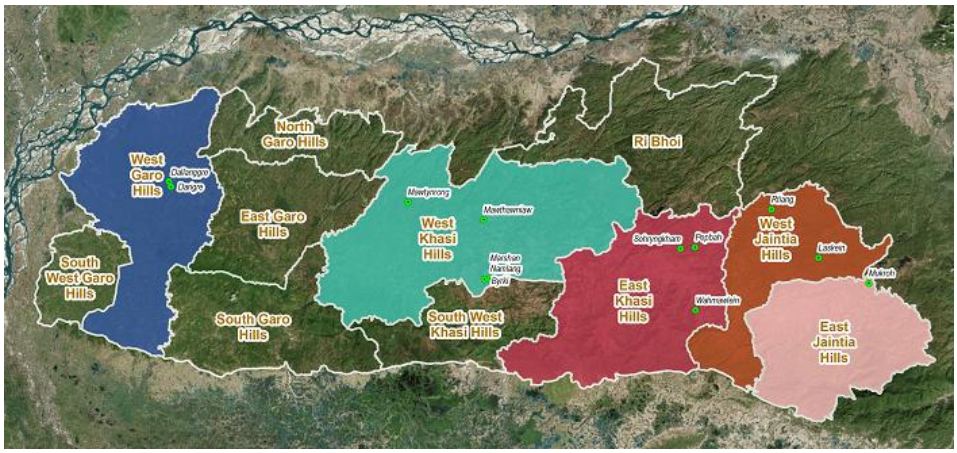
INTEGRATED WATERSHED MANAGEMENT PROGRAMME (IWMP) MEGHALAYA



REPORT ON BASELINE SURVEY & BENCHMARKING (BATCH-III)

Submitted to:

Meghalaya State Watershed & Wasteland Development Agency (MSWWDA), Govt. of Meghalaya

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Acknowledgement

Baseline characterization builds necessary foundation in effective planning and measuring performance of development projects. Likewise, proper characterization of watersheds is a prerequisite for appropriate policy directions to enhance productivity and sustainable development of the projects under Integrated Watershed Management Programme (IWMP). With such orientation, this Baseline Report has been developed based on the field survey carried out by NEDFi Monitoring team as per scope of work under Monitoring, Evaluation, Learning and Documentation (MEL&D) assignment for Meghalaya State Watershed & Wasteland Development Agency (MSWWDA), State Level Nodal Agency (SLNA-IWMP), Government of Meghalaya.

NEDFi Monitoring team would like to acknowledge with gratefulness the guidance and timely co-operation received from **Shri D. Langstieh, Director, Soil & Water Conservation Department and CEO-MSWWDA,** SLNA-IWMP, Government of Meghalaya for approving the methodology proposed as well as the data collection schedules developed for the field survey.

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We would like to express our sincere gratitude to **Smt. C. S. Thabor, AS&WCO and Expert-MSWWDA** for overall liasioning support to the Monitoring team.

We remain grateful to all the Divisional Officers (DOs), Assistant Soil & Water Conservation Officers, Range Officers and Field Demonstrators of Soil & Water Conservation Department, Govt. of Meghalaya for facilitating, co-ordinating and providing logistical support during the field survey.

The extensive field data collection would not have been possible without the co-ordination of all the Technical Experts (TEs)/Watershed Development Team (WDT) members involved in the survey work for their vital efforts in conducting the Village as well as Household survey across the difficult terrains to collect the quality data presented in this report. Hence a special thanks to them for their invaluable assistance.

Finally, we are thankful to all the Secretaries/Presidents of Watershed Committees, all the Village Headman, all the 627 (Six Hundred and Twenty Seven) respondents for household survey representing 40 (Forty) Villages, 10 (Ten) Project locations and 8 (Eight) districts of Meghalaya for graciously sharing their knowledge, experience and sparing their time by participating in the survey, which made this Baseline Report possible.

Smt. Faiza Sultana
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LIST OF ACRONYMS & ABBREVIATIONS

Acronyms & Abbreviations	Full Form
ATM	Automated Teller Machine
BPL	Below Poverty Line
CV	Control Village
DoLR	Department of Land Resources (Department under the Ministry of Rural Development, Government of India)
Ha	Hectare
HYV	High Yielding Variety
IDM	Integrated Disease Management
INM	Integrated Nutrient Management
IPM	Integrated Pest Management
IWMP	Integrated Watershed Management Programme
Kg	kilogram
LR	Lower Reach
m	Metre
MCAB	Meghalaya Cooperative Apex Bank
MEL&D	Monitoring, Evaluation, Learning and Documentation
MGNREGS	Mahatma Gandhi National Rural Guarantee Scheme
MHIS	Meghalaya Health Insurance Scheme
MR	Middle Reach
MRB	Meghalaya Rural Bank
MSWWDA	Meghalaya State Watershed & Wasteland Development Agency
N	No
NEDFi	North Eastern Development Finance Corporation Ltd.
NTFP	Non Timber Forest Product
PHE	Public Health Engineering (a Department of the Government of Meghalaya)
Rs.	Rupees
SD	Standard Deviation
s.d.	Standard Deviation
SHG	Self Help Group
SLNA	State Level Nodal Agency
ST	Scheduled Tribe
UG	User Group
UR	Upper Reach
WC	Watershed Committee
WCDC	Watershed Cell cum Data Centre
WDT	Watershed Development Team (Project Implementing Agency)
Y	Yes

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Executive Summary

Integrated Watershed Management Programme

The Integrated Watershed Management Programme (IWMP) is being implemented under the aegis of the Department of Land Resources (DoLR), Ministry of Rural Development, Government of India. The main objectives of the above programme include restoring the ecological balance by harnessing; conserving and developing degraded natural resources such as soil, vegetative cover and water. The programme intends to achieve outcomes like the prevention of soil run-off, regeneration of natural vegetation, rain water harvesting and recharging of the ground water table. It has been envisaged that the above measures would enable multi-cropping and the introduction of diverse agro-based activities in order to provide sustainable livelihoods to the people residing in the watershed areas.

Along with the other states of India, the above programme, viz. IWMP, is being implemented in the state of Meghalaya. The Meghalaya State Watershed & Wasteland Development Agency (MSWWDA), an organization formed by the Soil & Water Conservation Department of Government of Meghalaya, is executing the programme in this state as the State Level Nodal Agency.

Monitoring, Evaluation, Learning and Documentation

The IWMP is a more diverse and inclusive programme compared to its predecessors. In view of the large expenditure and the needs of the people that the programme seeks to address, it becomes imperative to ensure accountability and set minimum standards of performance and achievements for the public investment. This is sought to be done by taking initiatives to establish a well designed and functional system for Monitoring, Evaluation, Learning and Documentation (MEL&D). Apart from indicators designed to assess the performance of soil and water conservation activities, the outcomes in the environmental, economic, agricultural and allied fields have to be covered by the development of indicators, benchmarks and performance targets. In Meghalaya, the above structure has been followed for the successful execution of the programme in the state.

Baseline Survey of IWMP Batch-III Projects in Meghalaya

At the outset of the implementation of IWMP in the state, a Baseline Survey is required to be conducted in the sampled watersheds. In Meghalaya, the work for the above-mentioned Baseline Survey was commenced in February 2016 by North Eastern Development Finance Corporation Ltd. (NEDFi), which is involved as the MEL&D Agency for the SLNA in the state. Thereafter, the entire exercise consists of the following steps:

(a) Desk Review and Study of Secondary Data;

(b) Developing Pilot Survey Schedule;

(c) Field Testing of Survey Schedules;

(d) Finalization of Survey Schedule;

(e) Data Collection as per sample methodology (Field Survey & Focus Group Discussion);

(f) Data Entry & Tabulation;

(g) Data Analysis;

(h) Preparation of Draft Report; and

(i) Finalization of Report.

The design and implementation of the study has been discussed as follows.

Survey Methodology

The sampling strategy used in the present Baseline Survey for IWMP in Meghalaya (Batch-III) is based on the framework prescribed by the Department of Land Resources (DoLR), Ministry of Rural Development, Government of India. The steps involved in the process are given below:

(a) **Selection of Projects:** In the present instance, the Baseline Study covered 25% of the batch-wise projects. In other words, around one-quarter of the projects taken up under Batch-III were taken up under the present exercise.

(b) **Selection of Villages:** The selection of villages to be covered in the Baseline Survey was done as given below.

Project Village: In each project, three villages were taken up for the study. One of these villages was located in each of the Upper Reach (UR) or ridge, Middle Reach (MR) and Lower Reach (LR) or Valley of the watershed covered under the project.

Control Village: Some of the villages in the untreated area with similar ecological and socio-economic conditions will be taken up under the above study as the 'control sample'. Comparison of the variation of the indicator values in the project villages against the variation in the same indicators in the 'control sample' will enable the better assessment of the programme impacts.

(c) **Sampling of Households:** Under the present Baseline Survey in Meghalaya, the sampling of households in the selected villages was done in the following manner in the project villages and control village:

Project Villages: 20% of the households staying in the selected project village; and

Control Villages: 50% of the households living in the selected village taken as 'Control Village.

(d) **Administration of Schedules:** Data was collected from the sampled households on the project indicators and other relevant aspects by using Schedules. Copy of the Household Schedule is attached as Appendix-2.

List of Selected Project Villages & Control Villages

The list of selected villages and their location details is given overleaf. This is done separately for the project villages and control villages.

Table-ES.1: Selected Project Villages (Batch III)

District	Block	Project Name	Sampled Village	Location
West Garo Hills	Dadenggre	IWMP-XI	Dallangre	Upper Reach
	-Do-	-Do-	Adinggre	Middle Reach
	-Do-	-Do-	Darigre	Lower Reach
West Jaintia Hills	Laskein	IXMP-VII	Rtiang	Upper Reach
	-Do-	-Do-	Bear	Middle Reach
	-Do-	-Do-	Mukroh	Lower Reach
East Khasi Hills	Mawphlang	IWMP-XI	Rim Shylla	Upper Reach
	Mawkynrew	-Do-	Wah Mawlein	Middle Reach
	Mawrynkneng	-Do-	Pepbah	Lower Reach
West Khasi Hills	Nongstoin	IWMP-VIII	Marshan Namlang	Upper Reach
	-Do-	-Do-	Byrki	Middle Reach
	-Do-	-Do-	Mawtynrong	Lower Reach

Table-ES.2: Selected Control Villages (Batch III)

District	Block	Sampled Village	Control Village for
West Garo Hills	Dadenggre	Dichingre	IWMP-XI
West Jaintia Hills	Laskein	Laskein	IXMP-VII
East Khasi Hills	Mawrynkneng	Sohryngkham	IXMP-XI
West Khasi Hills	Nongstoin	Mawthawniaw	IXMP-VIII

Key Findings of the Survey

Sl. No.	Important Indicators	Findings
1.	Household and Land Details	• All households in the villages (project village and control village) possess homestead land (i.e. land for locating their houses). • The average homestead land owned by a household in the project villages is about 0.121 Hectares whereas in control village is 0.105 Hectares.
2.	Irrigation	• There is no irrigated area in the project villages and control villages as per the present study.
3.	Drinking Water	• In the project villages, more than three quarters of all households depends on spring water for drinking water during dry season (February-March).
4.	Cooking Fuel	• 75% households of the project villages responded that Forest is the main source of cooking fuel whereas 25% of the household responded as Forest/Market is the main source of cooking fuel.
5.	Crops Grown	• It is seen that both the project and control villages usually grow rice under rain-fed (non-irrigated) conditions. Rice is normally grown under non-irrigated conditions.

Sl. No.	Important Indicators	Findings
6.	Orchards, Plantation Crops & Agro-Forestry	• Arecanut and Cashew Nut are mostly grown in West Garo Hills and are found in abundance while rubber is yet to be tapped as it takes 5-6 years for the rubber trees to grow. Sohpie (Myrica nagi) is having high output in west khasi hills district.
7.	Livestock	• It is found that Cattle, Pigs, Poultry and Goats are the commonly owned livestock in both project and control villages.
8.	Fishery	• On an average, the area under fishery in the project area is 0.089 Ha and average output is 7 Kgs. Average income from the same is Rs.6,556/- per annum.
9.	Non Timber Forest Product (NTFP)	• It is seen that Broom (Hill Grass) is the only NTFP found in the project villages and there are no NTFP in any of the control villages.
10.	Wage Labour	• It is found that the wage rate per day varies from district to district. Districts of West Garo Hills, West Jaintia Hills and East Khasi Hills receives an amount of Rs. 163/- only whereas in West Khasi Hills, daily wage rate is Rs. 153/- only.
11.	Migration	• Migration on a permanent basis is found to be very negligible. It is found that persons permanently migrated is only 1 in the project village whereas it is nil in the control villages.
12.	Income	• It is seen that, households are engaged in different income generating activities and these are their main source of livelihood.
13.	Assets	• It is found that in both project and control villages, majority of households own semi-pucca type of house with sanitary toilets and electrical connection. Availability of Solar device is almost non-existent.
14.	Social Capital	• Referring items like food and drinking water, all the households indicated self-sufficiency for round the year in both project and control villages.
15.	Income and Expenditure	• In project villages, the average household income is approx. Rs.8,901/- per month and average household expenditure is approx. Rs.4,773/- per month.

Benchmarking

In terms of implementation of IWMP, benchmarking has been defined as 'a process of setting realistic standards of watershed outcomes by assigning specific values to the indicators identified for this purpose and taking into consideration agro-ecological variation and production processes across the sectors.'

The indicators and benchmarks for the IWMP have been developed and refined in 2015 with the collaboration of domain experts and practitioners from multi-disciplinary areas. Accordingly, the 'Operational Guidelines' on benchmarking of watershed management outcomes has been brought out by the DoLR in 2015. It furnishes the major ecological regions considered for benchmarking. India has been classified into eight such regions based on the factors like Physiography, slope, soil type, forest cover and availability of water resources.

Referring the said 'Operational Guidelines', a review meeting related to Benchmarking was held with the officials of SLNA-IWMP, Meghalaya on 13th February 2017 in presence of the representative officials of PIAs in Shillong. Based on the detail discussions held in the review meeting, the baseline values has been fixed for the identified indicators considering the agro-climatic zone and usefulness to the watershed projects implemented in Meghalaya.

The indicators and benchmarks so finalised are shown in **Page No. 114** under Chapter-4 of this Report.

1. INTRODUCTION

1.1. Integrated Watershed Management Programme (IWMP)

The Integrated Watershed Management Programme (IWMP) is a programme of the Government of India, which is being implemented under the aegis of the Department of Land Resources (DoLR), Ministry of Rural Development. The programme was launched in 2009-10 with the main objectives of restoring the ecological balance by harnessing; conserving and developing degraded natural resources such as soil, vegetative cover and water. The programme intends to achieve outcomes like the prevention of soil run-off, regeneration of natural vegetation, rain water harvesting and recharging of the ground water table. It has been envisaged that the above measures would enable multi-cropping and the introduction of diverse agro-based activities in order to provide sustainable livelihoods to the people residing in the watershed areas.

Along with the other states of India, the above programme, viz. IWMP, is being implemented in the state of Meghalaya. The Meghalaya State Watershed & Wasteland Development Agency (MSWWDA), an organization formed by the Soil & Water Conservation Department of Government of Meghalaya, is executing the programme in this state.

Appropriate institutional arrangements have been made at various levels for the effective and professional management of watershed development projects. Dedicated institutions have been established at the different levels with multi-disciplinary experts, as given in the following table.

Table-1.1: Institutional Structure for Implementation of IWMP at the State Level

Level	Institution	Acronym
State Level	State Level Nodal Agency	SLNA
District Level	Watershed Cell cum Data Centre	WCDC
Project Level	Project Implementing Agency – Watershed Development Team	PIA-WDT
Village Level	Watershed Committee	WC

It may be noted that the Meghalaya State Watershed & Wasteland Development Agency (MSWWDA) is functioning as the State Level Nodal Agency (SLNA) in the state. WCDCs have been positioned in each district of the state. WDT is functional as the Project Implementation Agency for each project. At the village level, Watershed Committees are functional in the state.

1.2. *Monitoring, Evaluation, Learning & Documentation (MEL&D) System*

The IWMP is a more diverse and socially inclusive programme compared to its predecessors like Drought Prone Area Programme (DPAP), Desert Development Programme (DDP) and Integrated Watershed Development Programme (IWDP). In view of the large expenditure and the needs of the people that the programme seeks to address, it becomes imperative to ensure accountability and set minimum standards of performance and achievements for the public investment.

This is sought to be done by the following initiatives to establish a well designed and functional system for Monitoring, Evaluation, Learning and Documentation (MEL&D). In Meghalaya, the above structure has been followed for the successful execution of the programme in the state.

Monitoring

A participatory, outcome and impact-oriented and user-focused monitoring, evaluation and learning system has been put in place to obtain feedback and undertake improvements in planning, project design and implementation. The programme design recommends that regular monitoring of the projects is to be carried out at each stage. Such monitoring includes process and outcome monitoring. Online monitoring is a feature of all projects. The PIA shall submit quarterly progress reports (countersigned by the Watershed Committee (WC) President) to the WCDC for further submission to the SLNA. The WCDC will have one member exclusively responsible for monitoring.

In Meghalaya, as elsewhere in India, the monitoring of the watershed projects is being done by various mechanisms. These include Internal Monitoring by Project Teams (PIA/ WCDC), Progress Monitoring, GIS / Web Based On-Line Monitoring, Self-Monitoring by communities, Sustainability Monitoring, Social Audits, Independent and External Monitoring by Independent Agencies, etc.

