.06 %</b>	<b>6.53 %</b>	<b>13.64 %</b>	<b>2.75 %</b>





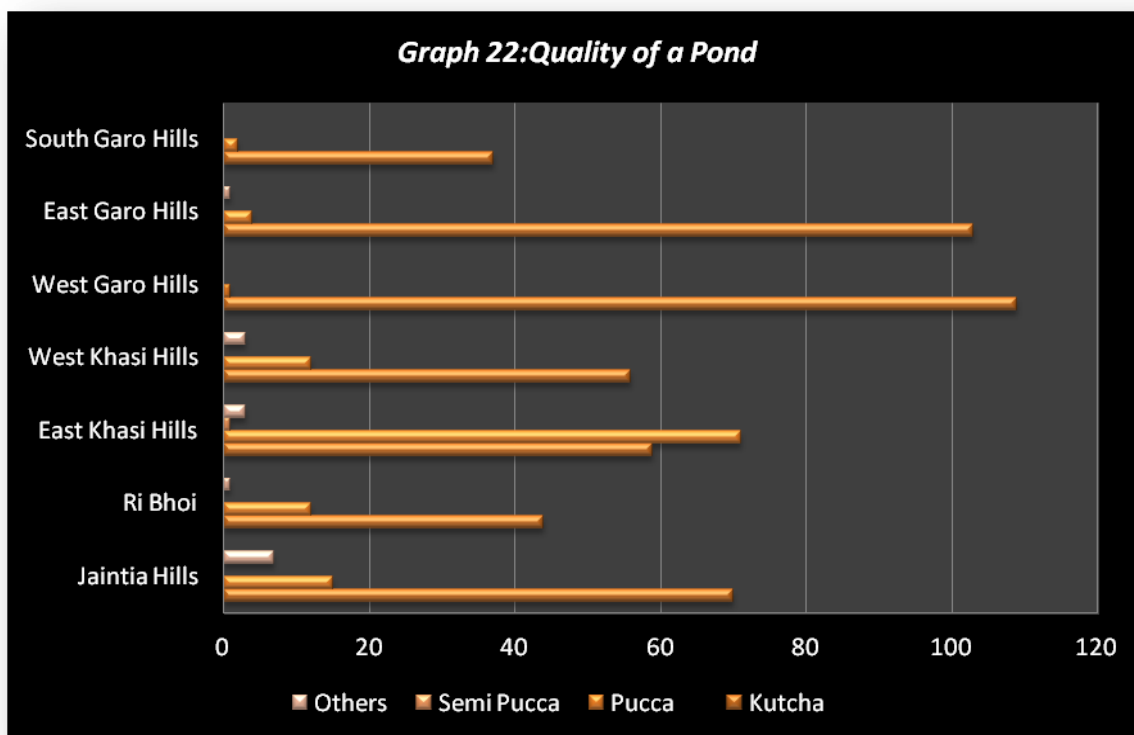
**4.4.5 Nature of Ponds:** From the data available, majority of the ponds created under the scheme were perennial in nature (75.79%) while 24.20% are seasonal.

<b>Table 21: Nature of Ponds</b>		
<b>DISTRICTS</b>	<b>Seasonal</b>	<b>Perennial</b>
Jaintia Hills	29	71
Ri Bhoi	10	48
East Khasi Hills	22	109
West Khasi Hills	16	63
West Garo Hills	33	74
East Garo Hills	25	96
South Garo Hills	24	37
<b>MEGHALAYA</b>	<b>159</b>	<b>498</b>
<b>Percentage</b>	<b>24.20%</b>	<b>75.79 %</b>



**4.4.6 Quality of Ponds:** In this regard, officials of the department were of the opinion that kutcha ponds i.e. ponds that use Natural material like earth and dug out ponds are better than semi pucca (combination concrete and natural material) and pucca (cement concrete). Therefore, 78.23% of the ponds created are kutcha ponds and only 19.17% of ponds are pucca ponds, probably due to advice from the experts and technical personnel.

<b>DISTRICTS</b>	<b>Kutcha</b>	<b>Pucca</b>	<b>Semi Pucca</b>	<b>Others</b>
Jaintia Hills	70	15	-	7
Ri Bhoi	44	12	-	1
East Khasi Hills	59	71	1	3
West Khasi Hills	56	12	-	3
West Garo Hills	109	1	-	0
East Garo Hills	103	4	-	1
South Garo Hills	37	2	-	-
<b>MEGHALAYA</b>	<b>478</b>	<b>117</b>	<b>1</b>	<b>15</b>
<b>Percentage</b>	<b>78.23 %</b>	<b>19.15 %</b>	<b>0.16 %</b>	<b>2.45 %</b>



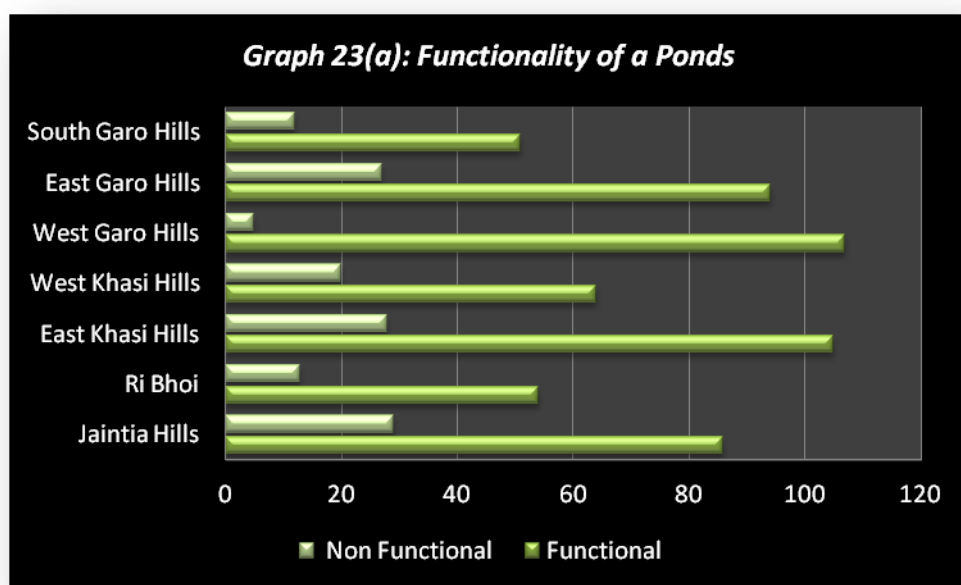
**4.4.7 Functionality of Ponds:** The percentage of functional ponds reported was 80.72% indicating that the success rate of creation and management of ponds was high. With hard work and dedication, the successful fish farmers revealed that in most cases, management of the enterprise and maintenance of the ponds was done by them, while others said that employment of labourers was also needed along with help from family members and friends in order to maintain the functionality of the ponds. The non-functional ponds accounted for 19.28%.

However, there are fish farmers who failed to maintain their ponds due to various reasons listed below (Table 23(c)):

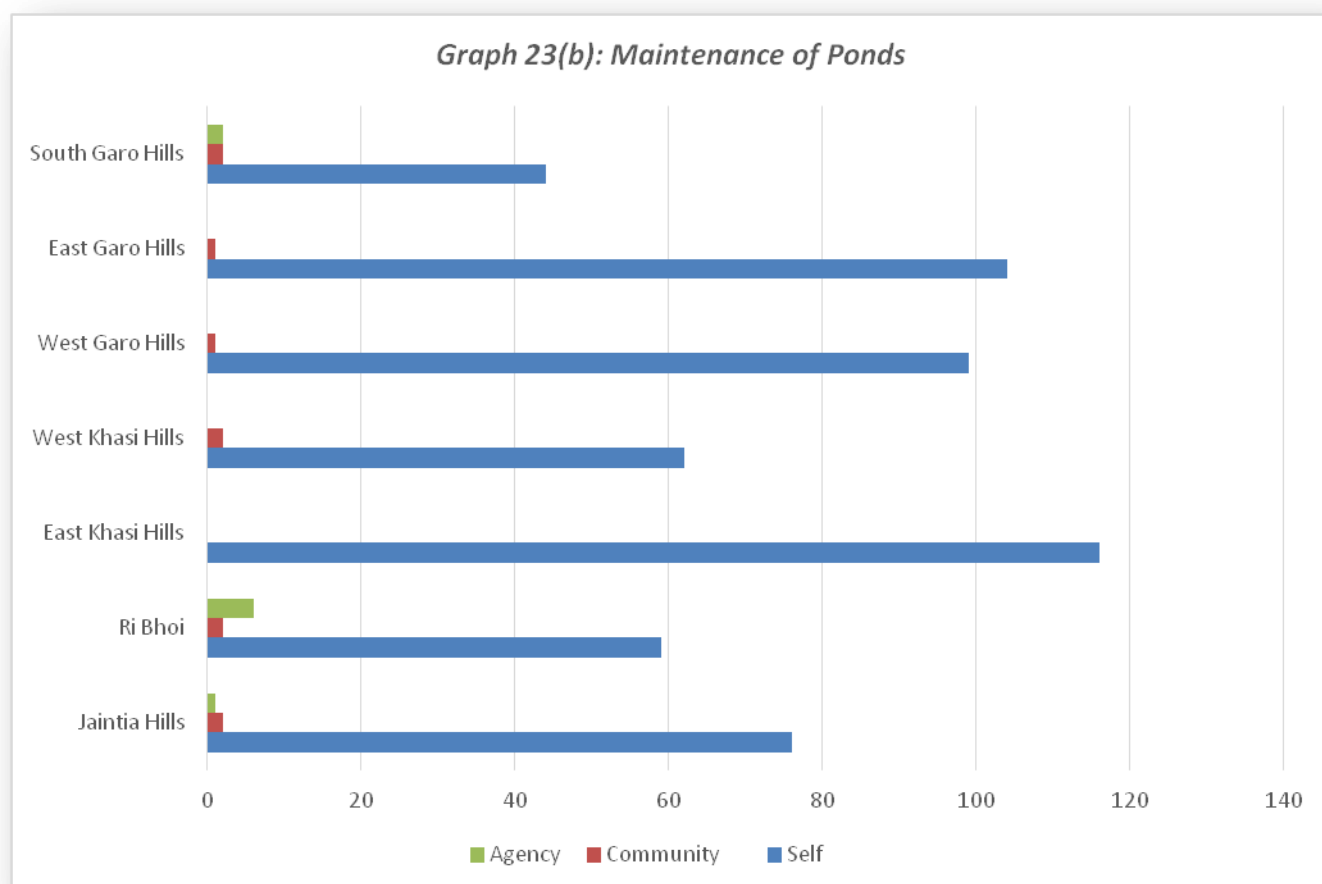
- i. Non-availability and lack of water supply for the ponds
- ii. Damage of the pond due to heavy rain
- iii. Leakage
- iv. Salinity
- v. Siltation
- vi. Faulty design
- vii. Non availability of quality seed
- viii. Lack of proper training
- ix. Lack of responsibility
- x. Marketing problem

xi. Non-cooperation from the department

<b>Table 23(a) Functionality of Ponds</b>		
<b>DISTRICTS</b>	<b>Functional</b>	<b>Non Functional</b>
Jaintia Hills	86	29
Ri Bhoi	54	13
East Khasi Hills	105	28
West Khasi Hills	64	20
West Garo Hills	107	5
East Garo Hills	94	27
South Garo Hills	51	12
<b>MEGHALAYA</b>	<b>561</b>	<b>134</b>
<i>Percentage</i>	<b>80.72%</b>	<b>19.28%</b>



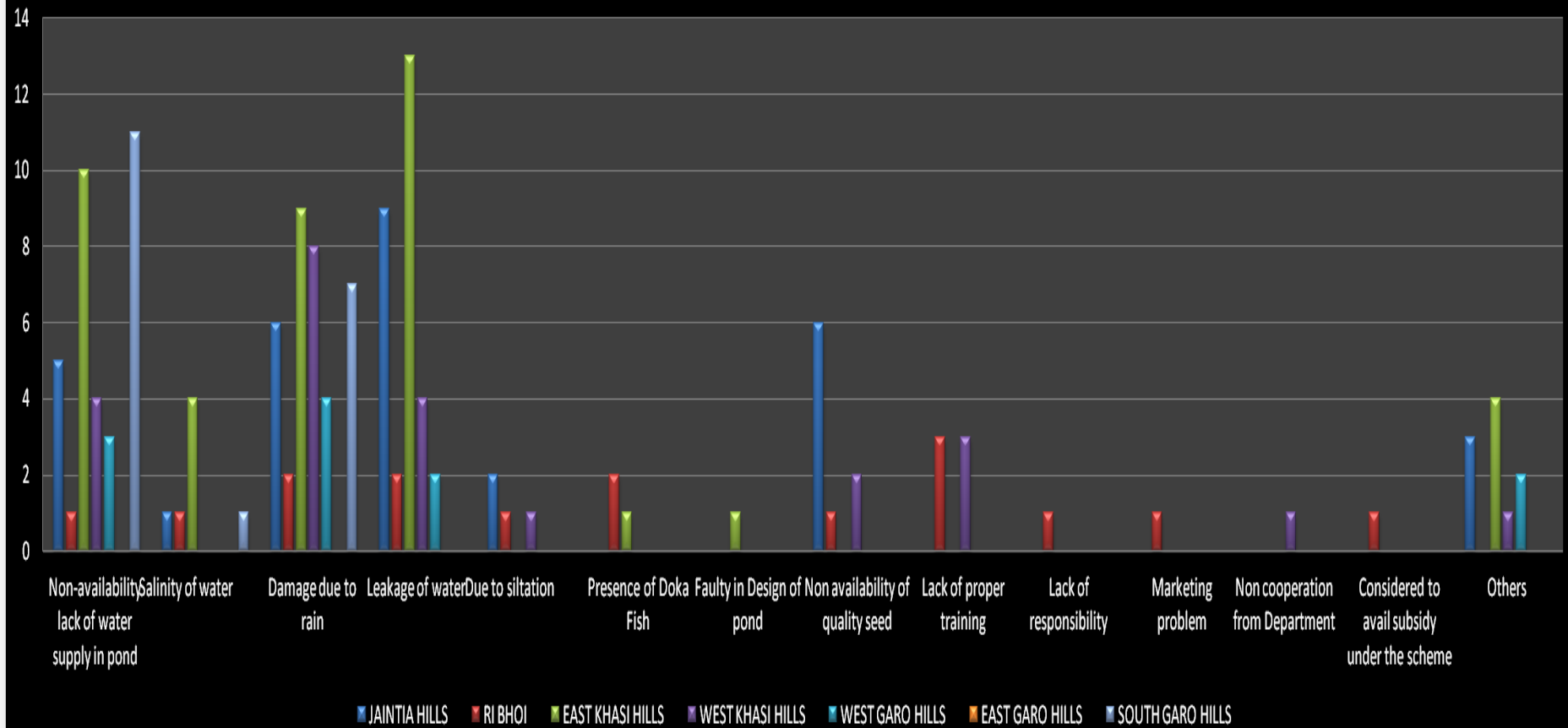
<b>Table 23(b) : Maintenance of Ponds</b>			
<b>DISTRICTS</b>	<b>Self</b>	<b>Community</b>	<b>Agency</b>
Jaintia Hills	76	2	1
Ri Bhoi	59	2	6
East Khasi Hills	116	0	0
West Khasi Hills	62	2	0
West Garo Hills	99	1	0
East Garo Hills	104	1	0
South Garo Hills	44	2	2
<b>MEGHALAYA</b>	<b>560</b>	<b>10</b>	<b>9</b>
<b>Percentage</b>	<b>96.71 %</b>	<b>1.72 %</b>	<b>1.55 %</b>