Evaluation

A minimum percentage of evaluations and impact studies will be carried out to ensure objectivity as well as to infuse a national perspective. The evaluation will be carried out by SLNA panel of evaluators, selected as per guidelines issued by DoLR. This is planned to be done at the end of the programme.

Learning

Systematic efforts are being made by the WDT/WC to learn from the field experiences as also from feedback of independent sources. Different methods had been proposed to enable the learning process at different levels. Such measures are being followed in the state of Meghalaya along with the rest of the country.

Documentation

Last activity domain in the MEL&D system is documentation. In any project management structure, documentation occupies a significant share of total activities. System of documentation hardly leaves any space for any missing link in the activity flow chart of project implementation. IWMP envisages all sorts of standard documents and responsibility of documentation is naturally vested upon MEL&D agencies who are expected to be professional experts in the area. Thus MEL&D system has a duel role in documentation. Firstly, it could be logically expected from the agency that appropriate measures to be taken for educating project implementation functionaries at all levels regarding generating and archiving documents. Secondly, the agency at its own shall concurrently generate/collect and archive essential project documents of all major types. Mode of achieving and transmitting project documents is a major decision in determining structure of project management framework.

1.3. Baseline Survey of IWMP Batch-III Projects in Meghalaya

At the outset of the implementation of IWMP in the state, a Baseline Survey is required to be conducted in the sampled watersheds. In Meghalaya, the work for the above-mentioned Baseline Survey commenced in February 2016 by North Eastern Development Finance Corporation Ltd. (NEDFi), which is working as the MEL&D Agency for the SLNA in the state. Thereafter, the entire exercise consists of the following steps:

(a) Desk Review and Study of Secondary Data;

(b) Developing Pilot Survey Schedule;

(c) Field Testing of survey schedules;

(d) Finalization of Survey Schedule;

(e) Data Collection as per sample methodology (Field Survey & Focus Group Discussion);

(f) Data Entry & Tabulation;

(g) Data Analysis;

(h) Preparation of Draft Report; and

(i) Finalization of Report.

The design and implementation of the study has been discussed in the next section. This Report covers the Baseline Survey and Benchmarking of the project indicators for Batch III projects. The Baseline Survey results form a part of the impact assessment exercise for the IWMP. A comparison of the fixed benchmark values against the indicators would give an objective idea of the progress and impact of the execution of the programme in the state. It is with this objective that the entire exercise has been taken up to understand the degree of achievement of the project goals and objectives of Batch-III projects implemented under Integrated Watershed Management Programme (IWMP) in Meghalaya.

2. SURVEY DESIGN AND METHODOLOGY

2.1. Consultation with the Officials at SLNA Level

Several communications and consultations were carried out with the key officials including CEO-MSWWDA and senior officials of State Level Nodal Agency (IWMP-Meghalaya) at the planning stage of the baseline survey. The purpose of the initiative was mainly to finalise sample project locations, design an appropriate survey methodology, cross-fertilisation of ideas, facilitate experience-sharing and to explore practical solutions to the challenges related to the field survey process.

2.2. Methodology adopted for the Baseline Survey

The sampling strategy used in the present Baseline Survey for IWMP in Meghalaya (Batch-III) is based on the framework prescribed by the Department of Land Resources (DoLR), Ministry of Rural Development, Government of India.

The steps involved in the process are given below:

(a) **Selection of Projects**

In the present instance, the Baseline Study covered 25% of the batch-wise projects. In other words, around one-quarter of the projects taken up under Batch-III were taken up under the present exercise.

The SLNA suggested that the study cover the following projects under Batch-III. The projects are located in different parts of the state, as is evident from a perusal of the following table.

Table-2.1 Selection of Projects (Batch-III) for Baseline Survey under IWMP in Meghalaya

Districts	Block	Project Name
West Garo Hills	Dadenggre	IWMP-XI
	-Do-	-Do-
	-Do-	-Do-
West Jaintia Hills	Laskein	IXMP-VII
	-Do-	-Do-
	-Do-	-Do-
East Khasi Hills	Mawphlang	IWMP-XI
	Mawkynrew	-Do-
	Mawrynkneng	-Do-
West Khasi Hills	Nongstoin	IWMP-VIII
	-Do-	-Do-
	-Do-	-Do-

(b) **Selection of Villages**

The selection of villages to be covered in the Baseline Survey was done as given below.

Project Village: In each project, three villages were taken up for the study. One of these villages was located in each of the Upper Reach (UR) or ridge, Middle Reach (MR) and Lower Reach (LR) or Valley of the watershed covered under the project.

Control Village: Some of the villages in the untreated area with similar ecological and socio-economic conditions will be taken up under the above study as the 'control sample'. Comparison of the variation of the indicator values in the project villages against the variation in the same indicators in the 'control sample' will enable the better assessment of the programme impacts.

The list of Project Villages and Control Villages taken up for study is given in a tabular format in the following sub-section and may be referred to therein. Appendix-1 gives a map of the state showing the location of the project villages as well as the control villages.

(c) **Sampling of Households**

Under the present Baseline Survey in Meghalaya, the sampling of households in the selected villages was done in the following manner in the project villages and control village:

Project Villages: 20% of the households staying in the selected project village; and

Control Villages: 50% of the households living in the selected village taken as 'Control Village.

(d) **Administration of Schedules**

Data was collected from the sampled households on the project indicators and other relevant aspects by using Schedules. Copy of the Household Schedule is attached as Appendix-2.

In addition, village level data was sought to be obtained.

2.3. List of Selected Projects & Sampled Villages for Baseline Survey

The list of selected villages and their location details is given overleaf. This is done separately for the project villages and control villages.

Project Villages

Table-2.2: Selected Projects & Surveyed Villages (Project Villages)

District	Block	Project Name	Sampled Village	Location
West Garo Hills	Dadenggre	IWMP-XI	Dallangre	Upper Reach
	-Do-	-Do-	Adinggre	Middle Reach
	-Do-	-Do-	Darigre	Lower Reach
West Jaintia Hills	Laskein	IXMP-VII	Rtiang	Upper Reach
	-Do-	-Do-	Bear	Middle Reach
	-Do-	-Do-	Mukroh	Lower Reach
East Khasi Hills	Mawphlang	IWMP-XI	Rim Shylla	Upper Reach
	Mawkynrew	-Do-	Wah Mawlein	Middle Reach
	Mawrynkneng	-Do-	Pepbah	Lower Reach
West Khasi Hills	Nongstoin	IWMP-VIII	Marshan Namlang	Upper Reach
	-Do-	-Do-	Byrki	Middle Reach
	-Do-	-Do-	Mawtynrong	Lower Reach

Control Villages

Table-2.3: Selected Projects & Surveyed Villages (Control Villages)

District	Block	Sampled Village	Control Village for
West Garo Hills	Dadenggre	Dichingre	IWMP-XI
West Jaintia Hills	Laskein	Laskein	IXMP-VII
East Khasi Hills	Mawrynkneng	Sohryngkham	IXMP-XI
West Khasi Hills	Nongstoin	Mawthawniaw	IXMP-VIII

2.4. Organising the Study

2.4.1. Desk Review and Secondary Data: NEDFi monitoring team conducted the desk review of the various documents relevant to the projects e.g. Detailed Project Report, Periodic Reports, activities proposed under the IWMP Programme etc. Secondary data related to population size, district profiles, village records, government schemes, annual rainfall etc were collected from reliable sources. Important study materials were also downloaded from many websites.

2.4.2. Field Testing of Survey Schedules: In order to experience the efficiency of the survey schedules, field testing of the survey schedules were carried out in Ribhoi district of Meghalaya. Field test were conducted in four villages. Learnings implemented from field testing are as follows: -

- Direct statements related to income and bank details of the respondents were revised.
- Time consumption for each survey schedule is identified and entire field survey is planned according to the experience.

- Requirement of engaging a local language translator is understood.
- Importance of networking and early information is followed while visiting households so that respondents are found available for the survey.

2.4.3. Field Survey: Core officials of NEDFi Monitoring Team (MEL&D agency) were directly supervising the field survey process and were actively involved with the field investigation team members covering major sample project locations. For Household information, interviewers visited the individual households to conduct the interview with selected respondents.

2.4.4. Focus Group Discussion: For village level information, Focus Group Discussion (FGD) was conducted at 40 (Forty) villages. Villagers including women gathered at a suitable premise to share about their knowledge, opinion, perspective and interests about issues/indicators. Village level data collected through FGD has been entered in MS excel and its analysis has been also used in confirming the findings.

2.4.5. Data Processing and Analysis: MS Excel software was used for making data entry and the data entry were made by the experienced field-coordinators. All the collected data were processed and analysed in accordance with the objectives of the study. Coding, editing, rechecking and tabulation were carried out during processing of data. Consistency checks and key stroke errors were detected and corrected accordingly before data analysis.

2.4.6. Study Report: Finally Baseline Study Report has been prepared based on the secondary & primary data analysed, its interpretation, observations and discussions with various stakeholders during field visit.

2.5. Quality Control

One field interviewer could finish around 8 (Eight) to 10(Ten) survey schedules in a day. Primary data collected through household survey was scrutinized and cross-checked by the team members on daily basis. Each evening, the field co-ordinators were responsible for collecting the schedules and checking them for completion, legibility and consistency. They also followed up for any inconsistencies or missing information. Furthermore, the project co-ordinator supervised the quality by randomly checking the household schedules.

2.6. Ethical Practices

The research protocol ensured high standards of ethical conduct. The basic guiding principles were voluntary participation (respondents were not coerced for participation); consent before interview (participants were fully informed about the objectives of the project and the purpose of the baseline study), confidentiality (identifying information will not be made available to anyone who is not directly involved in the project without the respondents' consent), respect and treating respondents fairly.

2.7. Field Work Challenges

- Non-existence of motorable road and difficult hilly terrain leading to some of the sample villages.
- Facilitating the Field Survey and arranging Focus Group Discussion (FGD) with due permission of Village Headman.
- Convincing the villagers speaking different languages in some villages (Like Mikir language in a village of Ribhoi district, Biate language in a village of East Jaintia Hills district etc. apart from common languages of Meghalaya like Khashi, Jaintia and Garo language.)

However, the survey team managed to overcome the challenges by applying different approaches in order to complete the survey within the scheduled time frame.

3. FINDINGS OF THE BASELINE SURVEY – BATCH III

The following sub-sections give the findings of the Baseline Survey for IWMP – Batch III in the project districts of Meghalaya state. It may be noted that for Batch-III projects, the survey covered projects in the following districts of the state:

(a) East Khasi Hills;
(b) West Khasi Hills;
(c) West Jaintia Hills; and
(d) West Garo Hills.

3.1. Location [Batch III]

Findings

The names of the project villages have been furnished at overleaf (under Table-3.2), along with their location particulars (watershed, block and district).

The same may be seen in the above regard.

Analysis

The survey encompassed four districts of Meghalaya under Batch III. As previously stated; in this batch, four watersheds, one in each district, had been considered. Further, in **each** watershed, the survey covered four villages– which were located as follows:

- Lower Reach - One village
- Middle Reach - One village
- Upper Reach - One village

In addition, one village (without any project interventions) was taken as **control villag**e and covered under the study.

Thus, in all, sixteen villages were included under the study for Batch-III projects. The following table summarizes their distribution across the districts.

Table-3.1: No. of Villages Covered under the Study [Batch III]

Type of Village	Coverage per Watershed [As per Methodology]	No. of Watersheds Studied – BATCH III	Total Villages Studied @ 1 per Watershed
Lower Reach	1	4	4
Middle Reach	1	4	4
Upper Reach	1	4	4
Control Village	1	4	4
TOTAL VILLAGES	--	--	**16**

Table-3.2 Location Particulars of Project Villages covered under Baseline Survey [Part-III]

Sl. No.	Batch	District	Block	Names of Covered Villages						Control Village
				Upper Reach		Middle Reach		Lower Reach		
				Village	Watershed	Village	Watershed	Village	Watershed	
1	Batch - III	West Garo Hills	Dadenggre	Dallangre	Dallang	Adinggre	Balmrik	Darigre	Balmrik	Dichingre
2	Batch - III	West Jaintia Hills	Laskein	Rtiang	Liar Rtiang	Bear	Wahlangdeng	Mukroh	---	Laskein
3	Batch - III	East Khasi Hills	Mawphlang Mawkynrew Mawryngkneng	Rim Shylla	Wahmawlum Sohksar	Wah Mawlein	Lower Umjar	Pepbah	Upper Umjar	Sohryngkham
4	Batch - III	West Khasi Hills	Nongstoin	Marshan Namlang	Kynthroin	Byrki	Kynthroin	Mawtynrong	Ummawiong	Mawthawniaw

Source: Survey Schedule-Household, Part (A) – Location and Survey Schedule – Village Part (A) Village Details

3.2. Household & Land Details [Batch III]

3.2.1. Household, Social Category & Homestead Land Details

Findings

In the project villages studied under Batch-III; data was collected on the following parameters as a part of the survey:

- No. of Households
- Social Category
- Homestead Land

Table-3.3 at overleaf gives the findings on the above parameters for the project villages (Batch-III). The same may be seen in the above connection.

Analysis

Number of Households: In all, as many as 300 households were covered under the present survey. These are distributed as follows:

No. of Households in Project Villages: 199

No. of Households in Control Villages: 101

Social Category: All households of all the villages (project villages as well as control villages) belonged to the social category of Scheduled Tribe (ST).

Homestead Land: As an outcome of the Baseline Survey, it is found from Table-3.3 that: -

- All households in the villages (project village and control village) possess homestead land (i.e. land for locating their houses).
- The average of homestead land owned by a household in the project villages is about 0.121 Hectares (Ha), which is about 1,210 m^2 (or approx. 13,020 ft^2).
- In the control villages covered by the study, the size of an average homestead land is a bit smaller, viz. 0.105 Ha (about 1,050 m^2) – which is about 11,298 ft^2.
- Thus, the size of average homestead land of households in control villages is over 13% smaller when compared to the average size of similar land located in the project villages.
- Table-3.3 also gives the Standard Deviation (SD) of the homestead land in the different villages (project villages as well as control villages) covered by the study. SD is a measure of variation of the responses received. In Table-3.3, if SD is higher in a particular village, it means that there is a (comparatively) higher variation in the amount of homestead land in the sampled households in that village.

Table-3.3 Households, Social Category & Homestead Land [BATCH – III]

District	Village	Location	Households	Social Category				Homestead Land (in Ha)		
				SC	ST	OBC	General	n	$\bar{X}$	SD
Project Village										
West Garo Hills	Dallangre	Upper Reach	9	0	9	0	0	9	0.222	0.112
	Adinggre	Middle Reach	8	0	8	0	0	8	0.180	0.056
	Darigre	Lower Reach	8	0	8	0	0	8	0.290	0.104
West Jaintia Hills	Rtiang	Upper Reach	27	0	27	0	0	27	0.029	0.026
	Bear	Middle Reach	21	0	21	0	0	21	0.016	0.007
	Mukroh	Lower Reach	75	0	75	0	0	75	0.124	0.232
East Khasi Hills	Rim Shylla	Upper Reach	8	0	8	0	0	8	0.100	0.000
	Wah Mawlein	Middle Reach	14	0	14	0	0	14	0.019	0.004
	Pepbah	Lower Reach	8	0	8	0	0	8	0.017	0.003
West Khasi Hills	Marshan Namlang	Upper Reach	8	0	8	0	0	8	0.591	0.377
	Byrki	Middle Reach	6	0	6	0	0	6	0.098	0.197
	Mawtynrong	Lower Reach	7	0	7	0	0	7	0.198	0.230
Total/Average	**(Project)**		**199**	**--**	**199**	**--**	**--**	**199**	**0.121**	**--**
Control Village										
West Garo Hills	Dichingre	Control Village	13	0	13	0	0	13	0.301	0.081
West Jaintia Hills	Laskein	-Do-	62	0	62	0	0	62	0.039	0.067
East Khasi Hills	Sohryngkham	-Do-	15	0	15	0	0	15	0.078	0.255
West Khasi Hills	Mawthawniaw	-Do-	11	0	11	0	0	11	0.283	0.344
Total/Average	**(Control)**		**101**	**--**	**101**	**--**	**--**	**101**	**0.105**	**--**

Note: **n** gives the number of responses to the query

$\bar{x}$ gives the arithmetical mean of the responses

s. d. is the standard deviation (calculated by the following formula) of the responses received

s. d. $= \sqrt{\frac{\sum(x-\bar{x})^2}{(n-1)}}$, where n is the sample size and $\bar{x}$ is the sample mean

Standard deviation is a measure of the variation of the responses

3.2.2. Operational Holdings – No. of Plots

Findings

The term 'Operational Holdings' refers to the farm land which is operated on (i.e. farmed) by the members of the sampled household. It can include both owned land as well as leased land. In the project and control villages studied under Batch-III; data was collected on the following parameters related to Operational Holdings as a part of the survey: (a) No. of Plots - both 'owned and utilised' and 'other utilized' (land used by the household on lease or on some other understanding with the land owners); and (b) Area of Operational Holdings.

Regarding the 'No. of Plots' operated upon by the sampled households; Table-3.4 at overleaf gives the findings for the study (for Batch-III). The area aspects related to operational holdings is discussed in the next sub-section (Sub-section 3.2.3).

Analysis

Number of Plots – Owned & Utilized: As per the study, on an average, the sampled households owned and utilized (farmed) the following number of plots:

Project Villages	
Cropped (Irrigated)	NIL
Cropped (Non-Irrigated)	1.177
Fallow	0.005
TOTAL (Project Villages)	1.182 plots

Control Villages	
Cropped (Irrigated)	NIL
Cropped (Non-Irrigated)	0.505
Fallow	0.050
TOTAL (Control Villages)	0.555 plots

An average household has more than one plot of land owned by it in the project villages. In the control villages, households farm just over half a plot on an average, which they own.

Number of Plots – Other Utilized: As per the study, on an average, the sampled households utilized (farmed) the following number of plots, which they did not own:

Project Villages	
Cropped (Irrigated)	NIL
Cropped (Non-Irrigated)	0.348
Fallow	0.000
TOTAL (Project Villages)	0.348 plots

Control Villages	
Cropped (Irrigated)	NIL
Cropped (Non-Irrigated)	0.743
Fallow	0.000
TOTAL ... (Control Villages)	0.743 plots

In both types of villages, households are utilizing less than a plot that is not owned by them (utilized on lease basis or on some understanding with the owner of the land).

Table 3.4 Operational Holdings – No. of Plots [BATCH III]

District	Village	Location	n	Owned + Utilized by Self								Other Utilized							
				Cropped				Fallow Land		Other		Cropped				Fallow Land		Other	
				Irrigated		Non-Irrigated						Irrigated		Non-Irrigated					
				$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
PROJECT VILLAGE																			
West Garo Hills	Dallangre	Upper Reach	9	0	0	4.444	3.944	0	0	0	0	0	0	0.000	0	0	0	0	0
	Adinggre	Middle Reach	8	0	0	1.125	0.354	0	0	0	0	0	0	0.000	0	0	0	0	0
	Darigre	Lower Reach	8	0	0	2.625	2.531	0	0	0	0	0	0	0.000	0	0	0	0	0
West Jaintia Hills	Rtiang	Upper Reach	27	0	0	0.592	0.222	0	0	0	0	0	0	0.555	0.267	0	0	0	0
	Bear	Middle Reach	21	0	0	0.952	0.728	0	0	0	0	0	0	0.571	0	0	0	0	0
	Mukroh	Lower Reach	75	0	0	1.244	0.391	0	0	0	0	0	0	0.203	0.199	0	0	0	0
East Khasi Hills	Rim Shylla	Upper Reach	8	0	0	0.625	0.458	0	0	0	0	0	0	0.875	0.354	0	0	0	0
	Wah Mawlein	Middle Reach	14	0	0	0.286	0.235	0	0	0	0	0	0	0.500	0.514	0	0	0	0
	Pepbah	Lower Reach	8	0	0	0.000	0.000	0.125	0.354	0	0	0	0	1.125	0.756	0	0	0	0
West Khasi Hills	Marshan Namlang	Upper Reach	8	0	0	1.625	1.532	0	0	0	0	0	0	0.375	0	0	0	0	0
	Byrki	Middle Reach	6	0	0	1.167	0.738	0	0	0	0	0	0	0.167	0.408	0	0	0	0
	Mawtynrong	Lower Reach	7	0	0	0.857	0.586	0	0	0	0	0	0	0.000	0	0	0	0	0
TOTAL/AVG.	**(PROJECT)**		**199**	**0**	**--**	**1.177**	**--**	**0.005**	**--**	**0.0**	**--**	**0**	**--**	**0.348**	**--**	**0.0**		**0.0**	**--**
CONTROL VILLAGE																			
West Garo Hills	Dichingre	Control Village	13	0	0	2.000	1.109	0	0	0	0	0	0	0.000	0	0	0	0	0
West Jaintia Hills	Laskein	Control Village	62	0	0	0.097	0.354	0	0	0	0	0	0	0.952	0.853	0	0	0	0
East Khasi Hills	Sohryngkham	Control Village	15	0	0	0.333	0.291	0.067	0.258	0	0	0	0	1.066	0.981	0	0	0	0
West Khasi Hills	Mawthawniaw	Control Village	11	0	0	1.272	0.222	0.364	0.505	0	0	0	0	0.000	0	0	0	0	0
TOTAL/AVG.	**(CONTROL)**		**101**	**0**	**--**	**0.505**	**--**	**0.050**	**--**	**0.0**	**--**	**0**	**--**	**0.743**	**--**	**0.0**	**--**	**0.0**	**--**

Note: **n** gives the number of responses to the query

$\bar{x}$ gives the arithmetical mean of the responses

s. d. is the standard deviation (calculated by the following formula) of the responses received

s. d. $= \sqrt{\frac{\sum(x-\bar{x})^2}{(n-1)}}$, where n is the sample size and $\bar{x}$ is the sample mean

Standard deviation is a measure of the variation of the responses

3.2.3. Operational Holdings – Area

Findings

As stated previously, the term 'Operational Holdings' refers to farm land which is operated on (i.e. farmed) by the members of the sampled household. It can include both owned land as well as leased land. In the project and control villages studied under Batch-III; data was collected on the following parameters related to Operational Holdings as a part of the survey: (a) No. of Plots - both 'owned and utilised' and 'other utilized'; and (b) Area of Operational Holdings. The findings on 'Number of Plots' have been given previously. This sub-section gives discusses the area of the operational holdings of the sampled households. Table-3.5 (available at the page after next page) may be referred to in the above connection.

Analysis

Area of Holdings – Owned & Utilized Plots: As per the survey, on an average, the sampled households owned and utilized (farmed) the following area of operational holdings:

Project Villages	
Cropped (Irrigated)	0.000 Ha
Cropped (Non-Irrigated)	0.862 Ha
Fallow	0.093 Ha
TOTAL (Project Villages)	0.955 Ha

Control Villages	
Cropped (Irrigated)	0.000 Ha
Cropped (Non-Irrigated)	0.309 Ha
Fallow	0.060 Ha
TOTAL ... (Control Villages)	0.369 Ha

In the project villages, an average household has about 0.955 Ha of land owned by it. In the control villages, households farm just over one-third of a hectare on ownership basis.

Area of Holdings – Other Utilized Plots: As per the survey, on an average, the sampled households utilized (farmed) the following area of holdings, which they did not own:

Project Villages	
Cropped (Irrigated)	0.000 Ha
Cropped (Non-Irrigated)	0.219 Ha
Fallow	0.000 Ha
TOTAL (Project Villages)	0.219 Ha

Control Villages	
Cropped (Irrigated)	0.000 Ha
Cropped (Non-Irrigated)	0.464 Ha
Fallow	0.000 Ha
TOTAL ... (Control Villages)	0.464 Ha

In both types of villages, the average household is utilizing less than half a hectare of land not owned by them (utilized on lease basis or on some understanding with the owner of the land).

Total Area of Operational Holdings: As per the survey, on an average, the sampled households utilized (farmed) the following area of total land holdings, (both owned and not-owned)

Project Villages	
Cropped (Irrigated)	0.000 Ha
Cropped (Non-Irrigated)	1.081 Ha
Fallow	0.093 Ha
TOTAL (Project Villages)	1.174 Ha

Control Villages	
Cropped (Irrigated)	0.000 Ha
Cropped (Non-Irrigated)	0.774 Ha
Fallow	0.060 Ha
TOTAL ... (Control Villages)	0.834 Ha

In both types of villages, the average household is having a low area of land-holdings. As per Government of India, such holdings will be judged as 'marginal holdings'.

In fact, the average farmer covered under the study is a marginal farmer with land holdings of just above 1 Hectare in the Project Villages, and below 0.85 Hectare in the Control Villages.

Leased Out Land: The survey also collected data on the quantum of land leased out by the sampled households.

For the project villages, none of the above households had leased out any land. In the control villages, the area of leased out land was found to be about 0.010 hectare (100 square metres) on an average.

Table 3.5 Operational Holdings – Area [BATCH III]

District	Village	Location	n	Owned + Utilized by Self								Other Utilized								Total Area								Leased Out Land Area	
				Cropped				Fallow Land		Other		Cropped				Fallow Land		Other		Cropped				Fallow Land		Other			
				Irrigated		Non-Irrigated						Irrigated		Non-Irrigated						Irrigated		Non-Irrigated							
				$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
PROJECT VILLAGE																													
West Garo Hills	Dallangre	Upper	9	0	0	2.258	0.830	0	0	0	0	0	0	0.000	0	0	0	0	0	0	0	2.258	0.830	0	0	0	0	0	0
	Adinggre	Middle	8	0	0	1.262	0.722	0	0	0	0	0	0	0.000	0	0	0	0	0	0	0	1.262	0.722	0	0	0	0	0	0
	Darigre	Lower	8	0	0	1.500	0.506	0	0	0	0	0	0	0.000	0	0	0	0	0	0	0	1.500	0.506	0	0	0	0	0	0
West Jaintia Hills	Rtiang	Upper	27	0	0	0.301	0.296	0	0	0	0	0	0	0.135	0.133	0	0	0	0	0	0	0.436	0.261	0	0	0	0	0	0
	Bear	Middle	21	0	0	0.254	0.411	0	0	0	0	0	0	0.081	0.125	0	0	0	0	0	0	0.335	0.411	0	0	0	0	0	0
	Mukroh	Lower	75	0	0	0.916	1.088	0	0	0	0	0	0	0.131	0.171	0	0	0	0	0	0	1.047	1.085	0	0	0	0	0	0
East Khasi Hills	Rim Shylla	Upper	8	0	0	0.749	0.703	0	0	0	0	0	0	1.224	0.697	0	0	0	0	0	0	1.973	0.870	0	0	0	0	0	0
	Wah Mawlein	Middle	14	0	0	0.571	0.937	0	0	0	0	0	0	0.785	0.825	0	0	0	0	0	0	1.356	0.937	0	0	0	0	0	0
	Pepbah	Lower	8	0	0	0.000	0	0.125	0.353	0	0	0	0	0.749	0.542	0	0	0	0	0	0	0.749	0.542	0.125	0.353	0	0	0	0
West Khasi Hills	Marshan Namlang	Upper	8	0	0	1.325	0.350	0	0	0	0	0	0	0.087	0.028	0	0	0	0	0	0	1.412	0.364	0	0	0	0	0	0
	Byrki	Middle	6	0	0	2.083	1.281	0	0	0	0	0	0	0.166	0.408	0	0	0	0	0	0	2.249	1.211	0	0	0	0	0	0
	Mawtynrong	Lower	7	0	0	1.399	1.430	2.500	3.511	0	0	0	0	0.000	0	0	0	0	0	0	0	1.399	1.430	2.5	3.511	0	0	0	0
TOTAL/AVG.	**(PROJECT)**		**199**	**0**	**--**	**0.862**	**--**	**0.093**	**--**	**0.0**	**--**	**0**	**--**	**0.219**	**--**	**0.0**		**0.0**	**--**	**0**	**--**	**1.081**	**--**	**0.093**	**--**	**0.0**	**--**	**0.0**	**--**
CONTROL VILLAGE																													
West Garo Hills	Dichingre	Control Village	13	0	0	0.953	0.495	0	0	0	0	0	0	0.000	0	0	0	0	0	0	0	0.953	0.495	0	0	0	0	0	0
West Jaintia Hills	Laskein	-Do-	62	0	0	0.067	0.127	0	0	0	0	0	0	0.455	0.012	0	0	0	0	0	0	0.522	0.127	0	0	0	0	0.016	0.127
East Khasi Hills	Sohryngkham	-Do-	15	0	0	0.166	0.645	0.266	1.032	0	0	0	0	1.246	1.845	0	0	0	0	0	0	1.412	1.894	0.266	1.032	0	0	0	0
West Khasi Hills	Mawthawniaw	-Do-	11	0	0	1.109	0.603	0.190	0.333	0	0	0	0	0.000	0	0	0	0	0	0	0	1.109	0.603	0.190	0.333	0	0	0	0
TOTAL/AVG.	**(CONTROL)**		**101**	**0**	**--**	**0.309**	**--**	**0.060**	**--**	**0.0**	**--**	**0**	**--**	**0.464**	**--**	**0.0**	**--**	**0.0**	**--**	**0**	**--**	**0.774**	**--**	**0.060**		**0**	**--**	**0.010**	**--**

NOTE

n gives the number of responses to the query

$\bar{x}$ gives the arithmetical mean of the responses

s. d. is the standard deviation (calculated by the following formula) of the responses received

s. d. $= \sqrt{\frac{\sum(x-\bar{x})^2}{(n-1)}}$, where n is the sample size and $\bar{x}$ is the sample mean

Standard deviation is a measure of the variation of the responses

3.2.4. Details of Household Members

Findings

Table-3.6 reports the findings of the following household parameters:

- Household & Population
- Age
- Gender
- Education

In the following paragraphs, the analysis of the above aspects is given as a whole for the project villages and for the control villages. Village details are available in the above table.

Analysis

Household Size: In the project villages chosen for the survey, the average household size is found to be 5.6 persons. It ranges from 4.6 to 7.0 in the different project villages. On the other hand, in the control villages covered, the average household size is 5.8 persons. The household size ranges from 4.7 to 7.4 in these villages.

Age Distribution of the Population

Project Villages: The age distribution of the population in the project villages is found to be as follows:

0-below 6 years	16%	35 – below 60 years	18%
6-below 18 years	34%	60 years & above	4%
18-below 35 years	29%	---	--

Control Villages: The age distribution of the population in the control villages is found to be as follows:

0-below 6 years	13%	35 – below 60 years	20%
6-below 18 years	36%	60 years & above	3%
18-below 35 years	29%	---	--

[**Note**: All figures have been rounded off. The total may exceed 100% at time.]

Gender Profile: In the project villages, 51% of the population is male. (Sex ratio is 944 females per 1000 males.) In the control village, the numbers of male and female are about the same.

Educational Attainments: In the project villages; more than half (53%) of the population have studied till Class X or less. Here, about 39% have not gone to school or did not mention their schooling in the survey. In the control villages; the picture is similar – 55% did not study beyond Class X, while 32% either have no schooling or have not stated anything in the above regard.

Table-3.6: Details of Household Members (Part 1) [BATCH III]

District	Village	Location	Households	Population	Age (in Years)					Gender		Education				
					Below 6	6-Below 18	18 – Below 35	35- Below 60	60 and above	Male	Female	Below Class X	Class X	Class XI+XII	Graduation	No School / Not Given
PROJECT VILLAGE																
West Garo Hills	Dallangre	Upper Reach	9	50	8	19	15	5	3	26	24	27	6	2	1	14
	Adinggre	Middle Reach	8	37	11	12	10	3	1	19	18	24	8	0	0	5
	Darigre	Lower Reach	8	40	8	10	14	7	1	18	22	23	2	0	0	15
West Jaintia Hills	Rtiang	Upper Reach	27	171	37	62	41	28	3	94	77	87	2	1	0	81
	Bear	Middle Reach	21	120	15	47	35	21	2	58	62	65	6	3	0	46
	Mukroh	Lower Reach	75	402	57	133	116	80	16	206	196	175	5	6	4	212
East Khasi Hills	Rim Shylla	Upper Reach	8	38	10	8	15	4	1	21	17	23	2	0	0	13
	Wah Mawlein	Middle Reach	14	82	7	23	29	15	8	43	39	47	6	3	3	23
	Pepbah	Lower Reach	8	41	7	15	10	7	2	20	21	27	1	1	3	9
West Khasi Hills	Marshan Namlang	Upper Reach	8	46	8	21	9	8	0	23	23	39	2	0	0	5
	Byrki	Middle Reach	6	42	6	17	10	7	2	20	22	29	5	2	2	4
	Mawtynrong	Lower Reach	7	47	2	14	19	11	1	26	21	26	2	5	7	7
TOTAL/AVG.	**(PROJECT)**	--	**199**	**1116**	**176**	**381**	**323**	**196**	**40**	**574**	**542**	**592**	**47**	**23**	**20**	**434**
CONTROL VILLAGE																
West Garo Hills	Dichingre	Control Village	13	61	8	16	19	15	3	29	32	31	5	1	1	23
West Jaintia Hills	Laskein	Control Village	62	358	54	131	99	65	9	181	177	195	26	7	4	126
East Khasi Hills	Sohryngkham	Control Village	15	83	12	29	21	20	1	39	44	35	8	5	4	31
West Khasi Hills	Mawthawniaw	Control Village	11	81	4	31	28	15	3	42	39	58	9	6	3	5
TOTAL/AVG.	**(CONTROL)**	**--**	**101**	**583**	**78**	**207**	**167**	**115**	**16**	**291**	**292**	**319**	**48**	**19**	**12**	**185**

3.2.5. Details of Household Members (Occupations & Memberships of SHG etc.)

Findings

Table-3.7 (at overleaf) indicates the findings of the following household parameters:

- Primary Occupation
- Secondary Occupation
- Membership of SHG / UG / Village Dorbar etc.

The following paragraphs furnish an analysis of the above areas as a whole for the village; with such analysis being done separately for the project villages and for the control villages. Village details are available in the above table, and may be seen therein.

Analysis

Primary Occupation

In the project villages, the primary occupations of the household members are as given below:

Project Villages: In these villages, less than one-fifth (17%) of the household members are engaged in agriculture (and related work), while an additional one-fifth (21%) work as daily wage labourers. Nearly two-fifths (38%) of the population are students, while 18% of members either have no occupation or have not stated the same. In addition, 3% of the household members are housewives and 3% have other occupations.

Control Villages: Just one-tenth (10%) of the household members are farmers, while over one-fifth (22%) are labourers. Two-fifths (40%) are students and 5% are housewives. Further, 18% of members either have no occupation or have not stated the same.

[**Note:** Other Occupations (Primary) include teacher, Govt. service, ASHA, Anganwadi worker, driver, home-guard, business, shop-keeping, carpenter etc. and students include children in pre-school facilities.]

Secondary Occupation

In the project villages and control villages, very few persons (below 2%) have indicated any secondary occupations.