**Table 23(c) Reasons for Non Functionality of Ponds**

<b>DIST</b>	<b>Lack of water supply in pond</b>	<b>Salinity of water</b>	<b>Damage due to rain</b>	<b>Leakage of water</b>	<b>Siltation</b>	<b>Faulty in Design of pond</b>	<b>Non availability of quality seed</b>	<b>Lack of proper training</b>	<b>Lack of responsibility</b>	<b>Marketing problem</b>	<b>Non cooperation from Department</b>	<b>Others</b>
JH	5	1	6	9	2	-	6	-	-	-	-	3
RB	2	1	4	2	1	-	1	3	1	1	-	-
EKH	10	4	10	13	-	1	-	-	-	-	-	4
WKH	4	-	8	4	1	-	2	3	-	-	1	1
WGH	3	-	4	2	-	-	-	-	-	-	-	2
EGH	-	-	-	-	-	-	-	-	-	-	-	-
SGH	11	1	7	-	-	-	-	-	-	-	-	-
<b>MEGHA LAYA</b>	<b>34</b>	<b>7</b>	<b>36</b>	<b>30</b>	<b>4</b>	<b>1</b>	<b>9</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>10</b>
<b>Percent age</b>	<b>26.61 %</b>	<b>4.86 %</b>	<b>25 %</b>	<b>20.83 %</b>	<b>2.77 %</b>	<b>0.69 %</b>	<b>6.25 %</b>	<b>4.16 %</b>	<b>0.69 %</b>	<b>0.69 %</b>	<b>0.69 %</b>	<b>6.94 %</b>

Graph 23(c): Reasons for Ponds being Non-Functional



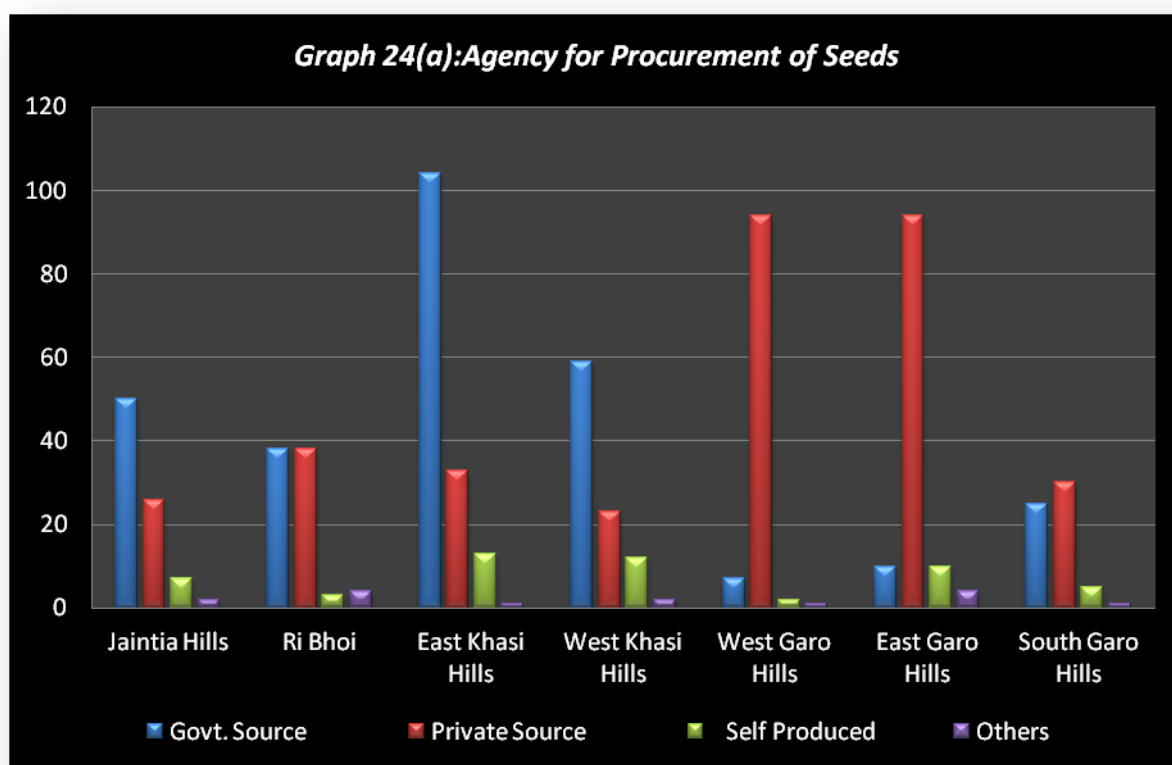
**4.5. Procurement of fingerlings:** Many agencies were involved in the supply of fingerlings for ponds under the scheme, out of which, government agencies (44.60%) and private agencies (41.87%) were major sources. The Department of Fisheries is the major government agency that supplied fingerlings of 2000 nos. per 0.2 ha. However, 4.46% of the beneficiaries procured fish from multiple sources as the supply of seed from the department was not sufficient. The reason for procurement from private sources could be the period of supply of fingerlings by the department was from the month of May to September only which results in non availability of seed between the months of November to April. . The respondents also expressed difficulty in procurement of the fingerlings as the transportation cost from the district farm to the location of their ponds has to be met by them. High mortality rate of the fingerlings during transportation is also another factor.

The fish species that are reared in ponds created under the scheme are *common carp*, *grass carp*, *rohu*, *silver carp*, *catla*, *local carp*, *mrigal*, and *minor carp*.

**Table 24(a) : Procurement of Fingerlings**

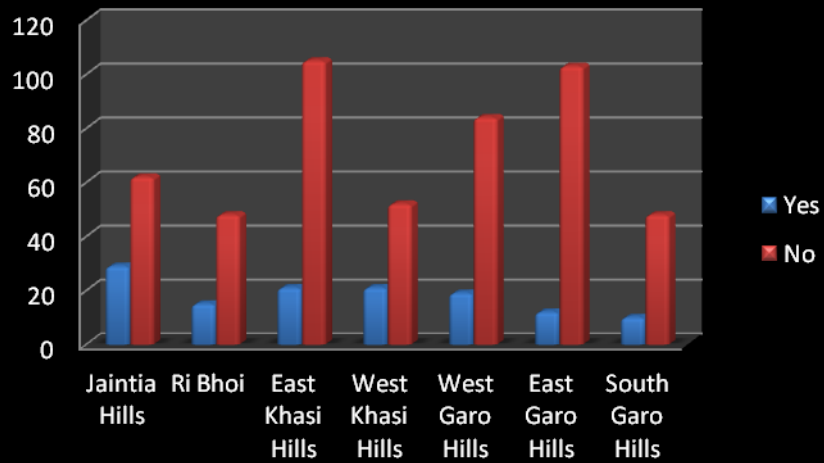
<b>DISTRICTS</b>	<b>Govt. Source</b>	<b>Private Source</b>	<b>Self Produced</b>	<b>Multiple Sources</b>	<b>Not Specified</b>
Jaintia Hills	70	26	7	10	2
Ri Bhoi	35	22	3	3	4
East Khasi Hills	104	13	13	2	1
West Khasi Hills	59	12	8	3	2
West Garo Hills	7	94	2	8	1
East Garo Hills	10	94	10	3	4
South Garo Hills	25	30	5	2	1
<b>MEGHALAYA</b>	<b>310</b>	<b>291</b>	<b>48</b>	<b>31</b>	<b>15</b>
<b>Percentage</b>	<b>44.60%</b>	<b>41.87%</b>	<b>6.91%</b>	<b>4.46%</b>	<b>2.16%</b>





<i>Table 24 (b) Difficulty in Procurement of Fingerlings</i>		
<b>DISTRICTS</b>	<b>Yes</b>	<b>No</b>
Jaintia Hills	29	62
Ri Bhoi	15	48
East Khasi Hills	21	105
West Khasi Hills	21	52
West Garo Hills	19	84
East Garo Hills	12	103
South Garo Hills	10	48
<b>MEGHALAYA</b>	<b>127</b>	<b>502</b>
<b>Percentage</b>	<b>20.19 %</b>	<b>79.81 %</b>

**Graph 24(b):Difficulty in Procurement of Fingerlings**



## Chapter V

### BANK LINKAGES AND FINANCIAL ASSISTANCE

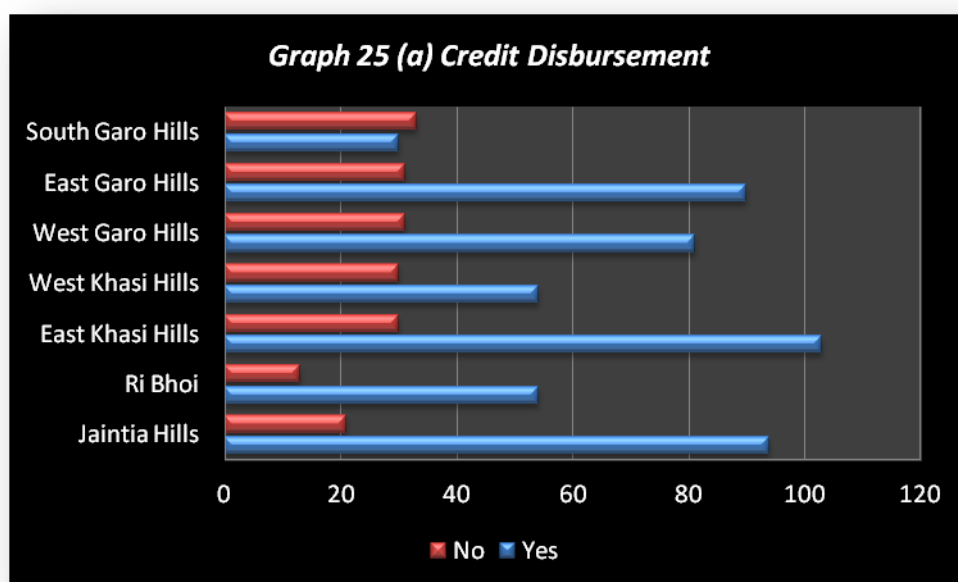
#### Bank Linkages and Repayment of Loan

The Thousand Ponds Scheme provided the financial assistance in the form of a back-ended subsidy of 75 percent and a loan component of 25 percent based on the approved NABARD Model scheme of 2002-2003. The unit cost as per the Model Scheme for a 0.20 ha pond was Rs. 72000/-. The Meghalaya Cooperative Apex Bank (MCAB) Ltd was the banking partner for the scheme. As per the MoU signed between the Government and the MCAB Ltd, 25% of the project costs would be provided through a loan from the bank and 75% percent would be disbursed as a subsidy. A one-time financial assistance was also included for provision of inputs as part of the project costs. The financial assistance was provided to the private fish farmers, community/ village cooperative societies and collective bodies of fishermen, with preference for unemployed fisheries graduate, unemployed graduates, and educated unemployed rural youth and fish farmers. Application for financial assistance under the thousand ponds scheme was to be made to the Superintendent of Fisheries together with relevant documents and other eligibility certificates.

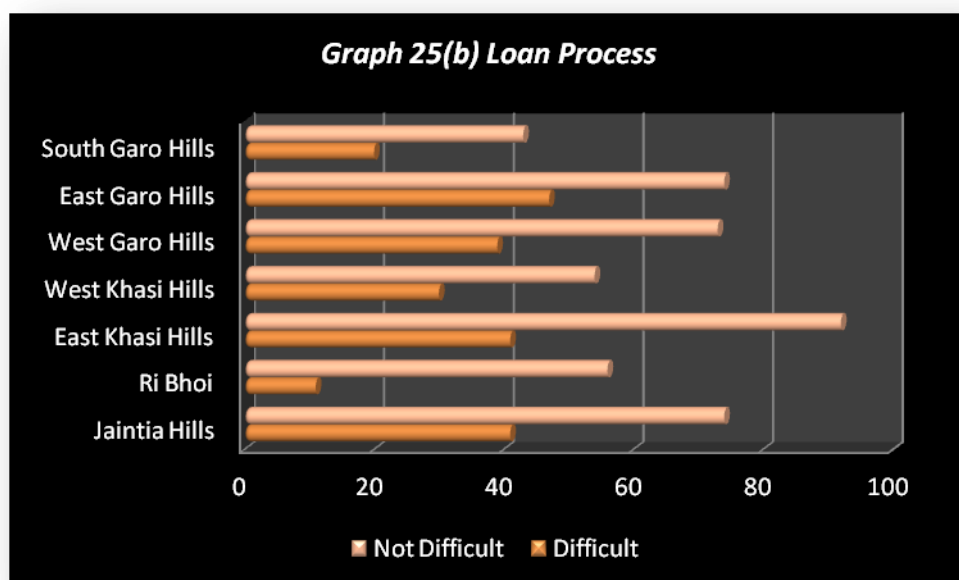
**5.1 Credit disbursement:** Based on the data survey most of them expressed that the loan was made available to the respondents. However, 189 respondents (27.19%) stated that they did not avail loan for setting up of fish pond under TPS. The analysis revealed that most of the beneficiaries had no problems in availing the loan from the bank as the Government officials of the Fishery Department and Bank officials assisted them with the procedures. But it was expressed that there is the delay in the disbursement of the loan. Some of them highlighted that they did face some difficulties to avail loan from the bank as they had to visit the bank frequently before it was sanctioned. Some of the beneficiaries were not aware about the loan component and therefore treated the entire amount as a subsidy. 67.05% of the beneficiaries revealed that they did not have any difficulty in availing the loan. With regard to the assistance received in availing the loan 39.28% of the beneficiaries were assisted by Government Officials and 37.70% were assisted by the Bank. The percentage-wise assistance provided by other categories of leaders and through self effort is given in Table 25 (d). During the discussion with

the officials of the Department, it was stated that the Fishery Demonstrator was involved in assisting the farmers with preparation of documents and submission to the bank.

<b>Table 25 (a) Credit Disbursement</b>		
<b>DISTRICTS</b>	<b>Yes</b>	<b>No</b>
Jaintia Hills	94	21
Ri Bhoi	54	13
East Khasi Hills	103	30
West Khasi Hills	54	30
West Garo Hills	81	31
East Garo Hills	90	31
South Garo Hills	30	33
<b>MEGHALAYA</b>	<b>506</b>	<b>189</b>
<b>Percentage</b>	<b>72.81%</b>	<b>27.19%</b>



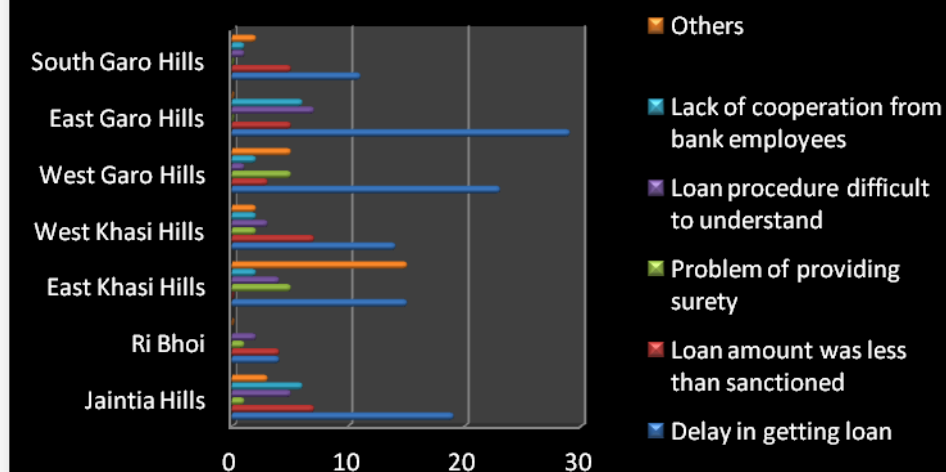
<b>Table 25(b) Loan Process</b>		
<b>DISTRICTS</b>	<b>Difficult</b>	<b>Not Difficult</b>
Jaintia Hills	41	74
Ri Bhoi	11	56
East Khasi Hills	41	92
West Khasi Hills	30	54
West Garo Hills	39	73
East Garo Hills	47	74
South Garo Hills	20	43
<b>MEGHALAYA</b>	<b>229</b>	<b>466</b>
<b>Percentage</b>	<b>32.95%</b>	<b>67.05%</b>



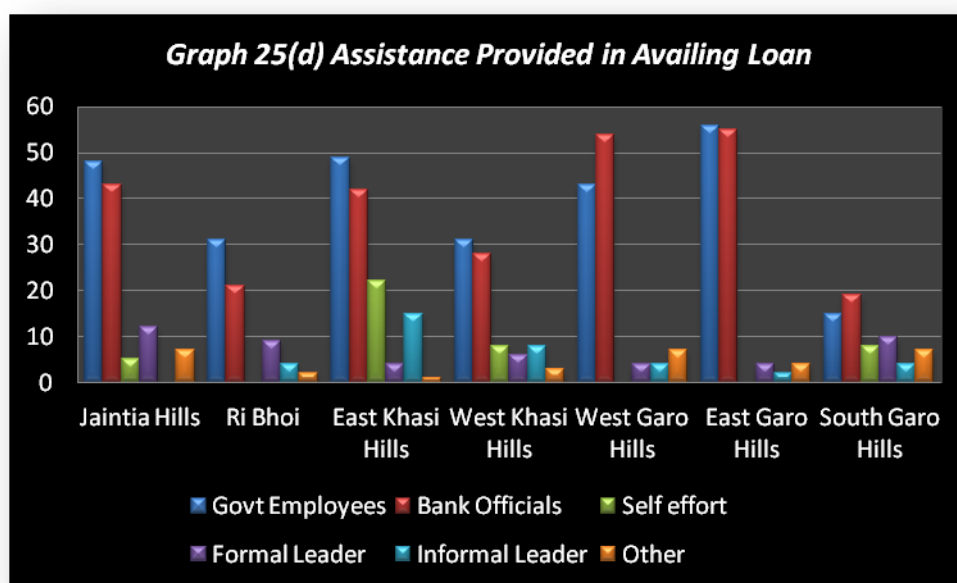
**Table 25(c) Problems of Loan Process**

Districts	Delay in getting loan	Loan amount was less than sanctioned	Problem of providing surety	Loan procedure difficult to understand	Lack of cooperation from bank employees	Others
Jaintia Hills	19	7	1	5	6	3
Ri Bhoi	4	4	1	2		-
East Khasi Hills	15	-	5	4	2	15
West Khasi Hills	14	7	2	3	2	2
West Garo Hills	23	3	5	1	2	5
East Garo Hills	29	5	-	7	6	-
South Garo Hills	11	5	-	1	1	2
<b>MEGHALAYA</b>	<b>115</b>	<b>31</b>	<b>14</b>	<b>23</b>	<b>19</b>	<b>27</b>
<i>Percentage</i>	<b>50.22%</b>	<b>13.54%</b>	<b>6.11%</b>	<b>10.04%</b>	<b>8.30%</b>	<b>11.79%</b>

**Graph 25(c) Problems of Loan Process**



<b>Table 25(d) Assistance provided in Availing Loan</b>						
<b>District</b>	<b>Govt Employees</b>	<b>Bank Officials</b>	<b>Self effort</b>	<b>Formal Leader</b>	<b>Informal Leader</b>	<b>Other</b>
Jaintia Hills	48	43	5	12	0	7
Ri Bhoi	31	21	0	9	4	2
East Khasi Hills	49	42	22	4	15	1
West Khasi Hills	31	28	8	6	8	3
West Garo Hills	43	54	0	4	4	7
East Garo Hills	56	55	0	4	2	4
South Garo Hills	15	19	8	10	4	7
<b>MEGHALAYA</b>	<b>273</b>	<b>262</b>	<b>43</b>	<b>49</b>	<b>37</b>	<b>31</b>
<b>Percentage</b>	<b>39.28%</b>	<b>37.70%</b>	<b>6.19%</b>	<b>7.05%</b>	<b>5.32%</b>	<b>4.46%</b>

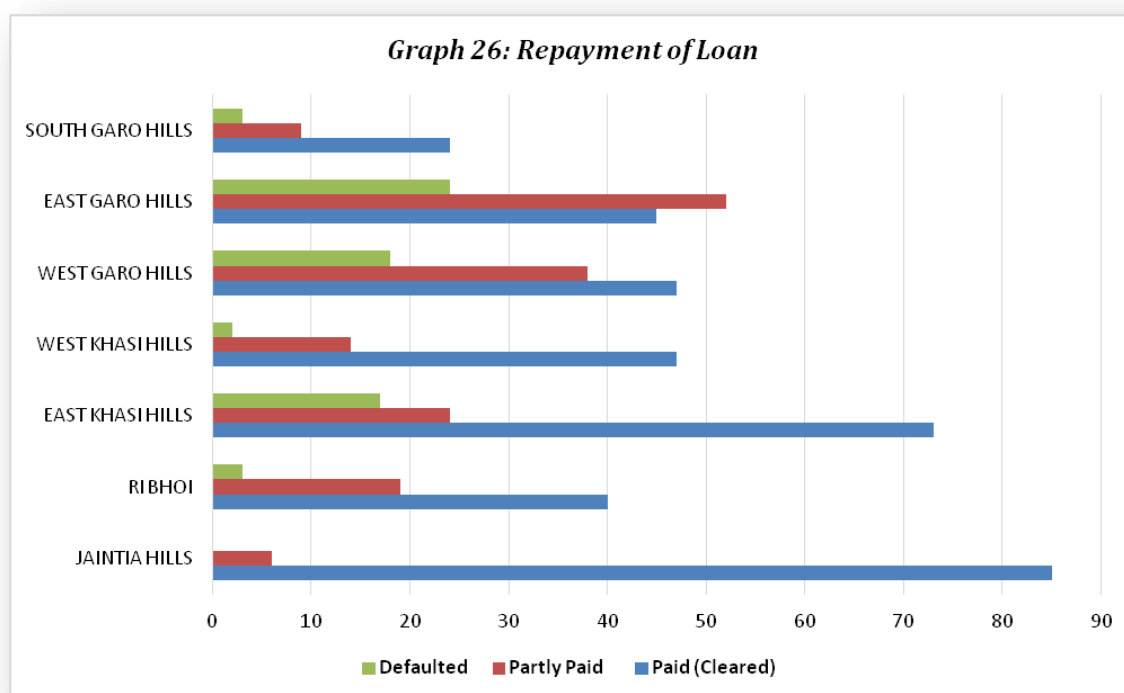


**5.2 Repayment of loan:** The farmers were familiarized with the mode of repayment of loan by both the bank and the Department. Through the interview schedule it is observed that 65.42% of the beneficiaries has repaid the loan availed while 27.08% and 7.51% have partly repaid and defaulted respectively. The reasons for default in repayment are listed below:

- The profit received from rearing fish in the pond was being spent on family activities
- High labour costs resulted in reduction of profit or resulted in loss
- Production was too less
- Remote location of the pond made management of the pond difficult and thereby losses were incurred due to theft.
- The project cost was meagre and therefore making it difficult to construct an optimal pond size. Hence the production was low and profit generated was also low.
- High cost of transportation of seed and other inputs resulted in the beneficiary spending for unforeseen heads that affected the profit margin.
- Non-functionality of pond
- Demise of beneficiary

<b>Table 26 : Repayment Of Loan</b>			
<b>DISTRICTS</b>	<b>Paid (Cleared)</b>	<b>Partly Paid</b>	<b>Defaulted</b>
Jaintia Hills	87	7	-
Ri Bhoi	37	16	1
East Khasi Hills	69	20	14
West Khasi Hills	41	12	1
West Garo Hills	40	31	10
East Garo Hills	37	43	10
South Garo Hills	20	8	2
<b>MEGHALAYA</b>	<b>331</b>	<b>137</b>	<b>38</b>
<b>Percentage</b>	<b>65.42%</b>	<b>27.08%</b>	<b>7.51%</b>





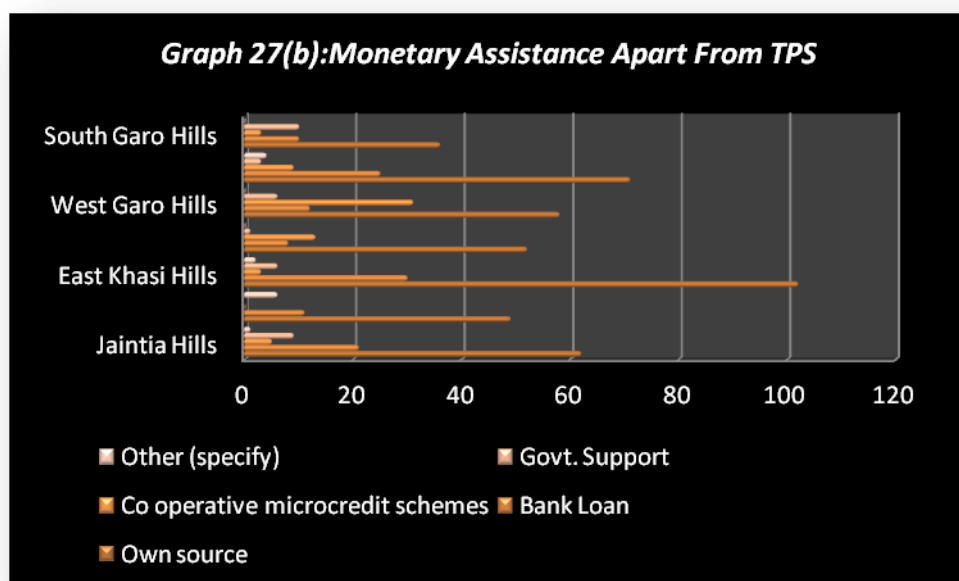
**5.3 Adequacy of loan:** 60.08% of the beneficiaries stated that the loan amount of 25% of the project cost was adequate while 39.92% felt that it was inadequate.

Although the scheme provided financial assistance, most of the farmers expressed that it was inadequate and therefore sourced additional resources through other means. Table 27 (b) shows that 65.25% utilised their own resources for the project. 17.75% availed additional loan from financial institutions, 9.71% availed monetary assistance from cooperative micro credit schemes. 5.31% converged assistance provided through other government schemes and 1.97% received assistance through friends, relatives etc.

About 552 respondents preferred assistance in cash while only 44 respondents preferred assistance in kind (Table 27(c)).

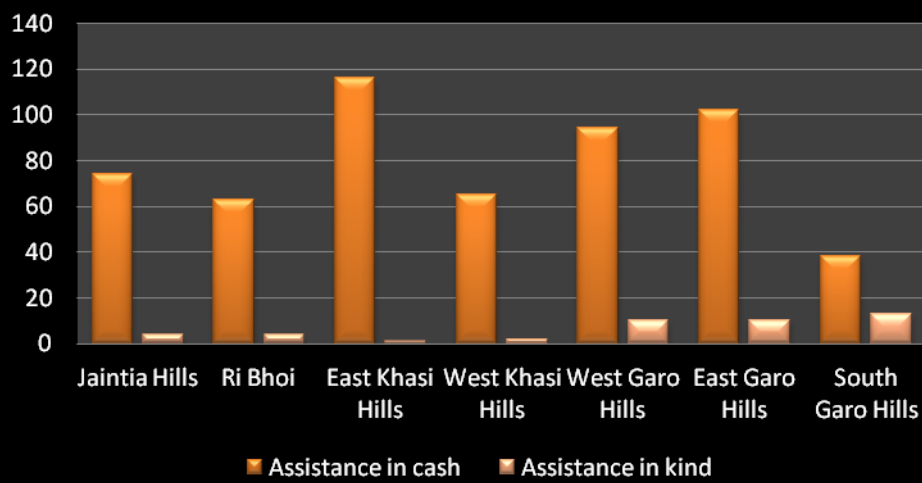
<b>Table 27(a): Adequacy of Loan</b>		
<b>DISTRICTS</b>	<b>Adequate</b>	<b>Not Adequate</b>
Jaintia Hills	64	30
Ri Bhoi	44	10
East Khasi Hills	61	42
West Khasi Hills	24	30
West Garo Hills	37	44
East Garo Hills	47	43
South Garo Hills	27	3
<b>MEGHALAYA</b>	<b>304</b>	<b>202</b>
<b>Percentage</b>	<b>60.08%</b>	<b>39.92%</b>

<b>Table 27(b): Monetary Assistance Apart From TPS</b>					
<b>District</b>	<b>Own source</b>	<b>Bank Loan</b>	<b>Co operative microcredit schemes</b>	<b>Govt. Support</b>	<b>Other (specify)</b>
<b>Jaintia Hills</b>	62	21	5	9	1
<b>Ri Bhoi</b>	49	11	0		6
<b>East Khasi Hills</b>	102	30	3	6	2
<b>West Khasi Hills</b>	52	8	13	1	0
<b>West Garo Hills</b>	58	12	31	6	0
<b>East Garo Hills</b>	71	25	9	3	4
<b>South Garo Hills</b>	36	10	3	10	0
<b>MEGHALAYA</b>	<b>430</b>	<b>117</b>	<b>64</b>	<b>35</b>	<b>13</b>
<b>Percentage</b>	<b>65.25 %</b>	<b>17.75 %</b>	<b>9.71 %</b>	<b>5.311 %</b>	<b>1.97 %</b>



<i>Table 27(c): Preference of Assistance</i>		
<b>DISTRICTS</b>	<b>Assistance in cash</b>	<b>Assistance in kind</b>
Jaintia Hills	74	4
Ri Bhoi	63	4
East Khasi Hills	116	1
West Khasi Hills	65	2
West Garo Hills	94	10
East Garo Hills	102	10
South Garo Hills	38	13
<b>MEGHALAYA</b>	<b>552</b>	<b>44</b>
<b>Percentage</b>	<b>92.61 %</b>	<b>7.3 %</b>