[**Note**: Other Occupations (Secondary) include all occupations excluding agriculture and labour. Secondary Occupations have been indicated by only some of the respondents.]

Membership of SHG / UG / Village Dorbar

In the project villages; just over 3% of the population of the sampled households are members of any community based organization (like Self Help Group, User Groups, and Village Dorbar etc.).

In the control villages, less than 3% of the population are members of similar organizations.

Table-3.7: Details of Household Members (Part 2) [BATCH III]

District	Village	Location	Households	Population	Primary Occupation						Secondary Occupation			Whether member of SHG / UG/ Village Dorbar	
					Agriculture	Labour	Housewife / At Home	Students	Others (1)	No Occupation / Not Given	Agriculture	Labour	Others (2)	Yes	No
PROJECT VILLAGE															
West Garo Hills	Dallangre	Upper Reach	9	50	18	0	0	29	0	3	0	0	1	12	38
	Adinggre	Middle Reach	8	37	15	0	0	16	1	5	1	0	0	2	35
	Darigre	Lower Reach	8	40	19	0	0	15	0	6	0	0	0	4	36
West Jaintia Hills	Rtiang	Upper Reach	27	171	28	39	1	66	3	34	0	7	1	5	166
	Bear	Middle Reach	21	120	6	28	3	28	14	41	4	0	2	2	118
	Mukroh	Lower Reach	75	402	49	144	10	144	6	49	0	0	0	2	400
East Khasi Hills	Rim Shylla	Upper Reach	8	38	11	4	0	9	1	13	0	0	0	0	38
	Wah Mawlein	Middle Reach	14	82	8	12	9	35	5	13	0	0	0	6	76
	Pepbah	Lower Reach	8	41	4	6	1	16	3	11	5	1	0	0	41
West Khasi Hills	Marshan Namlang	Upper Reach	8	46	8	1	0	22	0	15	0	0	0	1	45
	Byrki	Middle Reach	6	42	11	2	3	17	1	8	0	0	0	2	40
	Mawtynrong	Lower Reach	7	47	13	3	4	23	2	2	0	0	0	0	47
TOTAL/AVG.	**(PROJECT)**		**199**	**1116**	**190**	**239**	**31**	**420**	**36**	**200**	**10**	**8**	**4**	**36**	**1080**
CONTROL VILLAGE															
West Garo Hills	Dichingre	Control Village	13	61	25	0	0	32	1	3	1	0	0	15	46
West Jaintia Hills	Laskein	Control Village	62	358	17	112	11	147	13	58	0	0	0	1	357
East Khasi Hills	Sohryngkham	Control Village	15	83	11	5	9	13	6	39	1	5	0	0	83
West Khasi Hills	Mawthawniaw	Control Village	11	81	7	13	10	42	4	5	0	0	0	0	81
TOTAL/AVG.	**(CONTROL)**		**101**	**583**	**60**	**130**	**30**	**234**	**24**	**105**	**2**	**5**	**0**	**16**	**567**

Notes:

(1) Other Occupations (Primary) include teacher, govt. service, ASHA, Anganwadi worker, driver, home-guard, business, shop-keeping, carpenter etc. Students include pre-schoolers.

(2) Other Occupations (Secondary) include all occupations excluding agriculture and labour.

(3) Secondary Occupations have been indicated by only some of the respondents.

Table-3.8: Soil Health [BATCH III]

District	Village	Location	Households	Soil Tested		If 'Yes'					
				Yes	No	Cost of Soil Testing			Status of Soil Carbon		
						n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE											
West Garo Hills	Dallangre	Upper Reach	9	0	9	0	0	0	0	0	0
	Adinggre	Middle Reach	8	0	8	0	0	0	0	0	0
	Darigre	Lower Reach	8	0	8	0	0	0	0	0	0
West Jaintia Hills	Rtiang	Upper Reach	27	0	27	0	0	0	0	0	0
	Bear	Middle Reach	21	0	21	0	0	0	0	0	0
	Mukroh	Lower Reach	75	0	75	0	0	0	0	0	0
East Khasi Hills	Rim Shylla	Upper Reach	8	0	8	0	0	0	0	0	0
	Wah Mawlein	Middle Reach	14	0	14	0	0	0	0	0	0
	Pepbah	Lower Reach	8	0	8	0	0	0	0	0	0
West Khasi Hills	Marshan Namlang	Upper Reach	8	0	8	0	0	0	0	0	0
	Byrki	Middle Reach	6	0	6	0	0	0	0	0	0
	Mawtynrong	Lower Reach	7	0	7	0	0	0	0	0	0
TOTAL/AVG.	**(PROJECT)**		**199**		**199**	**0**	**0**	**0**	**0**	**0**	**0**
CONTROL VILLAGE											
West Garo Hills	Dichingre	Control Village	13	0	13	0	0	0	0	0	0
West Jaintia Hills	Laskein	Control Village	62	0	62	0	0	0	0	0	0
East Khasi Hills	Sohryngkham	Control Village	15	0	15	0	0	0	0	0	0
West Khasi Hills	Mawthawniaw	Control Village	11	0	11	0	0	0	0	0	0
TOTAL/AVG.	**(CONTROL)**		**101**		**101**	**0**	**0**	**0**	**0**	**0**	**0**

3.2.6. Soil Health

From Table-3.8 (given in the previous page), it is found that no soil testing was carried out in any of the households covered by the survey, both in the project villages, as well as the in the control villages.

3.3. Irrigation [Batch III]

3.3.1. Irrigated Area

From Table-3.9 (given in the next page), it is found that there is no irrigated area in the project villages and control villages covered under the present study.

The above information tallies with the data furnished previously with the present report (viz. under Table-3.4 and Table-3.5).

3.3.2. Source & Total Irrigated Area

As stated at above, there is no irrigated area in the project villages and control villages as per the present study.

Hence, Table-3.10 is left blank. This table is available after Table-3.9.

3.3.3. Information on Irrigation Sources

Not applicable. There are no irrigated areas in the project and control villages. All agriculture is reported to be rain-fed.

Table-3.11 gives the format of the reporting table. This table is available after Table-3.10.

3.3.4. Water Availability (for Seasonal Sources)

Not applicable - as there are no irrigated areas in the sampled villages.

Table-3.12 gives the format of the reporting table. This table is available after Table-3.11.

Table-3.9: Irrigated Area [BATCH III]

District	Village	Location	Households	Irrigated Area (in Hectares)																										
				PRE-KHARIF									KHARIF										RABI								
				Upper Reach			Middle Reach			Lower Reach			Upper Reach			Middle Reach			Lower Reach			Upper Reach			Middle Reach			Lower Reach		
				n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE																														
West Garo Hills	Dallangre	UR	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Adinggre	MR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Darigre	LR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Jaintia Hills	Rtiang	UR	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Biar	MR	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mukroh	LR	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Khasi Hills	Rim Shylla	UR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Wah Mawlein	MR	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pepbah	LR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Khasi Hills	Marshan Namlang	UR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Byrki	MR	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mawtynrong	LR	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL/AVG.	**(PROJECT)**		**199**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CONTROL VILLAGE																														
West Garo Hills	Dichingre	CV	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Jaintia Hills	Laskein	CV	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Khasi Hills	Sohryngkham	CV	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Khasi Hills	Mawthawniaw	CV	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL/AVG.	**(CONTROL)**		**101**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes: UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Irrigated Area:

n gives the number of responses to the query

$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the irrigated area)

s. d. is the standard deviation (calculated by the following formula) of the responses received

$$\text{s. d.} = \sqrt{\frac{\sum(x-\bar{x})^2}{(n-1)}}$$, where n is the sample size and $\bar{x}$ is the sample mean

Standard deviation is a measure of the variation of the responses

Table-3.10: Source & Total Irrigated Area [BATCH III]

District	Village	Location	Households	Source of Irrigation			Total Irrigated Area (in Hectares)		
				Upper Reach	Middle Reach	Lower Reach	n	$\bar{x}$	SD
PROJECT VILLAGE									
West Garo Hills	Dallangre	UR	9	0	0	0	0	0	0
	Adinggre	MR	8	0	0	0	0	0	0
	Darigre	LR	8	0	0	0	0	0	0
West Jaintia Hills	Rtiang	UR	27	0	0	0	0	0	0
	Biar	MR	21	0	0	0	0	0	0
	Mukroh	LR	75	0	0	0	0	0	0
East Khasi Hills	Rim Shylla	UR	8	0	0	0	0	0	0
	Wah Mawlein	MR	14	0	0	0	0	0	0
	Pepbah	LR	8	0	0	0	0	0	0
West Khasi Hills	Marshan Namlang	UR	8	0	0	0	0	0	0
	Byrki	MR	6	0	0	0	0	0	0
	Mawtynrong	LR	7	0	0	0	0	0	0
TOTAL/AVG.	**(PROJECT)**		**199**	**--**	**--**	**--**	**--**	**--**	**--**
CONTROL VILLAGE									
West Garo Hills	Dichingre	CV	13	0	0	0	0	0	0
West Jaintia Hills	Laskein	CV	62	0	0	0	0	0	0
East Khasi Hills	Sohryngkham	CV	15	0	0	0	0	0	0
West Khasi Hills	Mawthawniaw	CV	11	0	0	0	0	0	0
TOTAL/AVG.	**(CONTROL)**		**101**	**--**	**--**	**--**	**--**	**--**	**--**

Notes:

1. UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village
2. **Under Total Irrigated Area:**

   n gives the number of responses to the query

   $\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the total irrigated area in hectares)

   s. d. is the standard deviation (calculated by the following formula) of the responses received: [Standard deviation is a measure of the variation of the responses]

   s. d. $= \sqrt{\frac{\sum(x-\bar{x})^2}{(n-1)}}$, where n is the sample size and $\bar{x}$ is the sample mean

Table-3.11: Information on Irrigation Sources [BATCH III]

District	Village	Location	Households	SOURCE OF IRRIGATION:_____																
				PERENNIAL SOURCE									SEASONAL SOURCE							
				Upper Reach			Middle Reach			Lower Reach			Upper Reach			Middle Reach			Lower Reach		
				n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE																				
West Garo Hills	Dallangre	UR	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Adinggre	MR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Darigre	LR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Jaintia Hills	Rtiang	UR	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Biar	MR	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mukroh	LR	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Khasi Hills	Rim Shylla	UR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Wah Mawlein	MR	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pepbah	LR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Khasi Hills	Marshan Namlang	UR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Byrki	MR	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mawtynrong	LR	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL/AVG.	**(PROJECT)**		**199**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
CONTROL VILLAGE																				
West Garo Hills	Dichingre	CV	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Jaintia Hills	Laskein	CV	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Khasi Hills	Sohryngkham	CV	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Khasi Hills	Mawthawniaw	CV	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL/AVG.	**(CONTROL)**		**101**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes: UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Irrigated Area:

n gives the number of responses to the query

$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the number of respondents citing the particular source of irrigation)

s. d. is the standard deviation (calculated by the following formula) of the responses received. (Standard deviation is a measure of the variation of the responses)

$$\text{s. d.} = \sqrt{\frac{\sum(x-\bar{x})^2}{(n-1)}}$$, where n is the sample size and $\bar{x}$ is the sample mean

Table-3.12: Water Availability (for Seasonal Sources) [BATCH - III]

District	Village	Location	Households	Water Availability for Seasonal Source of Irrigation:_____																										
				February-March									June-July									September-October								
				Upper Reach			Middle Reach			Lower Reach			Upper Reach			Middle Reach			Lower Reach			Upper Reach			Middle Reach			Lower Reach		
				n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	N	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE																														
West Garo Hills	Dallangre	UR	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Adinggre	MR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Darigre	LR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Jaintia Hills	Rtiang	UR	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Biar	MR	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mukroh	LR	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Khasi Hills	Rim Shylla	UR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Wah Mawlein	MR	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pepbah	LR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Khasi Hills	Marshan Namlang	UR	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Byrki	MR	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mawlynrong	LR	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL/AVG.	**(PROJECT)**		**199**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
CONTROL VILLAGE																														
West Garo Hills	Dichingre	CV	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Jaintia Hills	Laskein	CV	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Khasi Hills	Sohryngkham	CV	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Khasi Hills	Mawthawniaw	CV	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL/AVG.	**(CONTROL)**		**101**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes: UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Water Availability for Seasonal Source:

n gives the number of responses to the query

$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the number of respondents citing the availability of irrigation for the particular seasonal source of irrigation)

s. d. is the standard deviation (calculated by the following formula) of the responses received

$$s.\,d. = \sqrt{\frac{\sum(x-\bar{x})^2}{(n-1)}}$$, where n is the sample size and $\bar{x}$ is the sample mean

Standard deviation is a measure of the variation of the responses

3.4. Drinking Water [Batch III]

3.4.1. Drinking Water: Scarcity Months

The months of scarcity of drinking water range from January to April. This has been reported by the households covered by the present survey - both in the project villages, as well as in the control villages.

Project Villages

In the Project Villages, the percentage of households reporting a scarcity of drinking water in the different months is given below:

January	26%
February	100%
March	85%
April	37%

In the above villages, February and March seem to be months of widespread scarcity. Comparatively, lesser numbers of households have reported shortages in January or in April. No scarcity of drinking water has been reported in the other months.

Control Villages

In the Control Villages, the percentage of households reporting a scarcity of drinking water in the different months is given below:

January	26%
February	92%
March	77%
April	69%

In the control villages covered by the study, February, (to some extent) March and April seem to be months of widespread scarcity. Comparatively, lesser numbers of households have reported shortages in January.

No scarcity of drinking water has been reported in the other months of the year.

[**Note**: All the above figures have been rounded off.]

Table-3.13 Drinking Water: Scarcity Months [BATCH - III]

District	Village	Location	Households	Nos. Of Households citing month as a scarcity month											
				January	February	March	April	May	June	July	August	September	October	November	December
PROJECT VILAGE															
West Garo Hills	Dallangre	UR	9	0	9	9	9	0	0	0	0	0	0	0	0
	Adinggre	MR	8	0	8	8	8	0	0	0	0	0	0	0	0
	Darigre	LR	8	0	8	8	8	0	0	0	0	0	0	0	0
West Jaintia Hills	Rtiang	UR	27	0	27	27	27	0	0	0	0	0	0	0	0
	Biar	MR	21	0	21	21	21	0	0	0	0	0	0	0	0
	Mukroh	LR	75	0	75	75	0	0	0	0	0	0	0	0	0
East Khasi Hills	Rim Shylla	UR	8	8	8	0	0	0	0	0	0	0	0	0	0
	Wah Mawlein	MR	14	14	14	0	0	0	0	0	0	0	0	0	0
	Pepbah	LR	8	8	8	0	0	0	0	0	0	0	0	0	0
West Khasi Hills	Marshan Namlang	UR	8	8	8	8	0	0	0	0	0	0	0	0	0
	Byrki	MR	6	6	6	6	0	0	0	0	0	0	0	0	0
	Mawtynrong	LR	7	7	7	7	0	0	0	0	0	0	0	0	0
TOTAL/AVG.	**(PROJECT)**		**199**	**51**	**199**	**169**	**73**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CONTROL VILLAGE															
West Garo Hills	Dichingre	CV	13	0	5	5	8	0	0	0	0	0	0	0	0
West Jaintia Hills	Laskein	CV	62	0	62	62	62	0	0	0	0	0	0	0	0
East Khasi Hills	Sohryngkham	CV	15	15	15		0	0	0	0	0	0	0	0	0
West Khasi Hills	Mawthawniaw	CV	11	11	11	11	0	0	0	0	0	0	0	0	0
TOTAL/AVG.	**(CONTROL)**		**101**	**26**	**93**	**78**	**70**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:

UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village.

3.4.2. Drinking Water Sources - Feb-March [Batch III]

Sources of Drinking Water

Project Villages

The source of drinking water in the project villages is found to be as follows:

Ring-well	12%	PHE Tap	7%
Spring	77%	Pond	2%
Well	2%		

In the above villages, more than three quarters of all households depend upon spring water for drinking water in the dry period (February- March).

Control Villages

The source of drinking water in the control villages is found to be as follows:

Water Tank	3%	Pond	4%
Spring	67%	Ring-well	12%
River	2%	PHE	8%
Well	2%	Boring Water	2%

In the control villages too, a large majority (more than two-thirds) of all the households depend upon spring water for drinking water in the dry period (February-March).

[**Note**: All figures have been rounded off. The total may exceed 100% at times.]

Distance from Residence

As per the survey, in the project villages the distance of source water from the residence was found to be 215.165 (metres) on an average whereas, in the control villages the distance of source water from the residence was found to be 196.87 (metres) on an average.

The above are not big distances, being around 200 meters from the household (on an average). In dry period (before rainy season) - the sampled households do not have to go far to get water.

Time Spent in Fetching Water

As per the survey, on an average the time spent for fetching water in the project villages is found to be 12.105 (minutes) whereas, in the control villages the time spent for fetching water is 17.13 (minutes) on an average.

The above are not considerable time periods, being around 15 minutes (on an average). Thus, the sampled households do not have to spend much time to collect water in the dry period.

Table-3.14: Drinking Water Sources - Feb-March [BATCH - III]

District	Village	Location	Households	Source(s) of Drinking Water	Distance from Residence (m)			Time spent in Fetching Water (min)		
					n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE										
West Garo Hills	Dallangre	UR	9	Ring-well	1	250.00	0.0	1	20.00	0.0
				Spring	8	135.714	62.678	8	8.75	3.105
	Adinggre	MR	8	Well	3	206.667	90.185	3	14.667	5.508
				Spring	5	75.833	47.793	5	5.6	2.966
	Darigre	LR	8	Well	1	200.00	0.0	1	20.00	0.0
				Spring	7	285.857	186.19	7	17.286	11.686
West Jaintia Hills	Rtiang	UR	27	Spring	21	258.9	215.209	21	19.952	13.385
				Ring Well	6	120.00	82.219	6	9.667	6.623
	Biar	MR	21	Ring Well	3	40.00	17.320	3	3.667	1.155
				Spring	18	142.222	191.005	18	12.056	12.827
	Mukroh	LR	75	Spring	61	352.049	356.655	61	15.344	11.427
				Ring Well	14	48.571	44.869	14	4.00	2.418
East Khasi Hills	Rim Shylla	UR	8	Spring	8	63.125	26.041	8	8.375	4.138
	Wah Mawlein	MR	14	PHE Tap	13	8.461	15.730	13	1.307	2.213
				Spring	1	0.0	0.0	1	0.0	0.0
	Pepbah	LR	8	Spring	4	495.00	210.00	4	26.25	7.5
				Pond	4	200.00	0.0	4	20.00	0.0
West Khasi Hills	Marshan Namlang	UR	8	Spring	8	253.125	159.484	8	8.875	4.323
	Byrki	MR	6	Spring	6	145	33.912	6	5.00	1.673
	Mawtynrong	LR	7	Spring	6	150.00	89.442	6	5.667	3.923
				PHE	1	100.00	0.00	1	5.00	0.00
TOTAL/AVG.	**(PROJECT)**		**199**		**199**	**215.165**		**199**	**12.105**	
CONTRO VILLAGE										
West Garo Hills	Dichingre	CV	13	Water Tank	3	66.667	76.376	3	5.667	5.132
				Spring	6	90.00	56.921	6	7.5	3.937
				River	2	125.00	35.355	2	8.00	2.828
				Well	2	60.00	14.142	2	6.00	1.141
West Jaintia Hills	Laskein	CV	62	Spring	50	276.8	222.424	50	25.00	17.124
				Ring Well	12	175.00	33.710	12	15.833	5.149

District	Village	Location	Households	Source(s) of Drinking Water	Distance from Residence (m)			Time spent in Fetching Water (min)		
					n	$\bar{x}$	SD	n	$\bar{x}$	SD
East Khasi Hills	Sohryngkham	CV	15	B. Water	2	155.00	7.071	2	11.00	1.414
				PHE Tap	4	45.00	33.166	4	5.00	3.464
				Pond	4	0.667	41.633	4	6.00	2.464
				Spring	5	214.00	164.226	5	12.40	5.030
West Khasi Hills	Mawthawniaw	CV	11	Spring	7	127.857	177.197	7	5.571	2.878
				PHE	4	45.00	40.415	4	5.50	2.516
TOTAL/AVG.	**(CONTROL)**		**101**		**101**	**196.87**		**101**	**17.130**	

Notes:

1. UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village
2. **Under Distance from Residence / Time spent in Fetching Water:**

   n gives the number of responses to the query

   $\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the distance of source in metres / time spent in minutes)

   s. d. Is the standard deviation (calculated by the following formula) of the responses received: [Standard deviation is a measure of the variation of the responses]

   s. d. = $\sqrt{\frac{\sum(x-\bar{x})^2}{(n-1)}}$, where n is the sample size and $\bar{x}$ is the sample mean

3.4.3. Drinking Water Sources – June-July [BATCH III]

Sources of Drinking Water

Project Villages: The source of drinking water in the project villages is found to be as follows:

Ring-well	12%	PHE tap	7%
Spring	77%	Pond	2%
Well	2%		

In the project villages, a large majority (more than three-fourths) of all the households depend upon spring water for drinking water in the monsoon period (June-July).

Control Villages: The source of drinking water in the control villages is found to be as follows:

Water Tank	3%	Pond	4%
Spring	67%	Ring-well	12%
River	2%	PHE	8%
Well	2%	Boring Water	2%

From the above it is inferred that in the control villages also, a large majority (more than two-thirds) of all the households depend upon spring water for drinking water in the monsoon period (June-July).

[**Note**: All figures have been rounded off. The total may exceed 100% at time.]

Distance from Residence

In the project villages the distance of source water from the residence was found to be 215.165 (metres) on an average whereas, in the control villages the distance of source water from the residence was found to be 196.87 (metres) on an average as per the survey.

In the monsoon months, it is seen that water sources are not very far away, being around 200 meters from the household (on an average).

Time Spent in Fetching Water

The time spent for fetching water in the project villages is found to be 12.105 (minutes) on an average whereas, the time spent for fetching water in the control villages is 17.13 (minutes) on an average as per the survey.

Thus, it is noted that in the monsoon months, the sampled households do not have to spend much time to collect water - around 15 minutes (on an average).

Table-3.15: Drinking Water Sources – June-July [BATCH III]

District	Village	Location	Households	Source(s) of Drinking Water	Distance from Residence (m)			Time spent in Fetching Water (min)		
					n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE										
West Garo Hills	Dallangre	UR	9	Ring-well	1	250.00	0.0	1	20.00	0.0
				Spring	8	135.714	62.678	8	8.75	3.105
	Adinggre	MR	8	Well	3	206.667	90.185	3	14.667	5.508
				Spring	5	75.833	47.793	5	5.6	2.966
	Darigre	LR	8	Well	1	200.00	0.0	1	20.00	0.0
				Spring	7	285.857	186.19	7	17.286	11.686
West Jaintia Hills	Rtiang	UR	27	Spring	21	258.9	215.209	21	19.952	13.385
				Ring Well	6	120.00	82.219	6	9.667	6.623
	Biar	MR	21	Ring Well	3	40.00	17.320	3	3.667	1.155
				Spring	18	142.222	191.005	18	12.056	12.827
	Mukroh	LR	75	Spring	61	352.049	356.655	61	15.344	11.427
				Ring Well	14	48.571	44.869	14	4.00	2.418
East Khasi Hills	Rim Shylla	UR	8	Spring	8	63.125	26.041	8	8.375	4.138
	Wah Mawlein	MR	14	PHE Tap	13	8.461	15.730	13	1.307	2.213
				Spring	1	0.0	0.0	1	0.0	0.0
	Pepbah	LR	8	Spring	4	495.00	210.00	4	26.25	7.5
				Pond	4	200.00	0.0	4	20.00	0.0
West Khasi Hills	Marshan Namlang	UR	8	Spring	8	253.125	159.484	8	8.875	4.323
	Byrki	MR	6	Spring	6	145.00	33.912	6	5.00	1.673
	Mawtynrong	LR	7	Spring	6	150.00	89.442	6	5.667	3.923
				PHE	1	100.00	0.00	1	5.00	0.00
TOTAL/AVG.	**(PROJECT)**		**199**		**199**	**215.165**		**199**	**12.105**	
CONTROL VILLAGE										
West Garo Hills	Dichingre	CV	13	Water Tank	3	66.667	76.376	3	5.667	5.132
				Spring	6	90.00	56.921	6	7.5	3.937
				River	2	125.00	35.355	2	8.00	2.828
				Well	2	60.00	14.142	2	6.00	1.141
West Jaintia Hills	Laskein	CV	62	Spring	50	276.8	222.424	50	25.00	17.124
				Ring Well	12	175.00	33.710	12	15.833	5.149

District	Village	Location	Households	Source(s) of Drinking Water	Distance from Residence (m)			Time spent in Fetching Water (min)		
					n	$\bar{x}$	SD	n	$\bar{x}$	SD
East Khasi Hills	Sohryngkham	CV	15	B. Water	2	155.00	7.071	2	11.00	1.414
				PHE Tap	4	45.00	33.166	4	5.00	3.464
				Pond	4	0.667	41.633	3	6.00	2.464
				Spring	5	214.00	164.226	5	12.40	5.030
West Khasi Hills	Mawthawniaw	CV	11	Spring	7	127.857	177.197	7	5.571	2.878
				PHE	4	45.00	40.415	4	5.50	2.516
TOTAL/AVG.	**(CONTROL)**		**101**		**101**	**196.87**		**101**	**17.130**	

Notes:

1. UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village
2. **Under Distance from Residence / Time spent in Fetching Water:**

   n gives the number of responses to the query

   $\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the distance of source in metres / time spent in minutes)

   s. d. is the standard deviation (calculated by the following formula) of the responses received: [Standard deviation is a measure of the variation of the responses]

   s. d. = $\sqrt{\frac{\sum(x-\bar{x})^2}{(n-1)}}$, where n is the sample size and $\bar{x}$ is the sample mean.

3.4.4. Drinking Water Sources – September-October [BATCH III]

Sources of Drinking Water

Project Villages: The source of drinking water in the project villages is found to be as follows:

Ring-well	12%	PHE Tap	7%
Spring	77%	Pond	2%
Well	2%		

Control Villages: The source of drinking water in the control villages is found to be as follows:

Water Tank	3%	Pond	4%
Spring	67%	Ring-well	12%
River	2%	PHE Tap	8%
Well	2%	Boring Water	2%

[**Note**: All figures have been rounded off. The total may exceed 100% at time.]

Distance from Residence

From Table-3.16 (given in the next table) it is found that in the project villages the distance of source water from the residence is 215.165 (metres) on an average whereas, in the control villages the distance of source water from the residence is 196.87 (metres) on an average as per the survey.

It may be noted that the above are not big distances, being around 200 meters from the household (on an average). It may be inferred that water sources in the post monsoon months are not located far from the households.

Time Spent in Fetching Water

It is found that the time spent for fetching water in the project villages is 12.105 (minutes) on an average whereas, the time spent for fetching water in the control villages is 17.13 (minutes) on an average as per the survey.

Thus, it is seen that households do not spend considerable time periods to collect water in the post-monsoon months (September-October).

Table-3.16: Drinking Water Sources - September-October [BATCH - III]

District	Village	Location	Households	Source(s) of Drinking Water	Distance from Residence (m)			Time spent in Fetching Water (min)		
					n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE										
West Garo Hills	Dallangre	UR	9	Ring-well	1	250.00	0.0	1	20.00	0.0
				Spring	8	135.714	62.678	8	8.75	3.105
	Adinggre	MR	8	Well	3	206.667	90.185	3	14.667	5.508
				Spring	5	75.833	47.793	5	5.6	2.966
	Darigre	LR	8	Well	1	200.00	0.0	1	20.00	0.0
				Spring	7	285.857	186.19	7	17.286	11.686
West Jaintia Hills	Rtiang	UR	27	Spring	21	258.9	215.209	21	19.952	13.385
				Ring Well	6	120.00	82.219	6	9.667	6.623
	Biar	MR	21	Ring Well	3	40.00	17.320	3	3.667	1.155
				Spring	18	142.222	191.005	18	12.056	12.827
	Mukroh	LR	75	Spring	61	352.049	356.655	61	15.344	11.427
				Ring Well	14	48.571	44.869	14	4.00	2.418
East Khasi Hills	Rim Shylla	UR	8	Spring	8	63.125	26.041	8	8.375	4.138
	Wah Mawlein	MR	14	PHE Tap	13	8.461	15.730	13	1.307	2.213
				Spring	1	0.0	0.0	1	0.0	0.0
	Pepbah	LR	8	Spring	4	495.00	210.00	4	26.25	7.5
				Pond	4	200.00	0.0	4	20.00	0.0
West Khasi Hills	Marshan Namlang	UR	8	Spring	8	253.125	159.484	8	8.875	4.323
	Byrki	MR	6	Spring	6	145	33.912	6	5.00	1.673
	Mawtynrong	LR	7	Spring	6	150.00	89.442	6	5.667	3.923
				PHE	1	100.00	0.00	1	5.00	0.00
TOTAL/AVG.	**(PROJECT)**		**199**		**199**	**215.165**		**199**	**12.105**	
CONTROL VILLAGE										
West Garo Hills	Dichingre	CV	13	Water Tank	3	66.667	76.376	3	5.667	5.132
				Spring	6	90.00	56.921	6	7.5	3.937
				River	2	125.00	35.355	2	8.00	2.828
				Well	2	60.00	14.142	2	6.00	1.141
West Jaintia Hills	Laskein	CV	62	Spring	50	276.8	222.424	50	25.00	17.124
				Ring Well	12	175.00	33.710	12	15.833	5.149

Table-3.16: Drinking Water Sources - September-October [BATCH - III]

District	Village	Location	Households	Source(s) of Drinking Water	Distance from Residence (m)			Time spent in Fetching Water (min)		
					n	$\bar{x}$	SD	n	$\bar{x}$	SD
East Khasi Hills	Sohryngkham	CV	15	B. Water	2	155.00	7.071	2	11.00	1.414
				PHE Tap	4	45.00	33.166	4	5.00	3.464
				Pond	4	0.667	41.633	4	6.00	2.464
				Spring	5	214.00	164.226	5	12.40	5.030
West Khasi Hills	Mawthawniaw	CV	11	Spring	7	127.857	177.197	7	5.571	2.878
				PHE	4	45.00	40.415	4	5.50	2.516
TOTAL/AVG.	**(CONTROL)**		**101**		**101**	**196.87**		**101**	**17.130**	

Notes:

1. UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village
2. **Under Distance from Residence / Time spent in Fetching Water:**

   n gives the number of responses to the query

   $\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the distance of source in metres / time spent in minutes)

   s. d. is the standard deviation (calculated by the following formula) of the responses received: [Standard deviation is a measure of the variation of the responses]

   s. d. = $\sqrt{\frac{\sum(x-\bar{x})^2}{(n-1)}}$, where n is the sample size and $\bar{x}$ is the sample mean

3.5. Cooking Fuel [Batch III]

Type of Cooking Fuel

From Table-3.17 (given in the next page), it is found that in the project villages almost all the household use firewood as fuel for cooking except for 3 households who use kerosene as fuel for cooking. Similarly, in the control villages, it is found that almost all the households use firewood as fuel for cooking except for one household who use heater for cooking.

Source of Cooking Fuel

As per the survey in the project villages, it is found that 75% of the households responded that Forest is the main source of cooking fuel whereas 25% of the households responded that Forest/Market is the main source of cooking fuel.

In the control villages, it is found that 85% of the households responded that their main source of cooking fuel is from Forest whereas 15% of the households responded that their main source of cooking fuel is either from Forest/Market.

Nos. Of Households

In the project villages covered by the survey, it is found that 91% of the households have collected their cooking fuel whereas 9% of the households have purchased their cooking fuel. Similarly, in the control villages it is found that 82% of the households have collected their cooking fuel whereas 18% of the households have purchased their cooking fuel.

Distance from Home

From the table given in the next page, it is found that in the project villages the distance from home to collect the cooking fuel is 2.613 (metres) on an average and in the control villages the distance from home to collect the cooking fuel is 2.012 (metres) on an average.

Quantity used per Month

It is found that in the project villages the quantity of firewood used per month is 870.25 and kerosene is 5.00 (litres) on an average whereas, in the control villages it is found that the quantity of firewood used per month is 653.28 on an average.

Rate per Unit

As per the survey in the project villages, it is found that the rate per unit of Firewood is 3511.63 (Rupees) and kerosene is 25 (Rupees) on an average and in control villages, it is found that the rate per unit of Firewood is 4215.52 (Rupees) on an average.

Table-3.17: Source of Cooking Fuel [BATCH - III]
Type of Fuel: Firewood / Dried Cow Dung / Other Biomass / Kerosene / LPG / Other

District	Village	Location	Households	Type of Fuel	Source	Nos. of Households		Distance from Home (m)			Quantity Used Per Month			Rate per Unit (Rs per ____)		
						Purchased	Collected	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE																
West Garo Hills	Dallangre	UR	9	Firewood	Forest	--	9	9	1.611	0.858	9	30.556	3.909	9	0.0	0.0
	Adinggre	MR	8	Firewood	Forest	--	8	8	1.125	0.354	8	31.250	2.315	8	0.0	0.0
	Darigre	LR	8	Firewood	Forest	--	8	8	1.875	0.991	8	32.625	4.719	8	0.0	0.0
West Jaintia Hills	Rtiang	UR	27	Firewood	Forest/ Market	--	24	27	2.648	1.640	24	288.89	57.735	24	11666.66	2886.75
				Kerosene	Market	3					3	5.00	0.0	3	25.00	0.0
	Biar	MR	21	Firewood	Forest	--	21	21	2.905	1.044	21	214.28	35.857	21	0.0	0.0
	Mukroh	LR	75	Firewood	Forest	--	75	75	3.00	0.637	75	296.00	19.728	75	0.0	0.0
East Khasi Hills	Rim Shylla	UR	8	Firewood	Forest/ Market	8	--	8	1.875	0.641	8	2600.0	709.12	8	6500.00	1772.81
	Wah Mawlein	MR	14	Firewood	Forest/ Market	1	13	14	2.071	0.267	14	2457.14	213.80	14	8000.00	0.0
	Pepbah	LR	8	Firewood	Forest	2	6	8	2.50	0.756	8	3800.00	2592.30	8	16000.00	0.0
West Khasi Hills	Marshan Namlang	UR	8	Firewood	Forest	--	8	8	2.313	1.751	8	0.0	0.0	8	0.0	0.0
	Byrki	MR	6	Firewood	Forest	--	6	6	2.917	1.357	6	0.0	0.0	6	0.0	0.0
	Mawtynrong	LR	7	Firewood	Forest	4	3	7	3.429	1.902	7	9375.00	1250.00	7	6000.00	0.0
TOTAL/AVG	**(PROJECT)**		**199**	**Firewood**		**15**	**181**	**199**	**2.613**	**--**	**196**	**870.25**	**--**	**196**	**3511.63**	**--**
				Kerosene		**3**	**--**				**3**	**5.00**	**--**	**3**	**25.00**	**--**
CONTROL VILLAGE																
West Garo Hills	Dichingre	CV	13	Firewood	Forest	--	13	13	1.692	0.855	13	38.077	6.934	13	0.0	0.0
West Jaintia Hills	Laskein	CV	62	Firewood	Forest	1	61	62	2.565	0.716	62	300.00	0.0	62	0.0	0.0
East Khasi Hills	Sohryngkham	CV	15	Firewood	Forest/ Market	14	--	14	0.014	0.053	14	2800.00	1496.66	14	7875.00	4209.36
				Others	Heater	1	--	1	0.0	0.0	1	0.0	0.0	1	0.0	0.0
West Khasi Hills	Mawthawniaw	CV	11	Firewood	Forest	2	9	11	1.818	0.845	11	500.00	0.0	11	6000.00	0.0
TOTAL/AVG	**(CONTROL)**		**101**	**Firewood**		**18**	**83**	**101**	**2.012**	**--**	**101**	**653.28**	**--**	**29**	**4215.52**	**--**

3.6. Crops grown [Batch III]

3.6.1. Growing Season

Findings

Table-3.18 at overleaf gives the names of crops grown in the project villages and the control villages, along with their growing seasons. This is done for crops grown under irrigated conditions as well as for crops grown under non-irrigated conditions.