**Graph 27(c): Preference of Assistance**



## Chapter VI

### INTERVENTION IMPACTS

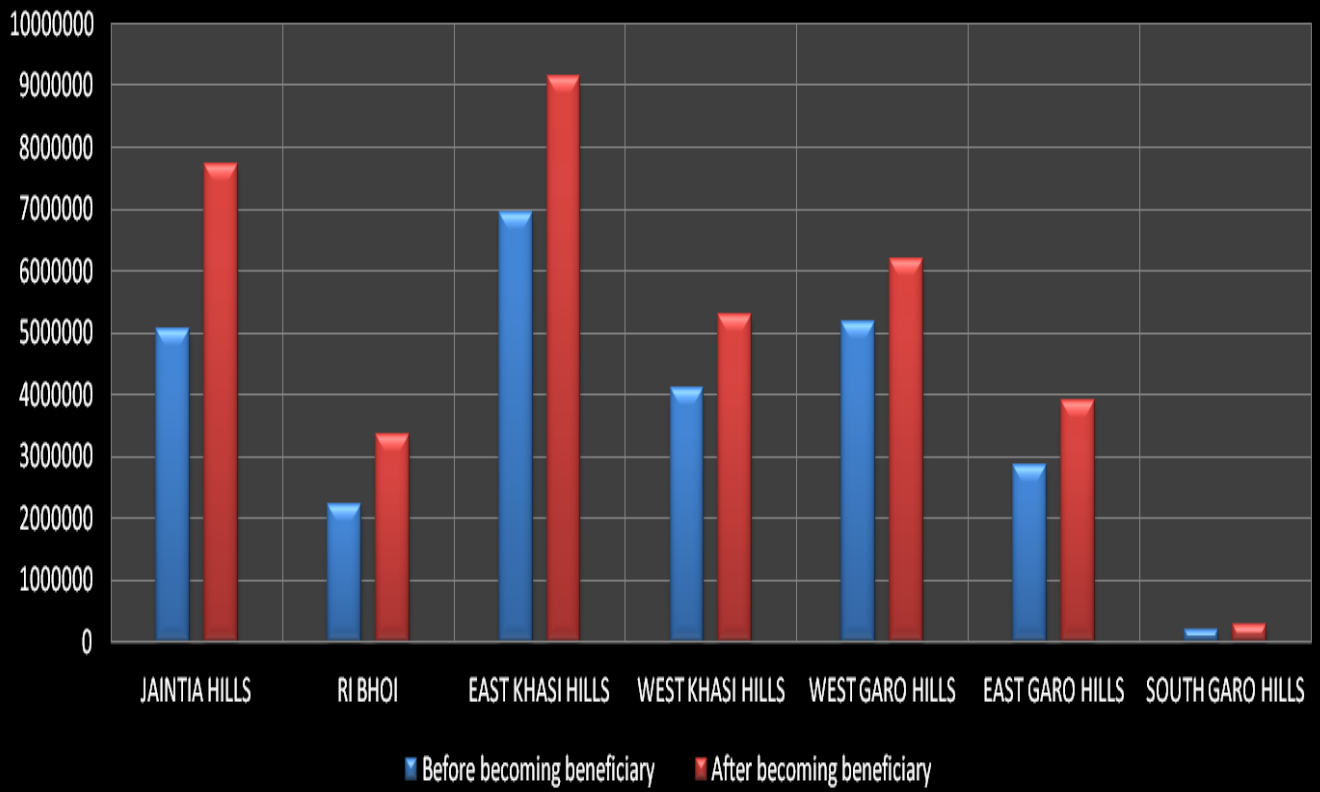
**6.1 Annual Family Income:** As per the Table 28(a) below, the household income of all respondents showed with an average increase per family per year of Rs. 13,312/-. However, there is a general tendency to under report incomes, so the actual increase in the income could be slightly higher than reported.

The Consumption Expenditure table highlighted that there is a gradual improvement in the consumption level on food, clothing and Education of the beneficiaries in almost all the districts of the state. The fishery farming activity has supported them to have a better standard of living. The table also reveals that there was an improvement in availing better health care of the beneficiaries as a result of fish farming. In the entire district, the beneficiaries stated profits from fish farming also enabled them to provide their children better education. Some of the beneficiaries have also expressed that the scheme have supported them to send their children to the state capital for better and higher education.

There has been an overall improvement in the quality of life of the fish farmers. The additional income has greatly helped them to take care of the basic aspects of life like food, clothing, shelter, besides taking better care of their family finances. In Table 28 (c), 319 respondents family finances have improved, 114 respondents experienced food security for the families, 90 respondents could employ people in the fish farm, 68 respondents experienced an improvement in health conditions. However, there are beneficiaries in some district who have availed the scheme without serious commitment and dedication. Due to various economic and environmental factors there are few respondents who also experience negative or no changes as they were not successful with this activity.

<b>Table 28(a) Annual Family Income</b>				
<b>DISTRICTS</b>	<b>No. of respondents</b>	<b>Before becoming Beneficiary (No. of farmers * reported income)</b>	<b>After becoming beneficiary (No. of farmers * reported income)</b>	<b>Percentage Increase in Annual Family Income (%)</b>
Jaintia Hills	115	5074000	7722500	52.20
Ri Bhoi	67	2236000	3354050	50.00
East Khasi Hills	133	6945600	9136900	31.55
West Khasi Hills	84	4118000	5281000	28.24
West Garo Hills	112	5185000	6197800	19.53
East Garo Hills	121	2856700	3897400	36.43
South Garo Hills	63	206308.9286	284132.1429	37.72
<b>MEGHALAYA</b>	<b>695</b>	<b>26621608.93</b>	<b>35873782.14</b>	<b>34.75 %</b>
<b>Average increase per family per year : Rs 13,312/-</b>				

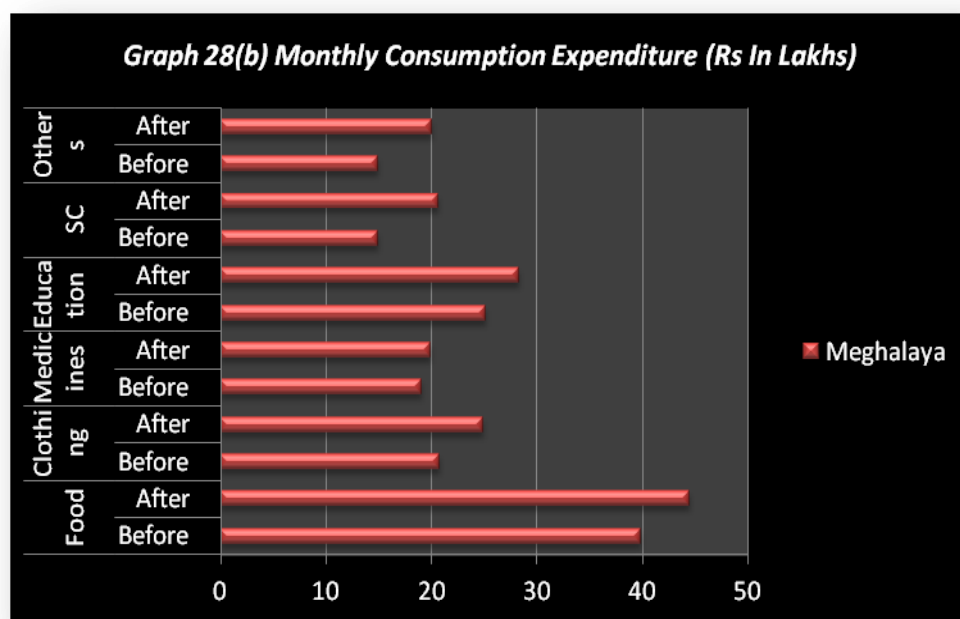
*Graph 28(a) Annual Family Income*



**Table 28(b) Monthly Consumption Expenditure (Rs In Lakhs)**

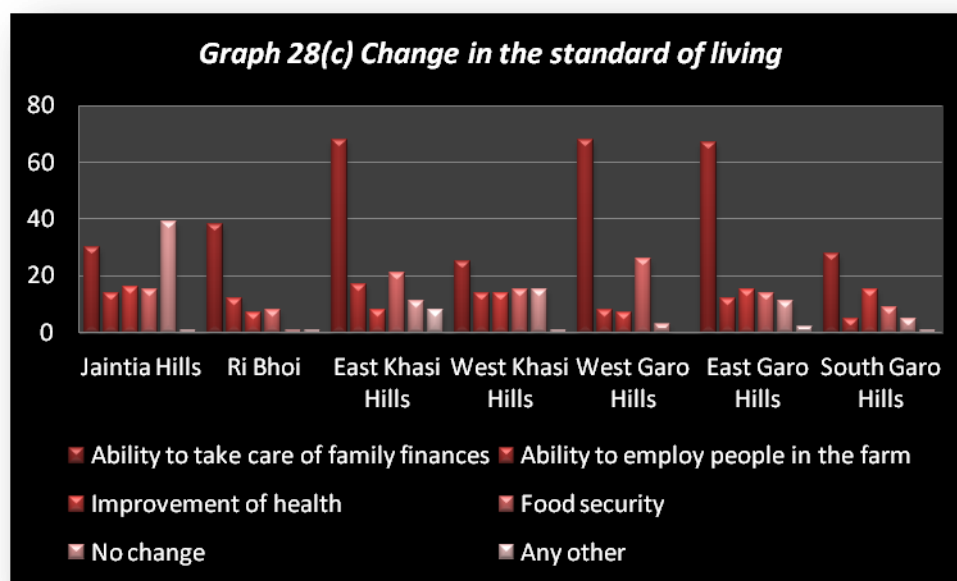
DISTRICTS	Food		Clothing		Medicine		Education		Social ceremonies		Others	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
Jaintia Hills	3.90	4.60	0.90	1.07	0.71	0.84	1.34	1.86	0.56	0.71	0.61	1.22
Ri Bhoi	1.94	2.62	0.57	1.01	0.57	0.76	0.94	1.51	0.07	0.19	0.07	0.19
East Khasi Hills	5.35	6.93	1.64	2.22	1.11	1.40	1.64	2.17	0.47	0.71	1.05	1.22
West Khasi Hills	7.38	6.10	3.00	3.59	2.62	2.95	4.35	4.94	1.02	5.75	1.21	3.40
West Garo Hills	5.80	7.83	2.02	2.84	2.05	1.74	3.02	4.07	1.16	1.46	0.83	2.51
East Garo Hills	14.97	15.83	12.33	13.84	11.89	11.97	13.42	13.18	11.49	11.63	11.10	11.35
South Garo Hills	0.49	0.56	0.26	0.34	0.16	0.24	0.40	0.58	0.19	0.26	0.13	0.12
<b>MEGHALA YA</b>	<b>39.85</b>	<b>44.47</b>	<b>20.72</b>	<b>24.91</b>	<b>19.08</b>	<b>19.90</b>	<b>25.11</b>	<b>28.32</b>	<b>14.95</b>	<b>20.71</b>	<b>14.99</b>	<b>20.00</b>





**Table 28(c) Change in the standard of living**

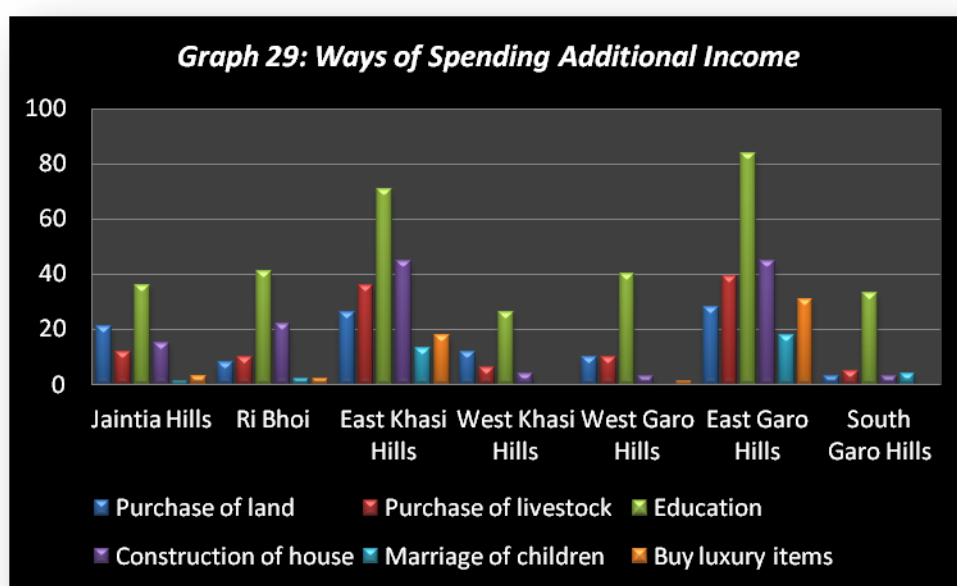
DISTRICTS	Ability to take care of family finances	Ability to employ people in the farm	Improvement of health	Food security	No change	Any other
Jaintia Hills	30	14	16	15	39	1
Ri Bhoi	38	12	7	8	1	1
East Khasi Hills	68	17	8	21	11	8
West Khasi Hills	25	14	14	15	15	1
West Garo Hills	68	8	7	26	3	0
East Garo Hills	67	12	15	14	11	2
South Garo Hills	28	5	15	9	5	1
<b>MEGHALAYA</b>	<b>324</b>	<b>82</b>	<b>82</b>	<b>108</b>	<b>85</b>	<b>14</b>
<b>Percentage</b>	<b>46.62%</b>	<b>11.80%</b>	<b>11.80%</b>	<b>15.54%</b>	<b>12.23%</b>	<b>2.01%</b>



**6.2 Mode of spending additional income:** Most of the beneficiaries were very grateful with the initiative of the Fishery Department to help them avail the One Thousand pond scheme. It had brought positive changes to their lives in various aspects through the additional income earned. The Table 29 below highlights that they would like to use the incremental income in different ways. Having understood the importance of education in modern era most of the fish farmers used the incremental income earned for the education of their children. They expressed their eagerness to strive forward and work harder so that they can send their children outside their village for higher and better education. As most of the fish farmers belonged to BPL group and lived in kutcha and semi-kutcha houses, their subsequent priority is to construct a pucca house to live up to the status of their educated children. Other than these, they also would like to purchase more land, and livestock.

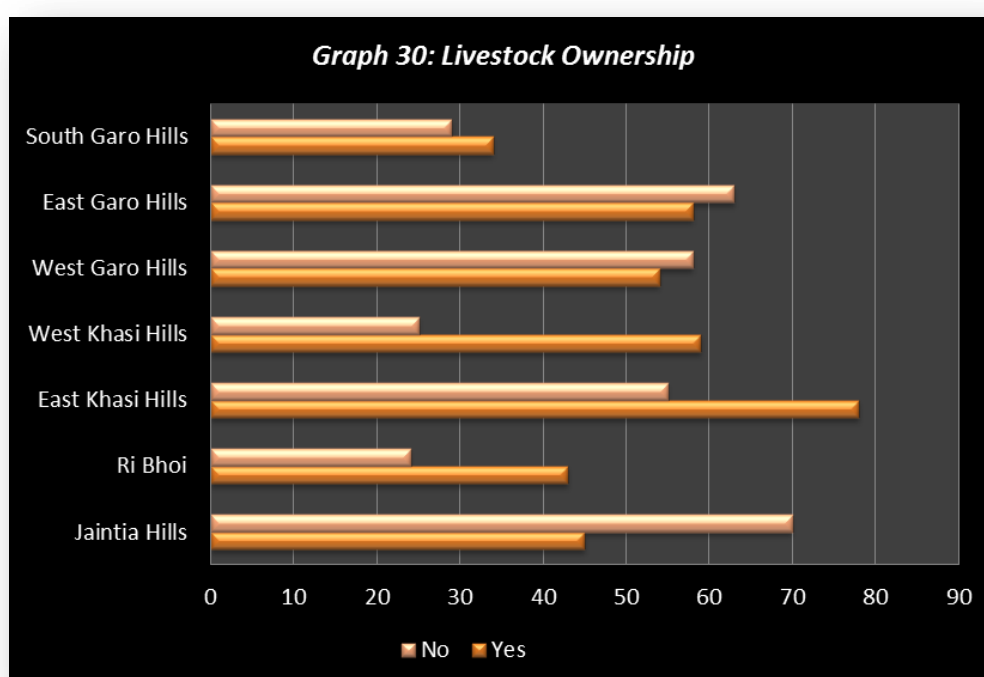
**Table 29: Mode of Spending Additional Income**

DISTRICTS	Purchase of land	Purchase of livestock	Education	Construction of house	Marriage of children	Buy luxury items	Any other
Jaintia Hills	21	12	36	15	1	3	7
Ri Bhoi	8	10	41	22	2	2	12
East Khasi Hills	26	36	71	45	13	18	24
West Khasi Hills	12	6	26	4	0	0	0
West Garo Hills	10	10	40	3	0	1	14
East Garo Hills	28	39	84	45	18	31	16
South Garo Hills	3	5	33	3	4		
<b>MEGHALAYA</b>	<b>108</b>	<b>118</b>	<b>331</b>	<b>137</b>	<b>38</b>	<b>55</b>	<b>73</b>
<i>Percentage</i>	<b>12.55 %</b>	<b>13.72 %</b>	<b>38.48 %</b>	<b>15.93 %</b>	<b>4.41 %</b>	<b>6.39 %</b>	<b>8.48 %</b>



**6.3 Livestock ownership:** 371 respondents own livestock while 324 of them do not (Table 30(a)). From Table 30(b), the number of livestock owned by the fish farmers and the average value of livestock was assessed before and after they became beneficiaries under the scheme. It is seen that the number and value of livestock and poultry increases after they became beneficiaries, which indicates that the practice of integrated farming system adopted by them is successful. The production and quality of livestock also improved leading to improvement of the selling capacity of the beneficiaries under the Thousand Ponds Scheme.

<b>Table 30(a) Livestock Ownership</b>		
DISTRICTS	Yes	No
Jaintia Hills	45	70
Ri Bhoi	43	24
East Khasi Hills	78	55
West Khasi Hills	59	25
West Garo Hills	54	58
East Garo Hills	58	63
South Garo Hills	34	29
<b>MEGHALAYA</b>	<b>371</b>	<b>324</b>
<b>Percentage</b>	<b>53.38%</b>	<b>46.62%</b>



**Table 30**  
***Status Of Number And Value Of Livestock/ Poultry Before And After Becoming Beneficiaries Under TPS for the State of Meghalaya***

Parameters	Pigs		Cows		Goats		Poultry Birds	
	Before	After	Before	After	Before	After	Before	After
Number of livestock/ poultry birds	720	818	725	749	319	517	6943	8516
Average Value of Livestock/ poultry birds (In Rs)	3312	3866	6996	7656	2385	1377	152	130

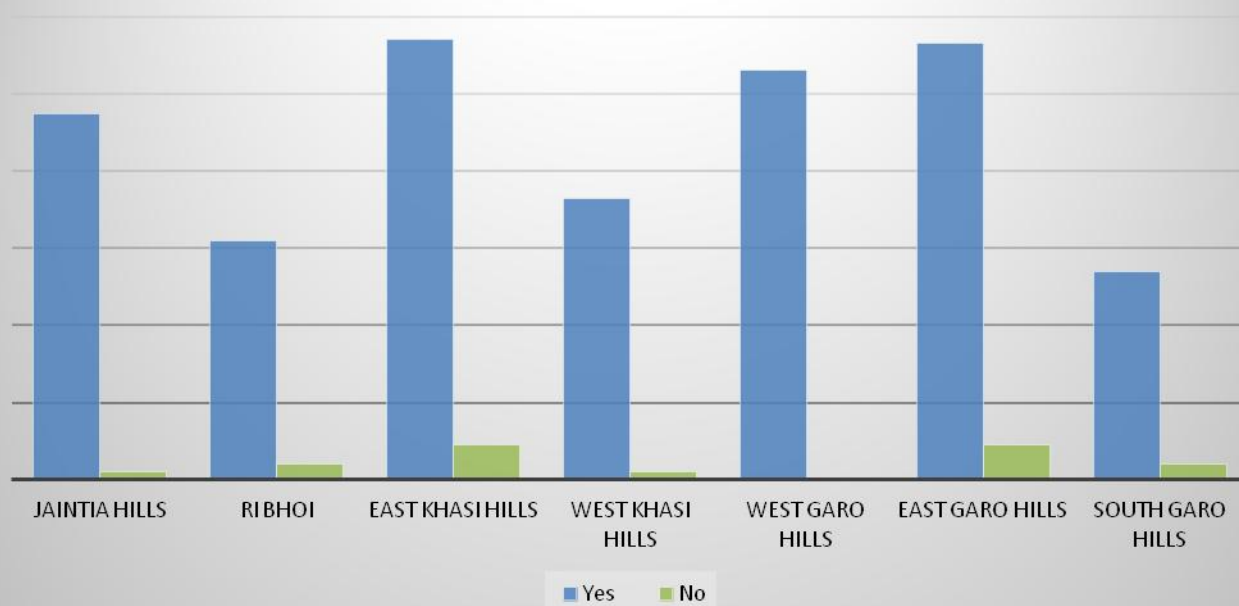
**6.4 Impact of Training and Capacity building for Thousand Ponds Scheme:** Training and capacity building is an important aspect for the successful implementation of any programme. Likewise, several numbers of training programmes on the implementation of the scheme and the technical aspects of fish culture was covered in all the districts by the Department of Fisheries and other agencies.

From Table 31 (a), majority of the respondents (93.81%) were of the opinion that they needed training for implementation of fish culture. The present study reported that 82.45% of the respondents underwent training conducted by the Department and NGOs like the RRTC and others. The respondents were of the opinion that the trainings attended by them were very useful as they gained knowledge and skills to manage their enterprise effectively. Some of the beneficiaries felt that the technical aspect was difficult to understand and there was a need to extend the duration of the training.

Out of the 630 respondents who responded to the question related to improvement of skills, it is inferred that 51.26% of them felt that there was no improvement while 48.74% felt that their skills were enhanced (Table 31(d)).

<b>Table 31(a): Need For Training</b>		
<b>DISTRICTS</b>	<b>Yes</b>	<b>No</b>
Jaintia Hills	110	5
Ri Bhoi	63	4
East Khasi Hills	119	14
West Khasi Hills	78	6
West Garo Hills	112	-
East Garo Hills	113	8
South Garo Hills	57	6
<b>MEGHALAYA</b>	<b>652</b>	<b>43</b>
<b>Percentage</b>	<b>93.81%</b>	<b>6.19%</b>

**Graph 31(a) Need for Training in TPS**



**Table 31(b): Training & Capacity Building**

DISTRICTS	Completed	Not Completed
Jaintia Hills	107	8
Ri Bhoi	62	5
East Khasi Hills	103	30
West Khasi Hills	72	12
West Garo Hills	73	39
East Garo Hills	111	10
South Garo Hills	45	18
<b>MEGHALAYA</b>	<b>573</b>	<b>122</b>
<b>Percentage</b>	<b>82.45%</b>	<b>17.55%</b>

<b>Table 31(c): Training Agency</b>			
<b>DISTRICTS</b>	<b>Self trained</b>	<b>Government Department</b>	<b>NGO</b>
Jaintia Hills	1	114	-
Ri Bhoi	4	61	2
East Khasi Hills	12	114	7
West Khasi Hills	4	71	9
West Garo Hills	-	112	-
East Garo Hills	4	117	-
South Garo Hills	3	59	1
<b>MEGHALAYA</b>	<b>28</b>	<b>648</b>	<b>19</b>
<b>Percentage</b>	<b>4.03%</b>	<b>93.24%</b>	<b>2.73%</b>

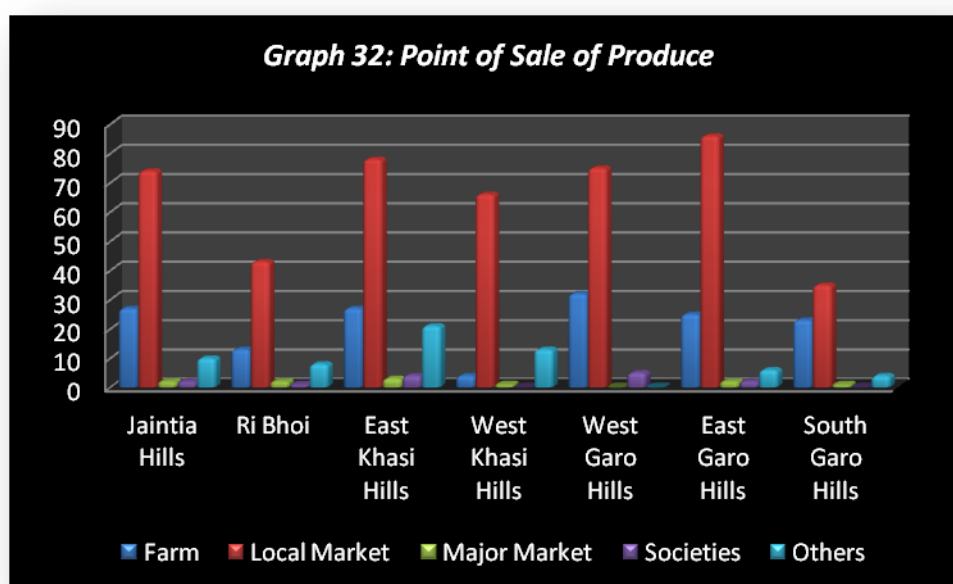
<b>Table 31(d): Improvement of Skill</b>		
<b>DISTRICTS</b>	<b>Yes</b>	<b>No</b>
Jaintia Hills	36	57
Ri Bhoi	38	27
East Khasi Hills	78	38
West Khasi Hills	38	38
West Garo Hills	37	66
East Garo Hills	56	64
South Garo Hills	24	33
<b>MEGHALAYA</b>	<b>307</b>	<b>323</b>
<b>Percentage</b>	<b>48.73 %</b>	<b>51.26 %</b>



## 6.5 IMPACT ON MARKETING OF FISH

**6.5.1 Point of Sale of Produce:** In order to understand the marketing capability of the fish farmers, the place or point of sale of the product was considered. Majority of the respondents sell their produce at the local market in the village (65.76%), while some of them sell the produce at the farm itself (21.73%). From Table 32, it is observed that marketing of fish is also done through societies in the villages. It is inferred that 1.58% of the respondents are progressive fish farmers and were able to sell their produce in major markets.

<b>Table 32: Point of Sale of Produce</b>					
<b>DISTRICTS</b>	<b>Farm</b>	<b>Local Market</b>	<b>Major Market</b>	<b>Societies</b>	<b>Others</b>
Jaintia Hills	27	74	2	2	10
Ri Bhoi	13	43	2	1	8
East Khasi Hills	27	78	3	4	21
West Khasi Hills	4	66	1	0	13
West Garo Hills	32	75	0	5	0
East Garo Hills	25	86	2	2	6
South Garo Hills	23	35	1		4
<b>MEGHALAYA</b>	<b>151</b>	<b>457</b>	<b>11</b>	<b>14</b>	<b>62</b>
<b>Percentage</b>	<b>21.73%</b>	<b>65.76%</b>	<b>1.58%</b>	<b>2.01%</b>	<b>8.92%</b>



**6.5.2 Knowledge of market price:** Knowledge of market price of fish is an essential aspect to ensure that the farmers sold their produce at a profitable rate. Majority of the respondents i.e. 502 (72.23%), are well aware of the prevailing market price and therefore earned profit. However, 193 (27.77%) respondents stated that they did not keep track of the prevailing market prices and hence were not aware. Fish farmers should have ample knowledge on the market price and market trend to avoid being exploited.

<b>Table 33: Knowledge of Market Price</b>		
<b>DISTRICTS</b>	<b>Yes</b>	<b>No</b>
Jaintia Hills	79	36
Ri Bhoi	48	19
East Khasi Hills	94	39
West Khasi Hills	54	30
West Garo Hills	88	24
East Garo Hills	89	32
South Garo Hills	50	13
<b>MEGHALAYA</b>	<b>502</b>	<b>193</b>
<b>Percentage</b>	<b>72.23%</b>	<b>27.77%</b>

**6.5.3 Pricing of fish:** Pricing of fish produced under TPS is done in various ways by the respondents. 404 respondents fix the price of fish based prevailing market prices and 256 farmers fixed the price on self valuation. 231 respondents fix the price of fish based on the prevailing local market price and 35 respondents did not fix the price of fish but sold the produce based on other parameters like quality and quantity. As per Table 35, 352 respondents sold the produce at the market price, 117 respondents sold the produce above the market price and 105 respondents sold the produce below the market price.