The discussion in the next few paragraphs analyses the above details.

Analysis

Crops under Irrigated Conditions

None of the sampled villages have any area under irrigation. Hence, there is no crop grown in these villages under irrigated conditions.

Crops under Non-Irrigated Conditions

It is seen that the villages usually grow rice under rain-fed (non-irrigated) conditions. Rice is grown under non-irrigated conditions in the project villages (except for some in the West Jaintia Hills, East Khasi Hills and West Khasi Hills districts), as well as in all the control villages.

In the villages covered by the study, the other crops cultivated under similar non-irrigated (rain-fed) conditions include the following:

- Jhum crops (a term used to denote various crops grown under 'slash and burn' practices);
- Maize;
- Potato;
- Turmeric & ginger;
- Betel leaf; and
- Vegetables (like tomato, cabbage, carrot, beans, yam, radish) etc.

All the project villages and control villages cultivate some of the above type of crops (i.e. those grown under non-irrigated conditions).

Growing Season

The growing season for the various crops is given in the above mentioned table. The same may be referred to for additional details in this regard.

Rice is usually grown under non-irrigated conditions from May to August-September. Other non-irrigated crops are grown during the rainy season. It may be noted that the hills of Meghalaya enjoy rainfall in most months of the year. Rainfall is quite regular from May onward.

Table-3.18: Growing Season [Batch III]

District	Village	Location	Households	Under Irrigated Conditions			Under Non-Irrigated Conditions		
				Crop	Growing Season		Crop	Growing Season	
					From	To		From	To
PROJECT VILLAGE									
West Garo Hills	Dallangre	UR	9	---	---	---	Rice	May	August
							Jhum Crops	April	May
	Adinggre	MR	8	---	---	---	Jhum Crops	May	April
	Darigre	LR	8	---	---	---	Rice	May	August
							Jhum Crops	March	April
West Jaintia Hills	Rtiang	UR	27	---	---	---	Turmeric	April	March
							Ginger	May	August
	Biar	MR	21	---	---	---	Turmeric	April	March
							Ginger	May	August
	Mukroh	LR	75	---	---	---	Turmeric	May	June
							Ginger	April	June
East Khasi Hills	Rim Shylla	UR	8	---	---	---	Rice	May	September
							Tomato, Betel Leaf, Potato	March	September
							Carrot, Yam, Cabbage, Beans	February	March
							Pumpkin., Coriander	February	March
	Wah Mawlein	MR	14	---	---	---	Tomato, Betel Leaf, Potato	February	September
							Carrot, Yam, Cabbage, Beans	February	March
	Pepbah	LR	8	---	---	---	Tomato, Betel Leaf, Potato	March	April
							Carrot, Yam, Cabbage, Beans	August	October
West Khasi Hills	Marshan Namlang	UR	8	---	---	---	Potato, Cabbage	March	December
							Sweet Potato	July	August
							Yam	March	December
							Carrot	March	April
	Byrki	MR	6	---	---	---	Potato, Cabbage	March	April
							Sweet Potato	July	August

Table-3.18: Growing Season [Batch III]

District	Village	Location	Households	Under Irrigated Conditions			Under Non-Irrigated Conditions		
				Crop	Growing Season		Crop	Growing Season	
					From	To		From	To
	Mawtynrong	LR	7	---	---	---	Potato, Cabbage	February	December
							Maize	March	July
							Yam	March	December
							Radish, Mustard, Carrot	March	April
TOTAL/AVG.	**(PROJECT)**	**--**	**199**	**Listed at above**	**--**	**--**	**Listed at above**	**---**	**---**
CONTROL VILLAGE									
West Garo Hills	Dichingre	CV	13	---	---	---	Rice	May	August
							Jhum Crops	March	April
West Jaintia Hills	Laskein	CV	62	---	---	---	Turmeric	February	March
East Khasi Hills	Sohryngkham	CV	15	---	---	---	Tomato, Betel Leaf, Potato	February	September
							Carrot, Yam, Cabbage, Beans	July	October
West Khasi Hills	Mawthawniaw	CV	11	---	---	---	Rice	May	September
							Potato, Cabbage	February	December
							Maize	March	July
							Radish, Mustard, Carrot	--	--
TOTAL/AVG.	**(CONTROL)**	**--**	**101**	**Listed at above**	**---**	**---**	**Listed at above**	**---**	**---**

Notes:

1. UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village.

3.6.2. CROP DETAILS - (A) IRRIGATED CONDITIONS

Not applicable.

There are no irrigated areas in the project and control villages. All agriculture is reported to be rain-fed. Table-3.19 gives the format of the reporting table. This table is available at the next page.

3.6.3. CROP DETAILS - (B) NON-IRRIGATED CONDITIONS

Findings

The findings in the above regard are furnished at Table-3.20. This table is available after Table-3.19 (which is given in the next page). It gives the following aspects of the crops grown under non-irrigated conditions in the sampled villages - project villages as well as control villages: (a) Area, (b) HYV Area, (c) Average Yield and (d) Income.

Analysis

Area

In the Project Villages, the average area under rice is 0.277 Ha (18 households), while that under other crops (jhum crops, vegetables etc.) is found to be 0.269 Ha. In the Control Villages, the average area under rice is about 0.356 Ha (19 households), while area under other crops is 0.276 ha.

HYV Area

There is no area under High Yielding Variety (HYV) crops in the sampled villages (project villages as well as control villages).

Average Yield

The average yield for the various crops (rice, jhum crops, vegetables etc.) has been tabulated in Table-3.20 and may be referred to therein.

Income

In the project villages: the average income from rice is only Rs. 292 per hectare, while other crops give an income of Rs. 7,628 from each hectare under such crops. In the control villages: the average income from rice is only Rs. 629 per hectare, while other crops give an income of Rs. 17,577 from each hectare under such crops.

Due to low incomes from rice crops - only some households are found to be cultivating this crop in the sampled villages - only 9% of the sampled households in the project villages and about 19% in the control villages grow rice under non-irrigated conditions.

Notes:

1. *'Jhum crops' is a term used to denote various crops grown under 'slash and burn' practices in the hill-sides.*
2. *'Other crops' include such 'Jhum crops' as well as vegetables, bay leaf etc.*

Table-3.19: CROP DETAILS - (A) IRRIGATED CONDITIONS [Batch III]

District	Village	Location	Households	Crop (*)	Area (Ha)			HYV Area (Ha)			Avg. Yield (Kg per Ha)			Income Rs per Ha		
					n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE																
West Garo Hills	Dallangre	UR	9	---	---	---	---	---	---	---	---	---	---	---	---	---
	Adinggre	MR	8	---	---	---	---	---	---	---	---	---	---	---	---	---
	Darigre	LR	8	---	---	---	---	---	---	---	---	---	---	---	---	---
West Jaintia Hills	Rtiang	UR	27	---	---	---	---	---	---	---	---	---	---	---	---	---
	Biar	MR	21	---	---	---	---	---	---	---	---	---	---	---	---	---
	Mukroh	LR	75	---	---	---	---	---	---	---	---	---	---	---	---	---
East Khasi Hills	Rim Shylla	UR	8	---	---	---	---	---	---	---	---	---	---	---	---	---
	Wah Mawlein	MR	14	---	---	---	---	---	---	---	---	---	---	---	---	---
	Pepbah	LR	8	---	---	---	---	---	---	---	---	---	---	---	---	---
West Khasi Hills	Marshan Namlang	UR	8	---	---	---	---	---	---	---	---	---	---	---	---	---
	Byrki	MR	6	---	---	---	---	---	---	---	---	---	---	---	---	---
	Mawtynrong	LR	7	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL/AVG.	**(PROJECT)**		**199**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
CONTROL VILLAGE																
West Garo Hills	Dichingre	CV	13	---	---	---	---	---	---	---	---	---	---	---	---	---
West Jaintia Hills	Laskein	CV	62	---	---	---	---	---	---	---	---	---	---	---	---	---
East Khasi Hills	Sohryngkham	CV	15	---	---	---	---	---	---	---	---	---	---	---	---	---
West Khasi Hills	Mawthawniaw	CV	11	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL/AVG.	**(CONTROL)**		**101**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village
(*) If more than one crop - the number of rows for concerned village will be increased.

Under Area / Yield/ Income:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the area / yield / income)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses].

Table-3.20: CROP DETAILS - (B) NON-IRRIGATED CONDITIONS [Batch III]

District	Village	Location	Households	Crop (*)	Area (Ha)			HYV Area (Ha)			Avg. Yield (Kg per Ha)			Income Rs per Ha		
					n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE																
West Garo Hills	Dallangre	UR	9	Rice	9	0.32	0.360	3	0.0	0.0	9	97.778	103.655	9	0.0	0.0
				Jhum Crops	9	0.311	0.116	--	--	--	--	--	--	9	32555.556	7666.667
	Adinggre	MR	8	Jhum Crops	8	0.400	0.806	--	--	--	--	--	--	8	27875.00	4517.822
	Darigre	LR	8	Rice	8	0.200	0.142	2	0.0	0.0	8	525.00	452.69	2	0.0	0.0
				Jhum Crops	8	0.265	0.353	4	0.0	0.0	4	0.0	0.0	8	18125.00	20691.182
West Jaintia Hills	Rtiang	UR	27	Turmeric	22	0.132	0.277	--	--	--	24	21.250	43.843	24	1997.917	4018.611
				Ginger	24	0.092	0.255	--	--	--	26	6.538	17.422	26	269.231	992.681
	Biar	MR	21	Turmeric	19	0.079	0.187	--	--	--	20	108.00	305.711	20	7835.00	23477.360
				Ginger	15	0.0	0.0	15	0.0	0.0	15	0.0	0.0	15	0.0	0.0
	Mukroh	LR	75	Turmeric	45	0.029	0.082	37	0.0	0.0	63	38.619	112.392	63	1734.050	3296.830
				Ginger	41	0.025	0.094	37	0.0	0.0	65	452.015	2486.860	66	8363.580	44639.400
East Khasi Hills	Rim Shylla	UR	8	Rice	1	0.50	0.0	--	--	--	1	600.00	0.0	1	3500.00	0.0
				Turmeric, Bay Leaf, Potato	5	1.00	1.125	--	--	--	5	252.00	65.727	5	1470.00	383.406
				Carrot, Yam, Cabbage, Beans	7	0.821	0.970	--	--	--	8	19675.00	118.200	8	19675.00	23759.347
				Pumpkin, Coriander	4	1.100	1.273	--	--	--	--	--		4	6325.00	4628.444
	Wah Mawlein	MR	14	Potato, Bay Leaf, Tomato	5	0.100	0.224	--	--	--	--	--	--	14	27567.850	36400.220
				Carrot, Yam, Cabbage, Beans	5	0.100	0.224	--	--	--	5	12.00	32.071	5	360.00	804.384
	Pepbah	LR	8	Potato, Bay Leaf, Tomato	7	0.533	0.280	--	--	--	8	1005.00	788.543	8	10035.500	7585.570
				Carrot, Yam, Cabbage, Beans	6	0.517	0,306	--	--	--	7	1314.286	880.206	7	13285.714	8746.700
West Khasi Hills	Marshan Namlang	UR	8	Potato, Cabbage	--	--	--	--	--	--	3	33.333	15.275	3	650.00	312.250
				Sweet Potato	--	--	--	--	--	--	2	150.00	70.711	2	2250.00	1060.661
				Yam	--	--	--	--	--	--	2	22.500	3.536	2	450.00	70.711
				Carrot	--	--	--	--	--	--	1	30.00	0.0			
	Byrki	MR	6	Potato, Cabbage	--	--	--	--	--	--	1	50.00	0.0	1	1000.00	0.0
				Sweet Potato	--	--	--	--	--	--	2	450.00	70.711	2	7750.00	353.553
	Mawtynrong	LR	7	Potato, Cabbage	6	1.883	1.545	2	0.0	0.0	6	466.667	578.504	6	8333.333	9917.997
				Maize	5	1.400	1.636	2	0.0	0.0	4	100.00	115.470	5	7800.00	16884.164
				Yam	4	2.00	2.309	2	0.0	0.0	4	75.00	95.743	4	1500.00	1914.854
				Radish, Carrot	2	0.0	0.0	2	0.0	0.0	5	205.00	342.965	5	7400.00	12245.458
TOTAL/AVG.	**(PROJECT)**	**All**	**199**	**Rice**	**18**	**0.277**	**---**	**5**	**0**	**---**	**18**	**315.556**	**---**	**12**	**291.667**	**---**

Table-3.20: CROP DETAILS - (B) NON-IRRIGATED CONDITIONS [Batch III]

District	Village	Location	Households	Crop (*)	Area (Ha)			HYV Area (Ha)			Avg. Yield (Kg per Ha)			Income Rs per Ha		
					n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD
		Locations		**Jhum Crops** **Turmeric** **Ginger** **Maize** **Bay Leaf** **Tomato** **Sweet Potato/ Yam**	**247**	**0.269**	**---**	**101**	**0.0**	**---**		**Different crops - hence not calculated**	**---**	**320**	**7627.579**	**---**
CONTROL VILLAGE																
West Garo Hills	Dichingre	CV	13	Rice	13	0.136	0.192	8	0.0	0.0	13	91.667	140.249	8	0.0	0.0
				Jhum Crops	12	0.480	0.236							12	43000.00	10081.486
West Jaintia Hills	Laskein	CV	62	Turmeric	1	0.200	0.0				1	32	0.0	1	900.00	0.0
East Khasi Hills	Sohryngkham	CV	15	Potato, Bay Leaf, Tomato	9	0.180	0.280	4	0.0	0.0	15	2053.666	2489.613	15	25126.250	37603.671
				Carrot, Yam, Cabbage, Beans	8	0.100	0.306	5	0.0	0.0	12	690.00	893.197	12	10316.667	13298.314
West Khasi Hills	Mawthawniaw	CV	11	Rice	6	0.833	1.572				6	118.333	194.156	6	1466.667	1751.19
				Potato, Cabbage	7	0.317	0.387	2	0.0	0.0	7	41.667	37.103	7	2285.714	3826.085
				Maize	7	0.300	0.351	2	0.0	0.0	7	128.571	175.919	7	1500.00	1782.003
				Radish, Mustard, Carrot	2	0.0	0.0	2	0.0	0.0	6	59.167	72.001	6	1750.00	2452.550
TOTAL/AVG.	**(CONTROL)**	**All Locations**	**101**	**Rice**	**19**	**0.356**		**8**	**0.000**		**19**	**100.088**		**14**	**628.572**	
				Jhum Crops **Turmeric** **Potato, Bay Leaf, Tomato** **Carrot, Yam, Cabbage, Beans** **Maize** **Radish, Mustard**	**46**	**0.276**	**---**	**15**	**0.0**	**---**		**Different crops - hence not calculated**	**---**	**60**	**17576.560**	**---**

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village
(*) If more than one crop - the number of rows for concerned village is increased.

Under Area / Yield/ Income: n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the area / yield / income)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

3.7. Orchard, plantation crops & agro-forestry [Batch III]

Findings

As per the survey, it is found that areca nut; rubber, cashew nut, poma (*Toona ciliata*), soh phie (*Myrica nagi*), pear, peach and plum are found in the project and control villages. It is also found that only few districts have orchard and crop plantations. This is in accordance with the responses made by each household in the project as well as control village. Table-3.21 (at overleaf) gives the details of orchard, crop plantation and agro-forestry for the following parameters:

- Area covered
- Number of trees
- Output
- Income

Analysis

Area Covered

Only districts of West Garo Hills, West Khasi Hills and East Khasi Hills falling under project and control village have orchard and crop plantation. It is found that the average area covered in project village is 0.348 Ha (approx. about 3,480 m^2 or 37,459 ft^2) and in control village is 0.185 Ha (approx. about 1,850 m^2 or 19,913 ft^2).

Number of Trees

The number of trees in a particular area falling under plantations depends on the location. It is found that in most of the areas in both project and control village, there is abundance of forest cover. The average number of trees in project village is 680.474 (approx. about 680 nos.) and in control village is 27.915 (approx. about 28 nos.).

Output

Areca nut and cashew nut is mostly grown in West Garo Hills and is found grown in abundance while rubber is yet to be tapped as it takes 5-6 years for the rubber trees to grow. The output from areca nut and cashew nut is very high in project village as compared to control village. In West Khasi Hills, Sohphie (*Myrica nagi*) is having high output as compared to pear and peach fruit in project village. In control village, plum fruit is grown in Sohryngkham village located in the East Khasi Hills district and is having high output annually.

The output for the various orchard and crop plantations has been tabulated in Table-3.21 and may be referred to therein.

Income

It is found that the average income per year is Rs. 27,156.311 (approx. about Rs. 27,156 in project village whereas in control village is Rs. 2,386.139 (approx. about Rs. 2,386). It is also found that average income from areca nut and cashew nut which is grown in West Garo Hills is high due to large scale plantation as compared to other districts in both project and control village; and as result better livelihood earnings.

Table-3.21: Details of Orchard, Plantation Crops & Agro-Forestry [Batch III]

District	Village	Location	Households	Plant	Area Covered (Ha)			No. of Trees			Output (unit)			Income (Rs)		
					n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE																
West Garo Hills	Dallangre	UR	9	Arecanut	9	0.836	0.458	9	3005.714	2822.56	9	666.889	541.582	9	84111.111	73631.166
				Rubber	8	0.48	0.392	8	531.25	705.558						
				Cashewnut	9	0.373	0.339	9	437.143	346.252	9	121.111	113.737	9	7777.778	7399.625
	Adinggre	MR	8	Arecanut	8	0.30	0.325	8	165.625	189.425	8	127.50	273.796	8	16500.00	26656.546
				Rubber	8	0.50	0.314	8	243.75	114.759						
				Cashewnut	8	0.16	0.257	8	81.25	141.263	8	1506.25	4240.151	8	428.571	1133.893
	Darigre	LR	8	Arecanut	8	0.50	0.347	8	1150.00	638.749	8	642.5	506.127	8	72250.00	58813.871
				Rubber	8	0.10	0.283	8	31.25	88.388						
				Cashewnut	6	0.52	0.247	6	1775.00	1732.41	6	511.4290	511.429	6	26714.286	26930.245
				Poma	7	0.046	0.078	7	85.714	986.445	7	0.0	0.0	7	333.333	8164.966
West Jaintia Hills	Rtiang	UR	27	--	--	--	--	--	--	--	--	--	--	--	--	--
	Biar	MR	21	--	--	--	--	--	--	--	--	--	--	--	--	--
	Mukroh	LR	75	--	--	--	--	--	--	--	--	--	--	--	--	--
East Khasi Hills	Rim Shylla	UR	8	--	--	--	--	--	--	--	--	--	--	--	--	--
	Wah Mawlein	MR	14	--	--	--	--	--	--	--	--	--	--	--	--	--
	Pepbah	LR	8	--	--	--	--	--	--	--	--	--	--	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	--	--	--	--	--	--	--	--	--	--	--	--	--
	Byrki	MR	6	--	--	--	--	--	--	--	--	--	--	--	--	--
	Mawtynrong	LR	7	Sohphie	7	0.0	0.0	7	1.429	3.780	7	114.286	302.372	7	685.714	1814.230
				Pear	1	0.0	0.0	1	6.00	0.00	1	500.00	0.00	1	3000.00	0.00
				Peach	1	0.0	0.0	1	5.00	0.00	1	100.00	0.00	--	--	--

Table-3.21: Details of Orchard, Plantation Crops & Agro-Forestry [Batch III]

District	Village	Location	Households	Plant	Area Covered (Ha)			No. of Trees			Output (unit)			Income (Rs)		
					n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD
TOTAL/AVG.	**(PROJECT)**		**199**	**Arecanut** **Rubber** **Cashewnut** **Poma** **Sohphie**	**88**	**0.348**	**--**	**88**	**680.474**	**--**	**--**	**Different crops - hence not calculated**	**--**	**63**	**27156.311**	**--**
CONTROL VILLAGE																
West Garo Hills	Dichingre	CV	13	Arecanut	13	0.172	0.330	13	22.727	49.376	12	75.00	142.223	12	8958.333	17433.586
				Cashewnut	13	0.214	0.300	13	40.00	80	10	91.667	163.639	10	5000.00	12309.149
West Jaintia Hills	Laskein	CV	62	--	--	--	--	--	--	--	--	--	--	--	--	--
East Khasi Hills	Sohryngkham	CV	15	Plum	4	0.130	0.170	4	5.5	3.416	4	361.25	439.135	4	20875.00	20307.531
West Khasi Hills	Mawthawniaw	CV	11	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL/AVG.	**(CONTROL)**		**101**	**Arecanut** **Cashewnut** **Plum**	**30**	**0.185**	**--**	**30**	**27.915**	**--**	**--**	**Different crops - hence not calculated**	**--**	**26**	**2386.139**	**--**

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Area / Trees / Output / Income:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the area / trees / output / income)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

3.8. Livestock [Batch III]

Findings

The tables from Table-3.23 to Table-3.27 give the findings of the following livestock parameters: (a) Nos. owned; (b) Output and (c) Income for the following types of livestock:

Table-3.23	Cattle
Table-3.24	Pigs
Table- 3.25	Poultry
Table- 3.26	Buffaloes
Table- 3.27	Goats

The following gives a summary of the findings in the above regard. This has been done separately for the project villages and control villages.

Table-3.22: Summary of Findings for Livestock [Batch III]

TYPE OF LIVESTOCK	Number owned		Output		Income	
	No. of Household	Average (Rs.)	No. of Household	Average (Rs.)	No. of Household	Average (Rs.)
PROJECT						
Cattle	102	1.559	85	1.459	85	7023.517
Pigs	147	1.027	147	1.027	147	5636.540
Poultry	147	6.552	130	6.046	130	1876.353
Buffaloes	29	0.5262	12	0.0903	12	270.834
Goats	79	0.975	79	0.975	79	1241.913
CONTROL						
Cattle	27	10.485	14	2.419	14	24485.71
Pigs	34	1.971	34	1.971	34	7448.529
Poultry	24	11.792	13	13.231	13	3580.769
Buffaloes	-	-	-	-	-	-
Goats	5	4	5	2.4	5	2420

Analysis

It is found that the following types of livestock are commonly owned in the sampled villages: cattle, pigs, poultry and goats. Only some villages have households possessing buffaloes. The sampled households possessing livestock derive substantial income from the ownership of such livestock - especially from goats in the project villages, and from cattle in the control villages.

Table-3.23: Details of Livestock- Cattle [Batch III]

District	Village	Location	Households	Type of Livestock	Nos. Owned			Output				Income (Rs.)		
					n	$\bar{x}$	SD	Unit of Output	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE														
West Garo Hills	Dallangre	Upper Reach	9	Cattle	9	2.667	1.732	--	--	--	--	--	--	--
	Adinggre	Middle Reach	8	Cattle	8	1.375	0.916	--	--	--	--	--	--	--
	Darigre	Lower Reach	8	Cattle	8	6.125	7.846	Nos	8	6.125	7.846	8	23000.00	25402.362
West Jaintia Hills	Rtiang	Upper Reach	27	Cattle	22	2.409	3.825	Nos	22	2.409	3.825	22	10909.041	17725.175
	Biar	Middle Reach	21											
	Mukroh	Lower Reach	75	Cattle	49	0.122	0.785	Nos	49	0.122	0.785	49	612.245	2998.724
East Khasi Hills	Rim Shylla	Upper Reach	8	--	--	--	--	--	--	--	--	--	--	--
	Wah Mawlein	Middle Reach	14	--	--	--	--	--	--	--	--	--	--	--
	Pepbah	Lower Reach	8	--	--	--	--	--	--	--	--	--	--	--
West Khasi Hills	Marshan Namlang	Upper Reach	8	Cattle	4	3.750	2.363	Nos	4	3.750	2.363	4	32000.00	22627.417
	Byrki	Middle Reach	6	Cattle	2	0.50	0.707	Nos	2	0.50	0.707	2	7500.00	10606.602
	Mawtynrong	Lower Reach	7	--	--	--	--	--	--	--	--	--	--	--
TOTAL/AVG	**(PROJECT)**	**--**	**199**	**--**	**102**	**1.559**	**--**	**--**	**85**	**1.459**	**--**	**85**	**7023.517**	**--**
CONTROL VILLAGE														
West Garo Hills	Dichingre	Control Village	13	Cattle	11	1.909	1.375	--	--	--	--	--	--	--
West Jaintia Hills	Laskein	Control Village	62	Cattle	11	21.917	4.816	Nos	9	1.429	0.787	9	23333.330	10307.760
East Khasi Hills	Sohryngkham	Control Village	15	--	--	--	--	--	--	--	--	--	--	--
West Khasi Hills	Mawthawniaw	Control Village	11	Cattle	5	4.20	3.899	Nos	5	4.20	3.899	5	26560.00	32310.494
TOTAL/AVG	**(CONTROL)**	**--**	**101**	**--**	**27**	**10.485**	**--**	**--**	**14**	**2.419**	**--**	**14**	**24485.712**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Nos. Owned / Output / Income:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the Nos. Owned / output / income)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

Table-3.24: Details of Livestock - Pigs [Batch III]

District	Village	Location	Households	Type of Livestock	Nos. Owned			Output				Income (Rs.)		
					n	$\bar{x}$	SD	Unit of Output	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE														
West Garo Hills	Dallangre	UR	9	Pigs	9	1.333	0.866	Nos	9	1.333	0.866	9	444.444	1333.333
	Adinggre	MR	8	Pigs	6	0.667	0.516	Nos	6	0.667	0.516	6	428.571	1133.893
	Darigre	LR	8	Pigs	8	2.375	1.188	Nos	8	2.375	1.890	8	11000.00	7416.198
West Jaintia Hills	Rtiang	UR	27	Pigs	20	0.450	0.759	Nos	20	0.450	0.759	20	11900.00	39959.058
	Biar	MR	21	Pigs	19	1.00	1.374	Nos	19	1.00	1.374	19	5368.421	7417.775
	Mukroh	LR	75	Pigs	64	0.938	2.833	Nos	64	0.938	2.833	64	3062.500	5981.121
East Khasi Hills	Rim Shylla	UR	8	Pig	4	1.00	0.0	Nos	4	1.00	0.0	4	4500.00	2516.612
	Wah Mawlein	MR	14	Pigs	1	1.00	0.0	Nos	1	1.00	0.0	1	2000.00	0.0
	Pepbah	LR	8	Pigs	5	2.20	0.837	Nos	5	2.20	0.837	5	15000.00	9246.621
West Khasi Hills	Marshan Namlang	UR	8	Pigs	2	1.50	0.707	Nos	2	1.50	0.707	2	8500.00	707.107
	Byrki	MR	6	Pigs	3	1.00	1.00	Nos	3	1.00	1.00	3	9000.00	9000.00
	Mawtynrong	LR	7	Pigs	6	1.00	1.00	Nos	6	1.00	1.00	6	9833.333	9641.922
TOTAL/AVG.	**(PROJECT)**	**--**		**--**	**147**	**1.027**	**--**	**--**	**147**	**1.027**	**--**	**147**	**5636.540**	**--**
CONTROL VILLAGE														
West Garo Hills	Dichingre	CV	13	Pigs	12	2.50	4.056	Nos	12	2.50	0.647	12	2583.333	4481.443
West Jaintia Hills	Laskein	CV	62	Pigs	8	1.750	0.886	Nos	8	1.750	0.707	8	8625.00	3335.416
East Khasi Hills	Sohryngkham	CV	15	Pigs	5	1.80	0.447	Nos	5	1.80	0.447	5	15000.00	4123.106
West Khasi Hills	Mawthawniaw	CV	11	Pigs	9	1.556	1.740	Nos	9	1.556	1.740	9	8694.444	6807.369
TOTAL/AVG.	**(CONTROL)**	**--**		**--**	**34**	**1.971**	**--**	**--**	**34**	**1.971**	**--**	**34**	**7448.529**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Nos. Owned / Output / Income:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the Nos. Owned / output / income)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

Table-3.25: Details of Livestock- Poultry [Batch III]

District	Village	Location	Households	Type of Livestock	Nos. Owned			Output				Income (Rs.)		
					n	$\bar{x}$	SD	Unit of Output	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE														
West Garo Hills	Dallangre	UR	9	Poultry	9	4.667	4.387	Nos.	--	--	--	--	--	--
	Adinggre	MR	8	Poultry	8	4.125	3.271	Nos.	--	--	--	--	--	--
	Darigre	LR	8	Poultry	8	13.250	6.341	Nos.	8	0.50	1.414	8	250.00	707.107
West Jaintia Hills	Rtiang	UR	27	Poultry	18	11.889	33.132	Nos.	18	11.889	33.132	18	2938.889	7877.529
	Biar	MR	21	Poultry	16	4.938	7.280	Nos.	16	4.938	7.280	16	1356.250	2082.617
	Mukroh	LR	75	Poultry	61	2.984	6.920	Nos.	61	2.984	6.920	61	924.194	2566.742
East Khasi Hills	Rim Shylla	UR	8	Poultry	5	11.80	11.606	Nos.	5	11.80	11.606	5	4290.00	3832.167
	Wah Mawlein	MR	14	Poultry	1	6.00	0.0	Nos.	1	6.00	0.0	1	6000.00	0.0
	Pepbah	LR	8	Poultry	1	10.00	0.0	Nos.	1	10.00	0.0	1	3500.00	0.0
West Khasi Hills	Marshan Namlang	UR	8	Poultry	7	7.571	8.018	Nos.	7	7.571	8.018	7	2285.714	1439.246
	Byrki	MR	6	Poultry	6	11.50	18.971	Nos.	6	11.50	18.971	6	4133.333	5435.685
	Mawtynrong	LR	7	Poultry	7	15.714	24.878	Nos.	7	15.714	24.878	7	5600.00	8558.816
TOTAL/AVG.	**(PROJECT)**	**--**	**199**	**--**	**147**	**6.552**	**--**	**--**	**130**	**6.046**	**--**	**130**	**1876.353**	**--**
CONTROL VILLAGE														
West Garo Hills	Dichingre	CV	13	Poultry	11	5.090	5.338	Nos.	--	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	Poultry	3	31.667	10.408	Nos.	3	13.333	5.774	3	3666.667	577.350
East Khasi Hills	Sohryngkham	CV	15	--	--	--	--	--	--	--	--	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	Poultry	10	13.20	16.281	Nos.	10	13.20	16.281	10	3555.00	3882.328
TOTAL/AVG.	**(CONTROL)**	**--**	**101**	**--**	**24**	**11.792**	**--**	**--**	**13**	**13.231**	**--**	**13**	**3580.769**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Nos. Owned / Output / Income:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the Nos. Owned / output / income)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

Table-3.26: Details of Livestock- Buffaloes [Batch III]

District	Village	Location	Households	Type of Livestock	Nos. Owned			Output				Income (Rs.)		
					n	$\bar{x}$	SD	Unit of Output	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE														
West Garo Hills	Dallangre	UR	9	--	--	--	--	--	--	--	--	--	--	--
	Adinggre	MR	8	--	--	--	--	--	--	--	--	--	--	--
	Darigre	LR	8	--	--	--	--	--	--	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	Buffaloes	17	0.133	0.516							
	Biar	MR	21	Buffaloes	12	1.083	2.937	Nos.	12	1.083	2.937	12	3250.00	7829.141
	Mukroh	LR	75	--	--	--	--	--	--	--	--	--	--	--
East Khasi Hills	Rim Shylla	UR	8	--	--	--	--	--	--	--	--	--	--	--
	Wah Mawlein	MR	14	--	--	--	--	--	--	--	--	--	--	--
	Pepbah	LR	8	--	--	--	--	--	--	--	--	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	--	--	--	--	--	--	--	--	--	--	--
	Byrki	MR	6	--	--	--	--	--	--	--	--	--	--	--
	Mawtynrong	LR	7	--	--	--	--	--	--	--	--	--	--	--
TOTAL/AVG.	**(PROJECT)**		**199**	**--**	**29**	**0.5262**	**--**	**--**	**12**	**0.0903**	**--**	**12**	**270.834**	**--**
CONTROL VILLAGE														
West Garo Hills	Dichingre	CV	13	--	--	--	--	--	--	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	--	--	--	--	--	--	--	--	--	--	--
East Khasi Hills	Sohryngkham	CV	15	--	--	--	--	--	--	--	--	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	--	--	--	--	--	--	--	--	--	--	--
TOTAL/AVG.	**(CONTROL)**		**101**	--	--	--	--	--	--	--	--	--	--	--

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Nos. Owned / Output / Income:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the Nos. Owned / output / income)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

Table-3.27: Details of Livestock- Goats [Batch III]

District	Village	Location	Households	Type of Livestock	Nos. Owned			Output				Income (Rs.)		
					n	$\bar{x}$	SD	Unit of Output	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE														
West Garo Hills	Dallangre	UR	9	--	--	--	--	--	--	--	--	--	--	--
	Adinggre	MR	8	--	--	--	--	--	--	--	--	--	--	--
	Darigre	LR	8	--	--	--	--	--	--	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	--	--	--	--	--	--	--	--	--	--	--
	Biar	MR	21	Goats	13	2.00	3.937	Nos	13	2.00	3.937	13	961.539	1862.366
	Mukroh	LR	75	Goats	52	0.269	0.888	Nos	52	0.269	0.888	52	194.444	628.253
East Khasi Hills	Rim Shylla	UR	8	Goats	1	4.00	0.0	Nos	1	4.00	0.0	1	3000.00	0.0
	Wah Mawlein	MR	14	--	--	--	--	--	--	--	--	--	--	--
	Pepbah	LR	8	Goats	1	4.00	0.0	Nos	1	4.00	0.0	1	12000.00	0.0
West Khasi Hills	Marshan Namlang	UR	8	Goats	4	2.00	0.816	Nos	4	2.00	0.816	4	4375.00	2393.568
	Byrki	MR	6	Goats	5	1.20	0.837	Nos	5	1.20	0.837	5	3600.00	3847.077
	Mawtynrong	LR	7	Goats	3	5.00	8.660	Nos	3	5.00	8.660	3	8333.333	14433.757
TOTAL/AVG.	**(PROJECT)**		**199**	**--**	**79**	**0.975**	**--**	**--**	**79**	**0.975**	**--**	**79**	**1241.913**	**--**
CONTROL VILLAGE														
West Garo Hills	Dichingre	CV	13	--	--	--	--	--	--	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	Goats	5	4.00	1.414	Kg	5	2.400	1.673	5	2420.00	1652.876
East Khasi Hills	Sohryngkham	CV	15	--	--	--	--	--	--	--	--	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	--	--	--	--	--	--	--	--	--	--	--
TOTAL/AVG.	**(CONTROL)**		**101**	**--**	**5**	**4**	**--**	**--**	**5**	**2.4**	**--**	**5**	**2420**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Nos. Owned / Output / Income:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the Nos. Owned / output / income)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

3.9. Fishery [Batch III]

Findings

Table-3.28, available at overleaf, gives the area under fishery in the studied villages. Table-3.29 furnishes the output and income details.