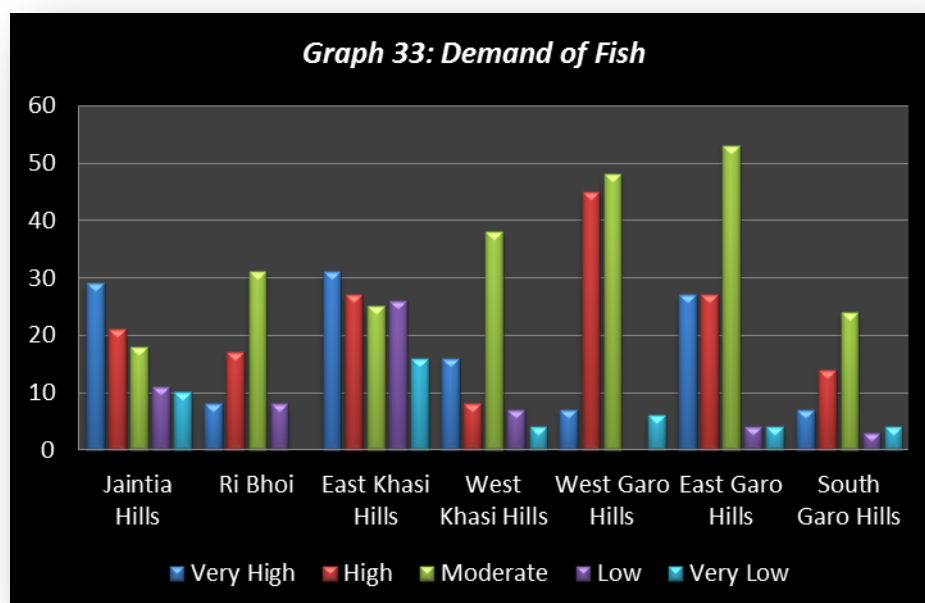
<b>Table 34: Pricing Of Fish</b>			
<b>DISTRICTS</b>	<b>Prevailing Market Price</b>	<b>Self Valuation</b>	<b>Other</b>
Jaintia Hills	65	44	6
Ri Bhoi	45	16	6
East Khasi Hills	75	50	8
West Khasi Hills	46	26	12
West Garo Hills	66	45	1
East Garo Hills	69	50	2
South Garo Hills	38	25	0
<b>MEGHALAYA</b>	<b>404</b>	<b>256</b>	<b>35</b>
<b>Percentage</b>	<b>58.13%</b>	<b>36.83%</b>	<b>5.04%</b>

<b>Table 35: Price of Fish</b>			
<b>DISTRICTS</b>	<b>Market Price</b>	<b>Above market price</b>	<b>Below Market Price</b>
Jaintia Hills	43	28	1
Ri Bhoi	50	1	12
East Khasi Hills	43	32	31
West Khasi Hills	43	5	15
West Garo Hills	62	16	24
East Garo Hills	71	29	16

South Garo Hills	40	6	6
<b>MEGHALAYA</b>	<b>352</b>	<b>117</b>	<b>105</b>
<b>Percentage</b>	<b>61.32 %</b>	<b>20.38 %</b>	<b>18.29 %</b>

**6.5.4 Demand for fish:** From Table 36, 20.03% of the farmers were of the opinion that the demand of their produce is very high, 25.48% felt that the demand was high, 37.98% expressed that it was moderate, 9.45% stated that it was low and 7.05% mentioned that it was very low. The variety of fish reared had a direct bearing on the demand.

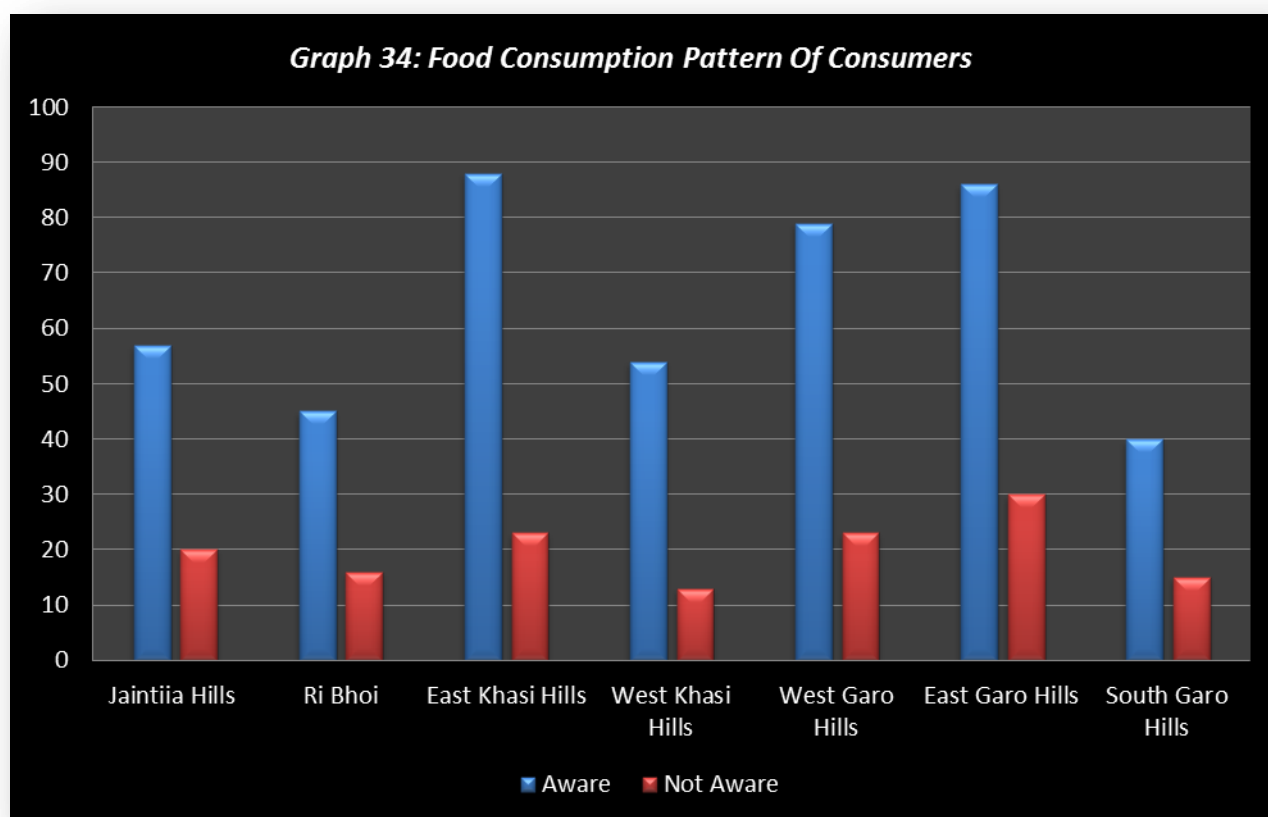
<b>Table 36: Demand of Fish</b>					
<b>DISTRICTS</b>	<b>Very High</b>	<b>High</b>	<b>Moderate</b>	<b>Low</b>	<b>Very Low</b>
Jaintia Hills	29	21	18	11	10
Ri Bhoi	8	17	31	8	0
East Khasi Hills	31	27	25	26	16
West Khasi Hills	16	8	38	7	4
West Garo Hills	7	45	48	0	6
East Garo Hills	27	27	53	4	4
South Garo Hills	7	14	24	3	4
<b>MEGHALAYA</b>	<b>125</b>	<b>159</b>	<b>237</b>	<b>59</b>	<b>44</b>
<b>Percentage</b>	<b>20.03 %</b>	<b>25.48 %</b>	<b>37.98 %</b>	<b>9.45 %</b>	<b>7.05 %</b>



**6.5.5 Knowledge on Food consumption pattern of consumers:** Knowledge on food consumption pattern of consumers is integral to improve the marketability of the produce. Majority of the respondents were well aware of the food consumption of consumers and reared the fish species that were in high demand in the market. 140 of the respondents expressed that they were not aware of the food consumption pattern of the consumers.

**Table 37: Food Consumption Pattern Of Consumers**

DISTRICTS	Aware	Not Aware
Jaintia Hills	57	20
Ri Bhoi	45	16
East Khasi Hills	88	23
West Khasi Hills	54	13
West Garo Hills	79	23
East Garo Hills	86	30
South Garo Hills	40	15
<b>MEGHALAYA</b>	<b>449</b>	<b>140</b>
<b>Percentage</b>	<b>76.23 %</b>	<b>23.76 %</b>



**6.5.6 Consumer's Mode of payment:** The mode of payment that the farmer received was also assessed and it can be inferred that 88.08% received payment in cash while 11.92% sold the produce on credit..

<b>Table 38: Consumer's Mode of Payment</b>		
<b>DISTRICTS</b>	<b>Credit</b>	<b>Cash</b>
Jaintia Hills	3	75
Ri Bhoi	3	63
East Khasi Hills	11	110
West Khasi Hills	5	60
West Garo Hills	22	85
East Garo Hills	15	99
South Garo Hills	13	40
<b>MEGHALAYA</b>	<b>72</b>	<b>532</b>
<b>Percentage</b>	<b>11.92%</b>	<b>88.08%</b>

## Chapter VII

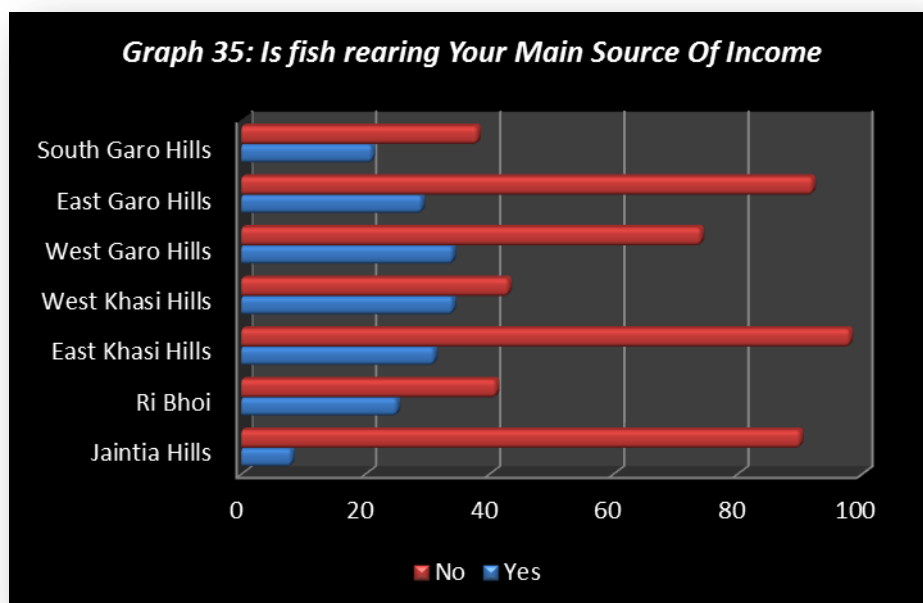
### DETERMINANTS OF CHANGE

**7.1 Fish Rearing as a Source of Income:** The findings generated in Table 39(a) below highlighted that of the beneficiaries expressed that Fish farming has become their main source of household income, as it is highly viable and profitable activity for them. 35% of the respondents have given up other form of livelihood to concentrate fully on Fish farming business. To manage this activity the respondents believe that they have to work hard and perform with full responsibility to the type of job that they have selected. Besides running the operation themselves, most of them were also assisted by their spouse or relatives and even have to employ labourers to maintain the business effectively. Thus, this has generated employment opportunities for the villagers as well.

Table 39(d) shows that 583 respondents are involved in fish farming as a part time job (83.88%) while 112 of them took up the venture on a full time basis (16.12%).

<b><i>Table 39(a): Is fish rearing Your Main Source Of Income</i></b>		
<b>Districts</b>	<b>Yes</b>	<b>No</b>
Jaintia Hills	8	90
Ri Bhoi	25	41
East Khasi Hills	31	98
West Khasi Hills	34	43
West Garo Hills	34	74
East Garo Hills	29	92
South Garo Hills	21	38
<b>MEGHALAYA</b>	<b>182</b>	<b>476</b>
<b>Percentage</b>	<b>27.65 %</b>	<b>72.34 %</b>

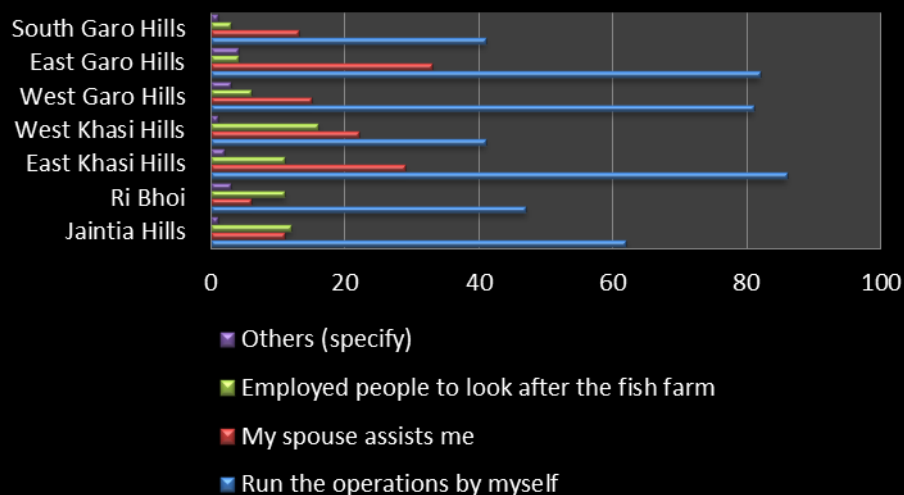




**Table 39(b): Involvement In Fish Farming Under TPS**

Districts	Run the operations by myself	My spouse assists me	Employed people to look after the fish farm	Others (specify)
<b>Jaintia Hills</b>	62	11	12	1
<b>Ri Bhoi</b>	47	6	11	3
<b>East Khasi Hills</b>	86	29	11	2
<b>West Khasi Hills</b>	41	22	16	1
<b>West Garo Hills</b>	81	15	6	3
<b>East Garo Hills</b>	82	33	4	4
<b>South Garo Hills</b>	41	13	3	1
<b>MEGHALAYA</b>	<b>440</b>	<b>129</b>	<b>63</b>	<b>15</b>
<b>Percentage</b>	<b>68 %</b>	<b>19.93 %</b>	<b>9.73 %</b>	<b>2.31 %</b>

**Graph 36 : Involvement In Fish Farming Under TPS**



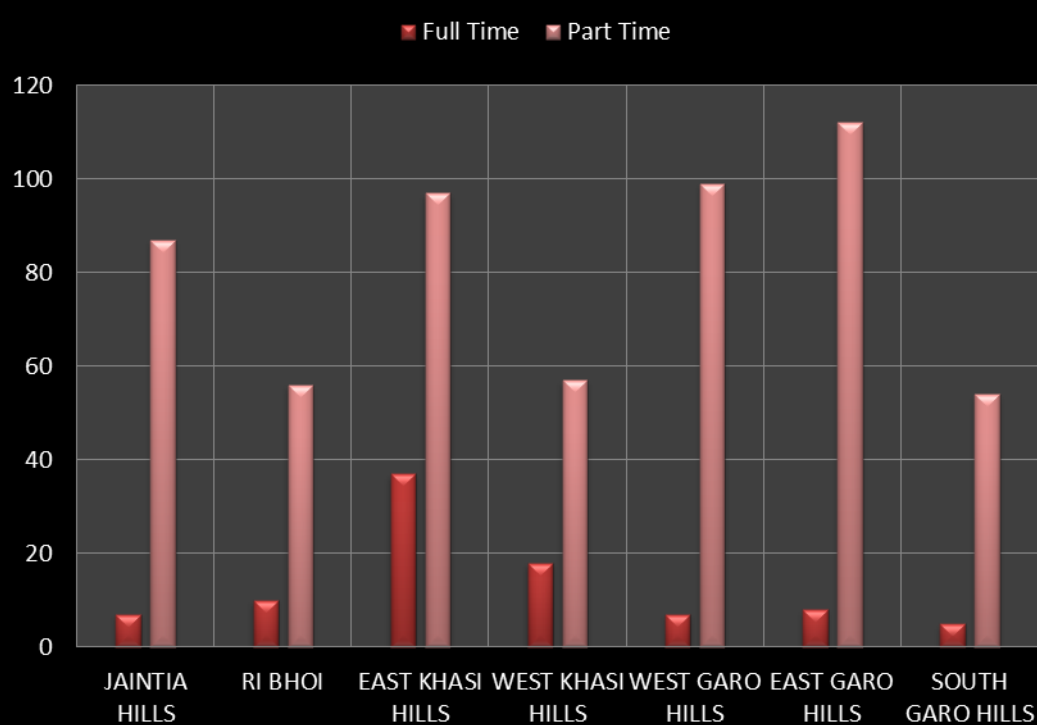
**Table 39 (c): Give Up Another Business To Start Fish Farm**

Districts	Yes	No
Jaintia Hills	23	61
Ri Bhoi	14	53
East Khasi Hills	14	112
West Khasi Hills	11	67
West Garo Hills	16	92
East Garo Hills	13	107
South Garo Hills	1	56
<b>MEGHALAYA</b>	<b>92</b>	<b>548</b>
<b>Percentage</b>	<b>14.37 %</b>	<b>85.62 %</b>

**Table 39(d): Whether Fish Farming Is Full Time/ Part Time?**

District	Full Time	Part Time
Jaintia Hills	18	97
Ri Bhoi	11	56
East Khasi Hills	37	96
West Khasi Hills	22	62
West Garo Hills	11	101
East Garo Hills	8	113
South Garo Hills	5	58
MEGHALAYA	112	583
Percentage	16.12 %	83.88 %

**Graph 37: Whether Fish Farming Is Full Time/ Part Time?**

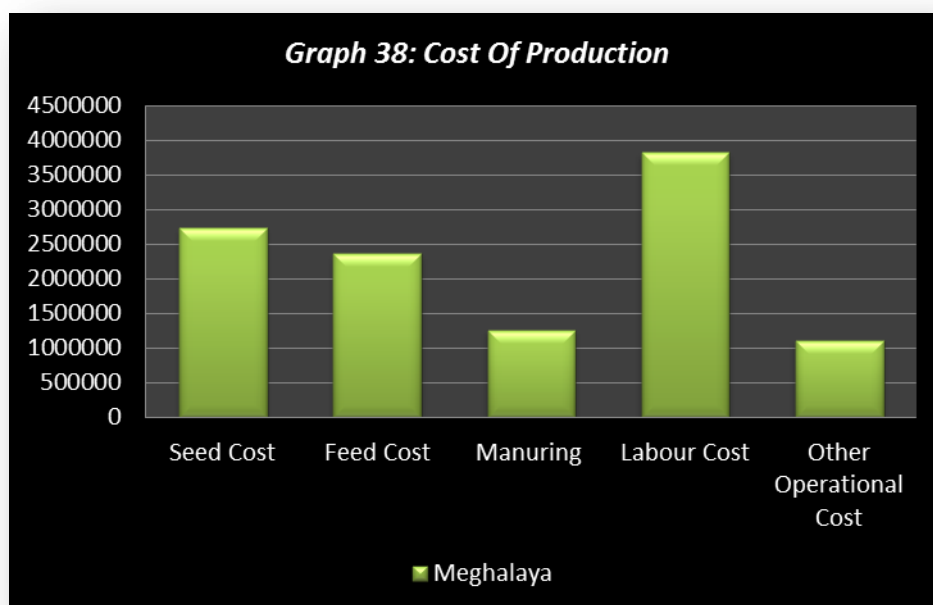


## 7.2 Cost of Production and Turnover of Fish Farming

While doing the analysis for assessing the cost of production and annual turnover data from East Garo Hills was not available. Hence, the tables and graphs relating to this part of the study illustrate figures for only six districts. From the quality of data made available for analysis it is inferred that most of the fish farmers lacked knowledge about book keeping and record maintenance as the response to questions in this regard was poor.

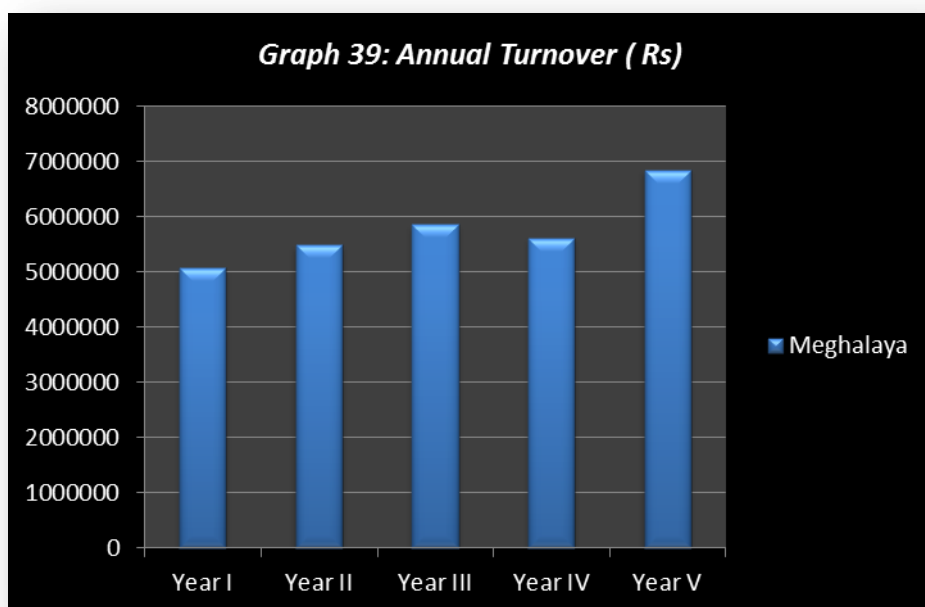
**7.2.1 Cost of production of fish:** The cost incurred for fish seed, feed, manure, labour and other operational cost were assessed and it was found that labour cost was highest in East Khasi Hills followed by West Khasi Hills, Jaintia Hills and West Garo Hills. In East Khasi Hills, West Khasi Hills and South Garo Hills, labour cost recorded higher than other costs. In West Garo Hills, Jaintia Hills and Ri Bhoi, the cost incurred in procurement of fish seed was higher than other costs. For the state as a whole, cost incurred in labour appears to be the largest

<b>Table 40: Cost Of Production</b>					
<b>Districts</b>	<b>Seed Cost</b>	<b>Feed Cost</b>	<b>Manuring</b>	<b>Labour Cost</b>	<b>Other Operational Cost</b>
Jaintia Hills	620100	468200	214500	583290	126500
Ri Bhoi	741400	483900	271700	541250	120000
East Khasi Hills	1012260	897650	458000	2064000	366300
West Khasi Hills	330700	466660	293600	587000	492900
West Garo Hills	1107337	791300	416600	552200	172500
East Garo Hills	Data Not Available				
South Garo Hills	24308	47465	22384	48483	6444
<b>MEGHALAYA</b>	<b>2728768</b>	<b>2363875</b>	<b>1260185</b>	<b>3824023</b>	<b>1112144</b>



**7.2.2 Annual Turnover:** While assessing the annual turnover, the quantitative data relating to fish yield was inadequate, hence, only the assessment in terms of monetary turnover was done. The annual turnover, in terms of returns on investment for the state as a whole showed a rising trend while there were variations in the district wise data.

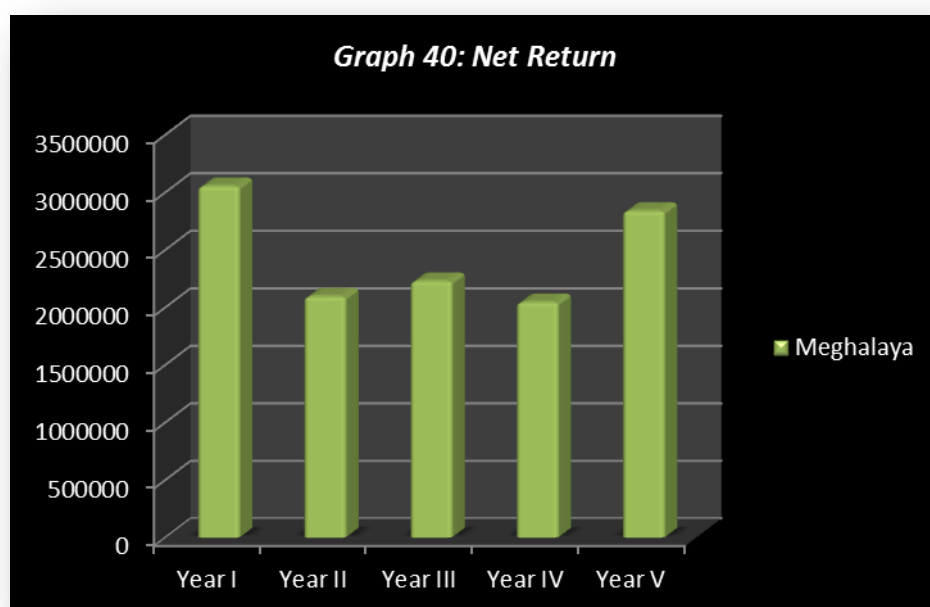
<b>Table 41: Annual Turnover ( Rs)</b>					
<i>Districts</i>	<b>Year I</b>	<b>Year II</b>	<b>Year III</b>	<b>Year IV</b>	<b>Year V</b>
Jaintia Hills	223200	314900	522750	408590	1945110
Ri Bhoi	199000	189500	187500	209300	286400
East Khasi Hills	2996530	3256730	3279530	3348730	3070040
West Khasi Hills	645150	829960	879950	727900	896350
West Garo Hills	958840	869250	905000	844175	632400
East Garo Hills	Data Not Availbale				
South Garo Hills	44745	28770	87830	78917	18408
<b>MEGHALAYA</b>	<b>5067465</b>	<b>5489110</b>	<b>5862560</b>	<b>5617612</b>	<b>6848708</b>



**7.2.3 Net Return:** With regard to the net return, some districts showed a rising trend while some showed a decreasing or fluctuating return. The market forces played a major role in the returns from the sale of produce. Further the rising costs of inputs also affected the returns. These were the major factors affecting the fluctuation in year wise net returns in all the districts. The district of Jaintia Hills showed an abnormal growth in the net returns in the fifth

year. However it is observed that net return was not negative thereby confirming that fish farming could be taken up as a profitable enterprise.

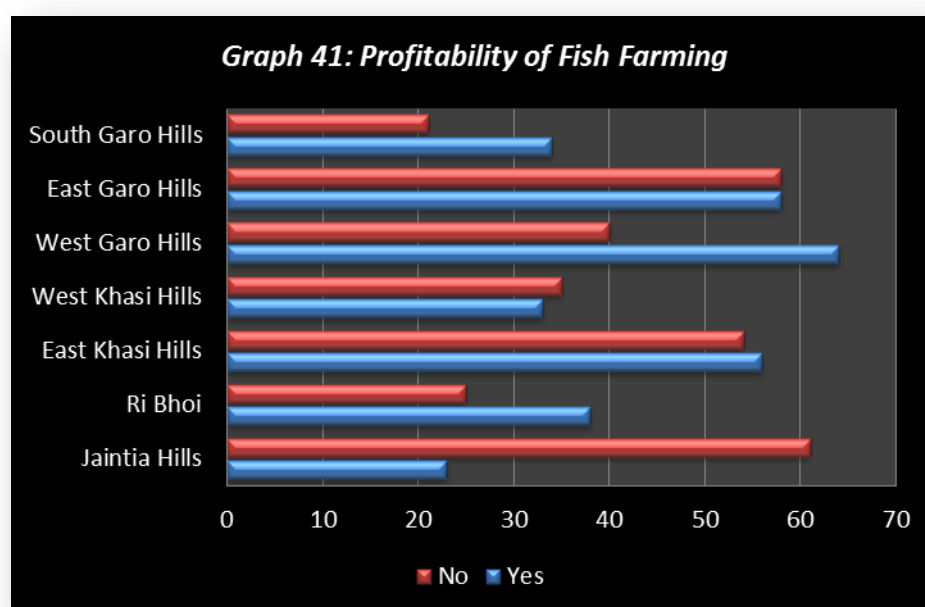
<b>Table 42: Net Return</b>					
<b>District</b>	<b>Year I</b>	<b>Year II</b>	<b>Year III</b>	<b>Year IV</b>	<b>Year V</b>
Jaintia Hills	1000	1500	2000	3000	109100
Ri Bhoi	67500	232400	75850	76650	530450
East Khasi Hills	1556650	1406670	1531300	1375800	1586000
West Khasi Hills	244800	213800	423800	426100	450600
West Garo Hills	1184860	235950	192950	159350	159950
East Garo Hills	Data Not Available				
South Garo Hills	400	5483.333	3641.667	5315	4310
<b>MEGHALAYA</b>	<b>3055210</b>	<b>2095803</b>	<b>2229542</b>	<b>2046215</b>	<b>2840410</b>



**7.3 Profitability in fish farming:** While 57.41% reported that fish farming was profitable, 42.59% reported that it was not. However, it may be mentioned that some of the beneficiaries treated fish farming as an additional activity. Many of the farmers were also not aware of

whether the business was profitable due to the poor record maintenance associated with enterprise development.

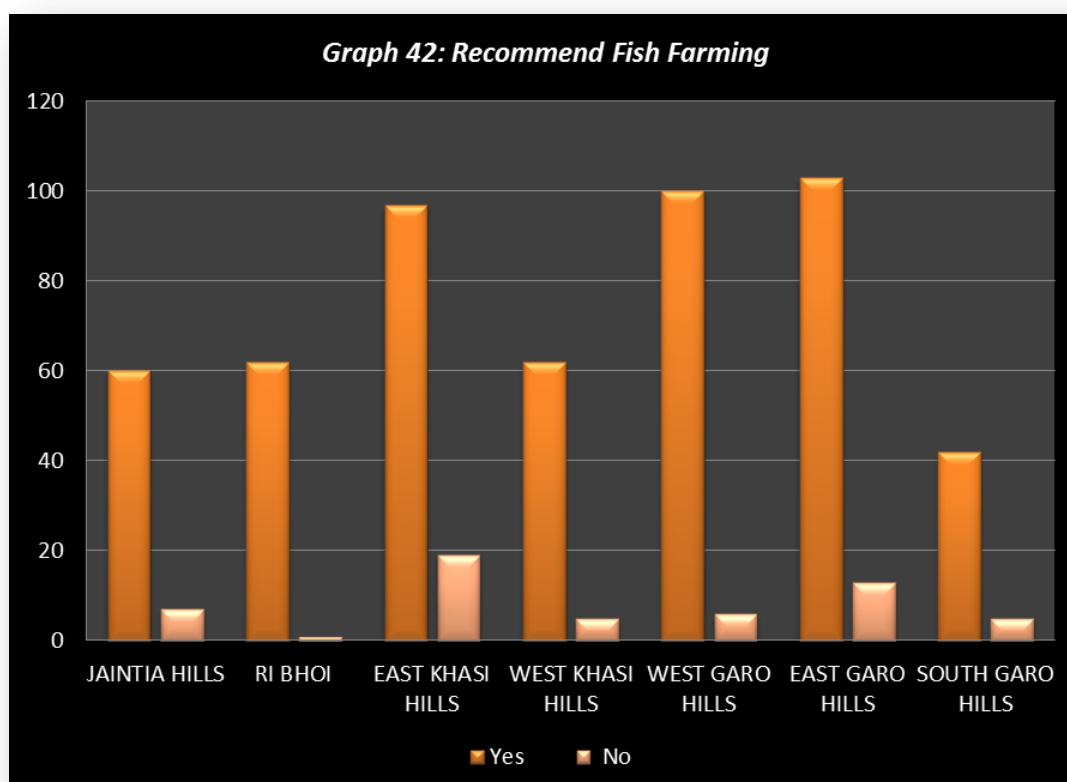
<b>Table 43: Profitability of Fish Farming</b>		
<b>Districts</b>	<b>Profitable</b>	<b>Not Profitable</b>
Jaintia Hills	53	62
Ri Bhoi	48	19
East Khasi Hills	81	52
West Khasi Hills	48	36
West Garo Hills	69	43
East Garo Hills	61	60
South Garo Hills	39	24
<b>MEGHALAYA</b>	<b>399</b>	<b>296</b>
<b>Percentage</b>	<b>57.41%</b>	<b>42.59%</b>





**7.4 Recommend fish farming:** Out of the 582 respondents who responded to this question, 90.37% of the beneficiaries would recommend fish farming as a profitable enterprise to others while only 9.62% reported that they would not recommend fisheries as a profitable business.

<b>Table 44: Recommend Fish Farming</b>		
<b>Districts</b>	<b>Yes</b>	<b>No</b>
Jaintia Hills	60	7
Ri Bhoi	62	1
East Khasi Hills	97	19
West Khasi Hills	62	5
West Garo Hills	100	6
East Garo Hills	103	13
South Garo Hills	42	5
<b>MEGHALAYA</b>	<b>526</b>	<b>56</b>
<b>Percentage</b>	<b>90.37 %</b>	<b>9.62 %</b>

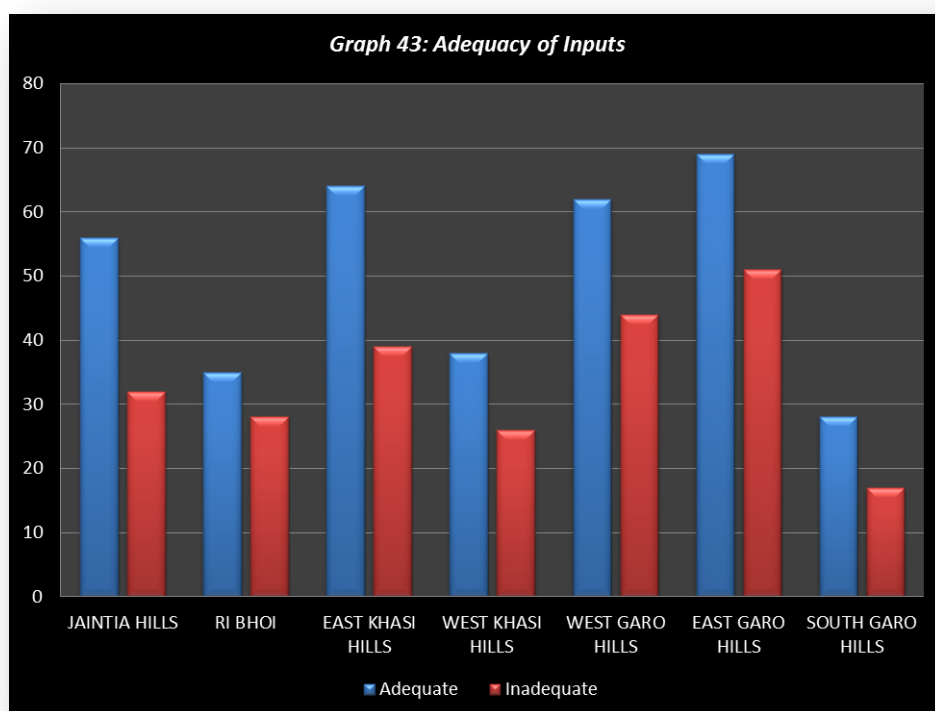


**7.5 Adequacy of Inputs:** Supply of fingerlings and other inputs provided by the Department of Fisheries was found to be adequate by 59.76% of the respondents, while 40.23% of them expressed that the inputs supplied was insufficient resulting in procurement of seed from private sources and incurrence of higher cost. Inadequate supply of inputs also led to the diversion of the resources to other unspecified purposes out of the assistance provided.

**Table 45(a): Adequacy of Inputs**

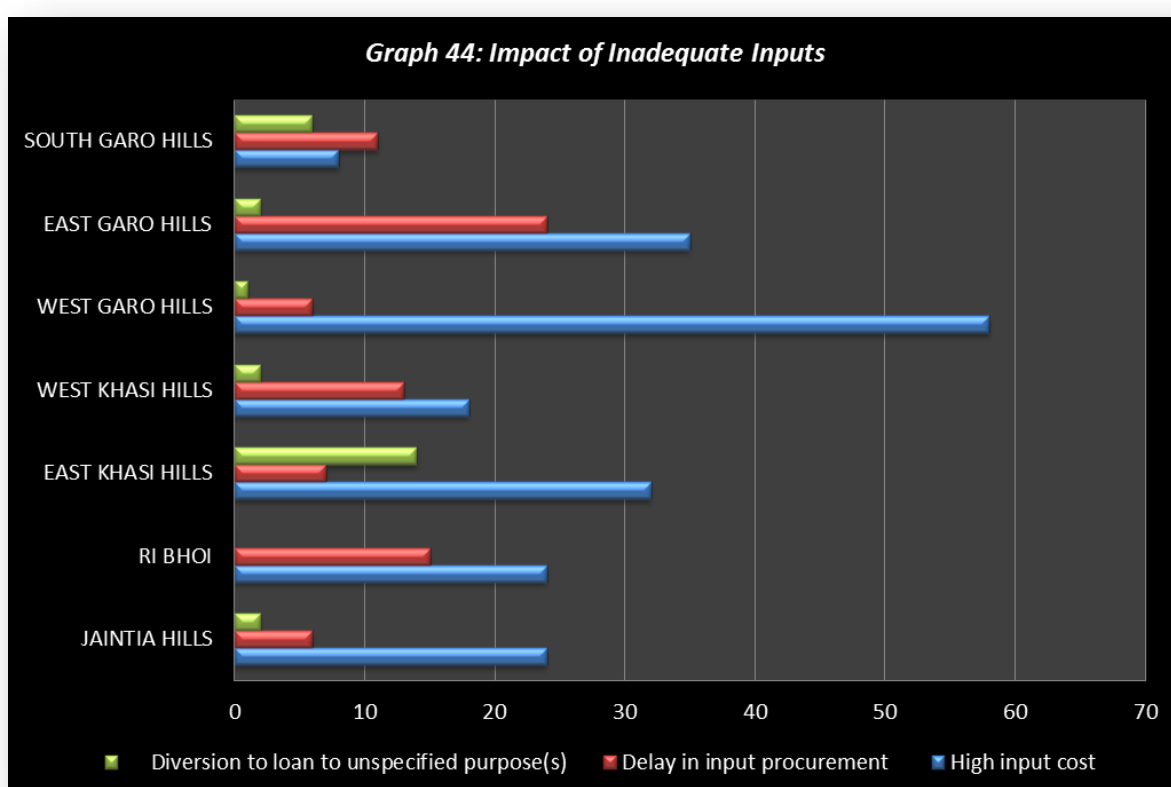
DISTRICTS	Adequate	Inadequate
Jaintia Hills	56	32
Ri Bhoi	35	28
East Khasi Hills	64	39
West Khasi Hills	38	26
West Garo Hills	62	44
East Garo Hills	69	51
South Garo Hills	28	17
<b>MEGHALAYA</b>	<b>352</b>	<b>237</b>
<b>Percentage</b>	<b>59.76 %</b>	<b>40.23 %</b>

**Graph 43: Adequacy of Inputs**



**Table 45(b): Impact of Inadequate Inputs**

Districts	High input cost	Delay in input procurement	Diversion to loan to unspecified purpose
<b>Jaintia Hills</b>	24	6	2
<b>Ri Bhoi</b>	24	15	0
<b>East Khasi Hills</b>	32	7	14
<b>West Khasi Hills</b>	18	13	2
<b>West Garo Hills</b>	58	6	1
<b>East Garo Hills</b>	35	24	2
<b>South Garo Hills</b>	8	11	6
<b>MEGHALAYA</b>	<b>199</b>	<b>82</b>	<b>27</b>
<i>Percentage</i>	<b>64.61 %</b>	<b>26.62 %</b>	<b>8.76 %</b>



### **7.6. Assistance from Government Officials:**

**Government support to fish farming:** The Thousand Ponds Scheme is implemented by the Department of Fisheries and for proper implementation of the programme, the Department supports fish farming through various ways like providing funds for setting up of the pond, advice with regard to scientific rearing of fish and marketing. 117 respondents received support through funds provided by the Department, 278 respondents received support through technical advice and 134 respondents received support with regard to marketing of their produce.

**Table 46: Government Support To Fish Farming**

<b>DISTRICTS</b>	<b>Monetary</b>	<b>Technical Advice</b>	<b>Market to sell fish</b>
Jaintia Hills	16	33	14
Ri Bhoi	19	31	13
East Khasi Hills	30	43	21
West Khasi Hills	18	17	21
West Garo Hills	9	49	31
East Garo Hills	18	68	28
South Garo Hills	7	37	6
<b>MEGHALAYA</b>	<b>117</b>	<b>278</b>	<b>134</b>
<i>Percentage</i>	<b>22.11 %</b>	<b>52.55 %</b>	<b>25.33 %</b>

<b>Table 47: Assistance from Government Officials</b>			
	<b>Yes</b>	<b>No</b>	<b>No Response</b>
Give you the patient hearing	<b>333</b>	<b>70</b>	<b>44</b>
	<b>74.49 %</b>	<b>15.65 %</b>	<b>9.80 %</b>
Help in solving problems faced in different stages	<b>343</b>	<b>79</b>	<b>6</b>
	<b>80.14 %</b>	<b>18.45 %</b>	<b>1.40 %</b>
Provide guidance	<b>359</b>	<b>62</b>	<b>6</b>
	<b>84.07 %</b>	<b>14.51 %</b>	<b>1.40 %</b>
Encourage to take up new schemes	<b>321</b>	<b>95</b>	<b>3</b>
	<b>76.61 %</b>	<b>22.67 %</b>	<b>0.71 %</b>
Deal empathetically	<b>206</b>	<b>76</b>	<b>24</b>
	<b>67.32 %</b>	<b>24.83 %</b>	<b>7.84 %</b>

## **Chapter VIII**

### **MAJOR FINDINGS AND CONCLUSION**

#### **8.1 Major Findings:**

1. It is observed that adequate coverage of women beneficiaries was done through this scheme, which is a positive trend in promoting women run enterprises thereby empowering them economically.
2. Larger number of beneficiaries covered under TPS belonged to the educated class from matriculate and above and most of the beneficiaries belonged to the age group from 20 – 40 years.
3. Majority of the farmers assisted under the scheme belonged to the APL category.
4. Though fish farming is not a traditional activity in the State, yet people came forward to avail the scheme. The beneficiaries revealed that their main objective for availing the scheme was to start a profitable business venture.
5. Mainly, people who came forward to apply for the scheme did so after reading the advertisement issued by the department, thus indicating that sufficient publicity of the scheme was done.
6. While most of the applicants did not face problem in getting selected, high traveling cost and excessive documentation were some of the problems faced prior to receiving sanction.
7. Beneficiaries that were selected expressed that they had to make frequent visits to the department and bank before the scheme was sanctioned.
8. Most of the ponds created under the scheme were either dug out ponds or used earth for bunding. Hence the cost spent on material was less. The labour cost during the time of construction however, was very high.
9. Most of the ponds were created in the beneficiaries owned land.
10. Natural drains and water sources were the main sources of water for the fish ponds created under the scheme.
11. A higher percentage of ponds created under the scheme are still functional indicating that the scheme was successful.
12. While the Department provided the fingerlings as part of the scheme there are beneficiaries who expressed that the same was not adequate and therefore had to

procure seeds from other sources. The period of supply of fingerlings by the Department was from May to September thereby affecting the farmers who completed the construction between October and April. The distance of the district farm to the location of the pond resulted in high transportation cost, high mortality rate and procurement of fish seed from other sources.

13. The department officials assisted most of the beneficiaries in preparation of documents for availing the loan from the Bank.
14. The default rate was very low, indicating that fish farming generated surplus income to enable the beneficiary to repay the loan.
15. Reasons for defaulting were mainly due to non-functionality of pond, demise of beneficiary and inadequate project cost.
16. Although financial assistance was provided for the creation of ponds and inputs, beneficiaries still invested additional funds from other sources.
17. The annual family income has increased and has enabled the fish farmer to provide better education for the children and raise the standard of living.
18. Highest priority for spending the enhanced income was accorded for education of children followed by improvement in living conditions.
19. Farmers indicated that integrated fish farming was beneficial and therefore invested on procurement of livestock like piggery and poultry.
20. Training and capacity building conducted by the department and other agencies has improved the skills of fish farmers to a great extent. However, some farmers felt that practical sessions pertaining to technical aspect should be incorporated and training days should also be extended for better learning.
21. Most of the farmers market their produce on farm and through local markets while some beneficiaries market their produce through the fishery societies which are in the budding stage. Marketing at the local markets prevent the farmers from being exploited and and also enhance their marketing skills.
22. The different species of fish reared by the farmers resulted in the variations of demand ranging from very high to very low in all the districts of the state.
23. Fish farming as an activity opened up opportunities for people to get employment.
24. The annual turnover showed a rising trend except for a dip in the 4<sup>th</sup> year.

25. Maintenance of accounts and records among the beneficiaries needs to be taken care of.
26. Fish Farmers expressed their satisfaction with regard to the venture as it was a reliable source of income.
27. The assistance and concern of the officials was acknowledged by most of the beneficiaries.

## **8.2 Conclusion:**

In conclusion, TPS was successful and benefitted the assisted farmers. Efforts were made to extensively cover the women and youth of the state under the Scheme. The performance of officials and their constant support to the beneficiaries is commendable.

The study showed that beneficiaries assisted under the scheme have made profits and there was an overall improvement in the quality of life.

Training, marketing, record maintenance and excessive documentation for bank linkage need to be addressed. The availability of inputs like fish seeds was also a concern and efforts towards promoting more hatcheries, fish breeders and fingerlings suppliers may be taken up. Signboards at the ponds of the assisted farmer may be installed.

On the whole the department may consider widening the scope of work by skilling more farmers in the fisheries sector as it is a profit making employment opportunity particularly for the people in the rural areas. Success stories have to be documented and shared to a wide audience. Technology research and development would also help in promoting the fisheries sector in the State.



## **PHOTO GALLERY**



*Balajied Majaw, Wah Umsum, 12 Shnong*



*Balajied Majaw, Wah Umsum, 12 Shnong*





*Laitkyrhong, Mawkynrew*



*Lyngkhoi, Mawphlang*





*Binalit Kharumnuid Thynroit Mawkynrew  
Block*



*Smit, Mawryngkneng*