It may be noted that sampled households living in only one village (Dallangre village, West Garo Hills) have reported output and income from fisheries.

Analysis

As per the survey, on an average, the area under fishery for the project area is 0.089 Ha where as the average in the control village area is 0.00. The average output (kg) is the project area is 7 and the average income from the same is Rs. 6556.

It may be seen that there are no areas under fishery in the control villages.

Table-3.28: AREA UNDER FISHERY, TYPE OF WATER BODY & SIZE [Batch III]

District	Village	Location	Households	Area under Fishery (Ha)			Types of Water Bodies
				n	$\bar{x}$	SD	
PROJECT VILLAGE							
West Garo Hills	Dallangre	UR	9	9	0.089	0.181	--
	Adinggre	MR	8	8	0.0	0.0	--
	Darigre	LR	8	8	0.0	0.0	--
West Jaintia Hills	Rtiang	UR	27	27	0.0	0.0	--
	Biar	MR	21	21	0.0	0.0	--
	Mukroh	LR	75	75	0.0	0.0	--
East Khasi Hills	Rim Shylla	UR	8	8	0.0	0.0	--
	Wah Mawlein	MR	14	14	0.0	0.0	--
	Pepbah	LR	8	8	0.0	0.0	--
West Khasi Hills	Marshan Namlang	UR	8	8	0.0	0.0	--
	Byrki	MR	6	6	0.0	0.0	--
	Mawtynrong	LR	7	7	0.0	0.0	--
TOTAL /AVG.	**(PROJECT)**	**--**	**199**	**199**	**0.089**	**--**	**--**
CONTROL VILLAGE							
West Garo Hills	Dichingre	CV	13	13	0.0	0.0	--
West Jaintia Hills	Laskein	CV	62	62	0.0	0.0	--
East Khasi Hills	Sohryngkham	CV	15	15	0.0	0.0	--
West Khasi Hills	Mawthawniaw	CV	11	11	0.0	0.0	--
TOTAL/AVG.	**(CONTROL)**	**--**	**101**	**101**	**0.0**	**0.0**	--

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Area under Fishery:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the Area)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

Table-3.29: TYPES OF FISH, OUTPUT & INCOME [Batch III]

District	Village	Location	Households	Type of Fish	Period of Culture		Output (Kg)			Income (Rs.)		
					From	To	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE												
West Garo Hills	Dallangre	UR	9	Grass carp & Silver carp	January	December	9	7.00	14.302	9	6555.555	2727.229
	Adinggre	MR	8	--	--	--	--	--	--	--	--	--
	Darigre	LR	8	--	--	--	--	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	--	--	--	--	--	--	--	--	--
	Biar	MR	21	--	--	--	--	--	--	--	--	--
	Mukroh	LR	75	--	--	--	--	--	--	--	--	--
East Khasi Hills	Rim Shylla	UR	8	--	--	--	--	--	--	--	--	--
	Wah Mawlein	MR	14	--	--	--	--	--	--	--	--	--
	Pepbah	LR	8	--	--	--	--	--	--	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	--	--	--	--	--	--	--	--	--
	Byrki	MR	6	--	--	--	--	--	--	--	--	--
	Mawtynrong	LR	7	--	--	--	--	--	--	--	--	--
TOTAL/AVG.	**(PROJECT)**		**199**	--	--	--	**9**	**7.00**	--	**9**	**6555.555**	--
CONTROL VILLAGE												
West Garo Hills	Dichingre	CV	13	--	--	--	--	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	--	--	--	--	--	--	--	--	--
East Khasi Hills	Sohryngkham	CV	15	--	--	--	--	--	--	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	--	--	--	--	--	--	--	--	--
TOTAL/AVG.	**(CONTROL)**		**101**	--	--	--	--	--	--	--	--	--

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Output / Income:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the Output / income)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

3.10. Non Timber Forest Product (NTFP) [Batch III]

Findings

Table-3.30 gives the following findings regarding the collection of Non Timber Forest Product (NTFP) from adjacent forested areas.

- Quantity Collected
- Quantity Sold
- Income from Sale

It is seen that Broom is the only NTF product found for Batch III in the Project Villages. As per the survey carried, there are no NTFP in the all Control Villages for Batch III.

Analysis

Out of the sampled households in the project villages, 106 collect and sell an average of 60.51 kg of broom and derive an average annual income of Rs 3230 from this activity.

As mentioned previously, there is no collection of NTFP in the Control Villages for Batch-III.

Table-3.30: OUTPUT DETAILS [Batch III]

District	Village	Location	Households	Type of NTFP	Unit of Quantity	Quantity Collected			Quantity Sold			Income from Sale(Rs.)		
						n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE														
West Garo Hills	Dallangre	UR	9	Broom	Kg	9	33.333	100	9	33.333	100	9	666.667	2000.00
	Adinggre	MR	8	Broom	kg	8	3.75	10.606	8	3.75	10.606	8	150.00	424.264
	Darigre	LR	8	--	--	--	--	--	--	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	--	--	--	--	--	--	--	--	--	--	--
	Biar	MR	21	--	--	--	--	--	--	--	--	--	--	--
	Mukroh	LR	75	Broom	kg	75	58.453	196.601	75	58.453	196.601	75	3109.533	10900.71
East Khasi Hills	Rim Shylla	UR	8											
	Wah Mawlein	MR	14	Broom	kg	14	121.429	196.815	14	121.429	196.815	14	7285.714	11808.918
	Pepbah	LR	8	--	--	--	--	--	--	--	--	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	--	--	--	--	--	--	--	--	--	--	--
	Byrki	MR	6	--	--	--	--	--	--	--	--	--	--	--
	Mawtynrong	LR	7	--	--	--	--	--	--	--	--	--	--	--
TOTAL/AVG.	**(PROJECT)**		**199**	**--**	**--**	**106**	**60.510**	**--**	**106**	**60.510**	**--**	**106**	**3230.33**	**--**
CONTROL VILLAGE														
West Garo Hills	Dichingre	CV	13	--	--	--	--	--	--	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	--	--	--	--	--	--	--	--	--	--	--
East Khasi Hills	Sohryngkham	CV	15	--	--	--	--	--	--	--	--	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	--	--	--	--	--	--	--	--	--	--	--
TOTAL/AVG.	**(CONTROL)**		**101**	--	--	--	--	--	--	--	--	--	--	--

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Quantity / Income:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the Quantity / income)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

3.11. Wage Labour [Batch III]

Findings

The findings in the above regard are available at Table-3.31 (A) for MGNREGS and Table-3.31 (B) for earnings from Other Sources (like agriculture, domestic help, construction, etc), with these tables being furnished at the next few pages. The tables give the following findings regarding the performance of wage labour by household members of the sampled households:

- Days worked per year;
- Rate per day (in Rs.); and
- Amount Received per annum (in Rs.).

Analysis

Receipts from Wage Labour - MGNREGS

In both project and control village, it is found that the number of 'days worked per year' by the household as part of MGNREGS varies for each districts respectively. The 'rate per day' also varies for each district except that in some districts the amount received by household differs from village to village in each district. Districts of West Garo Hills, West Jaintia Hills and East Khasi Hills receives an amount of Rs. 163 whereas in West Khasi Hills are receiving an amount of Rs. 153. The average amount received in project village is Rs. 5,212.953 (approx. about Rs. 5,213) for 179 household whereas in control village is Rs. 4,086.137 (approx. about Rs. 4,086) for 80 households.

Receipts from Wage Labour – Other sources

Other source includes wage labour in agriculture, domestic, construction, etc. It is also found that in both project and control village, the number of 'days worked per year' by the household varies for each district respectively. The 'rate per day' also varies for each district depending on the type and location of work. It is prevalent in all districts such that many households from both project and control villages are engaging in both MGNREGS as well as other source of labour. The average amount received in project village is Rs. 81,599.675 (approx. about Rs. 81,600) for 167 household in project village whereas in control village is Rs. 57,875.490 (approx. about Rs. 57,875) for 86 households.

Table-3.31 (A): Receipts from Wage Labour [BATCH III] PART-1 MGNREGS

District	Village	Location	Households	Source	Days Worked per Year			Main Months of the Year	Rate Per Day (Rs.)			Amount Received (Rs.)		
					n	$\bar{x}$	SD		n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE														
West Garo Hills	Dallangre	UR	9	MGNREGS	9	60.00	0.0	--	9	163.00	0.0	9	9780.00	0.0
	Adinggre	MR	8	MGNREGS	8	50.00	0.0	--	8	163.00	0.0	8	8150.00	0.0
	Darigre	LR	8	MGNREGS	8	98.75	17.678	--	8	163.00	0.0	8	15281.25	2881.460
West Jaintia Hills	Rtiang	UR	27	MGNREGS	24	29.792	11.207	Jan-Feb	24	163.00	0.0	24	4856.042	1904.520
	Biar	MR	21	MGNREGS	19	30.00	0.0	Jan-Feb	19	163.00	0.0	19	7917.143	4563.847
	Mukroh	LR	75	MGNREGS	68	5.00	1.727	Jan-Feb	68	163.00	0.0	68	824.588	278.538
East Khasi Hills	Rim Shylla	UR	8	MGNREGS	8	37.50	4.629	Jan-Feb	8	163.00	0.0	8	6112.50	754.543
	Wah Mawlein	MR	14	MGNREGS	14	50.00	0.0	Jan-Feb	14	163.00	0.0	14	8150.00	0.0
	Pepbah	LR	8	--	--	--	--	--	--	--	--	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	MGNREGS	8	48.125	9.978	Sept-Nov	8	153.00	0.0	8	15435.00	5427.359
	Byrki	MR	6	MGNREGS	6	51.667	4.082	Sept-Nov	6	153.00	0.0	6	18615.00	9935.1875
	Mawtynrong	LR	7	MGNREGS	7	29.571	18.045	Sept-Nov	7	153.00	0.0	7	5813.571	2563.113
TOTAL/AVERAGE		**(PROJECT)**	**199**	--	--	--	--	--	--	--	--	**179**	**5212.953**	**--**
CONTROL VILLAGE														
West Garo Hills	Dichingre	CV	13	MGNREGS	13	44.154	4.670	--	13	163.00	0.0	13	7322.462	774.497
West Jaintia Hills	Laskein	CV	62	MGNREGS	59	10.864	12.417	Jan-Feb	57	163.00	0.0	57	1850.683	2023.538
East Khasi Hills	Sohryngkham	CV	15	--	--	--	--	--	--	--	--	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	MGNREGS	10	40.00	16.159	Sept-Nov	10	163.00	6.596	10	12621.00	11519.354
TOTAL/AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**80**	**4086.137**	**--**

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Days Worked / Rate Per Day / Amount Received:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of responses (i.e. the average of days worked / rate per day / amount received)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

Table-3.31 (B): Receipts from Wage Labour [BATCH III] PART-2 Other Sources

District	Village	Location	Households	Source	Days Worked per Year			Main Months of the Year	Rate Per Day (Rs.)			Amount Received (Rs.)		
					n	$\bar{x}$	SD		n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE														
West Garo Hills	Dallangre	UR	9	--	--	--	--	--	--	--	--	--	--	--
	Adinggre	MR	8	--	--	--	--	--	--	--	--	--	--	--
	Darigre	LR	8	--	--	--	--	--	--	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	Other sources	18	277.391	55.144	--	18	275.00	70.501	18	8419.652	49951.053
				Other sources	9	103.333	48.477	--	9	181.818	66.667	9	20666.667	9695.360
	Biar	MR	21	Other sources	14	184.286	79.480	--	14	257.143	65.586	14	71000.00	34544.701
				Other sources	7	133.333	53.452	--	7	235.714	80.178	7	37142.857	24808.793
	Mukroh	LR	75	Other sources	50	199.545	31.692	--	50	243.284	21.279	50	65636.364	30299.092
				Other sources	25	109.00	31.118	--	25	193.333	25.371	25	27503.333	16292.708
East Khasi Hills	Rim Shylla	UR	8	Other sources	5	230.00	48.795	--	5	260.00	61.802	5	97500.00	33605.46
	Wah Mawlein	MR	14	Other sources	10	265.00	45.017	--	10	205.00	59.416	10	618750.00	33627.725
				Other sources	1	300.00	0.0	--	1	300.00	0.0	1	90000.00	0.0
	Pepbah	LR	8	Other sources	7	180.00	82.980	--	8	281.25	59.387	7	54187.50	30598.713
				Other sources	1	300.00	0.0	--	1	150.00	0.0	1	45000.00	0.0
West Khasi Hills	Marshan Namlang	UR	8	Other sources	7	153.00	0.0	--	7	242.857	44.987	7	52142.857	11404.364
	Byrki	MR	6	Other sources	6	220.833	67.854	--	6	258.333	20.412	6	5729.667	18715.246
	Mawlynrong	LR	7	Other sources	6	208.333	58.452	--	6	266.667	60.553	6	69583.333	57541.652
				Other sources	1	200.00	0.0	--	1	300.00	0.0	1	60000.00	0.0
TOTAL/AVERAGE		**(PROJECT)**	**199**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**167**	**81599.675**	**--**
CONTROL VILLAGE														
West Garo Hills	Dichingre	CV	13	--	--	--	--	--	--	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	Other sources	42	187.25	48.093	--	42	481.897	1539.643	42	65960.317	30299.092
				Other sources	20	128.462	53.974	--	20	218.182	48.402	20	41352.941	18868.488
East Khasi Hills	Sohryngkham	CV	15	Other sources	14	121.333	118.856	--	14	226.667	179.151	14	46600.00	51394.900
				Other sources	1	200.00	0.0	--	1	150.00	0.0	1	30000.00	0.0
West Khasi Hills	Mawthawniaw	CV	11	Other sources	8	243.75	17.678	--	8	281.25	25.877	8	83437.5	41874.334
				Other sources	1	100.00	0.0	--	1	150.00	0.0	1	30000.00	0.0
TOTAL/AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**86**	**57875.490**	**--**

Notes: Under Days Worked / Rate Per Day / Amount Received: n gives the number of responses to the query

$\bar{x}$ gives the arithmetical mean of responses (i.e. the average of days worked / rate per day / amount received)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

3.12. Migration [Batch III]

Findings (Table-3.32)

Table-3.32 gives the findings of the following migration parameters, which had been covered by Question Nos. 1-7 of the Schedule:

- Nos. Migrated from Village
- Nos. Permanently Migrated
- Destinations
- Migration Nature (Permanent and Seasonal)
- If Migration Nature is Seasonal, then Months of Stay

Analysis (Table-3.32)

Nos. Migrated from Village

From the survey carried out, it is found that the total of both male and female migrated is 38 for project village, where as in the control village, it is 7 for male and 3 for female.

Nos. Permanently Migrated

It is found that very few persons migrate on a permanent basis. It is found that the total of both male and female permanently migrated is 1 in the project village where as in the control village it found to be of 0%.

Destinations

Some of the destinations that people go and migrate for both Project and Control village are as follows:

West Garo Hills	Tura, Dadenggre
West Jaintia Hills	Khliehriat, Jowai, Mawkyndeng, Shangpung, Bapung, Mookaiaw, Mihmyntdu, Raliang, Barato, War Jaintia, Hamrem
East Khasi Hills	Ribhoi, Shillong
West Khasi Hills	Nongstoin, Mawpat

Migration Nature (Permanent and Seasonal)

The total number of people permanently migrated is 2 from project village and none from control village. The total number of seasonally migrated people from the project village is 35 where as in the control village, the total number of people seasonally migrated is 7.

Months of Stay if seasonally migrated

The average months of stay by the people in the project village is 8.410 (approx 8 months in a year), where as in the control village the average months stay by the people is 8.171 (approx 8 months in a year).

Table-3.32: MIGRATION PART-1 (Questions 1-7) [BATCH III]

District	Village	Location	Households	Any Member Migrated		If Yes to "Any Member Migrated'											
						Nos. Migrated from Village		Nos. Permanently Migrated		Reasons			Destinations	Migration Nature		If Seasonal, Months of Stay	
				Yes	No	Male	Female	Male	Female	Work	Study	Other		Permanent	Seasonal	n	$\bar{x}$
PROJECT VILLAGE																	
West Garo Hills	Dallangre	UR	9	Y		2	1	0	0	0	2	---	Tura, Dadenggre	--	2	2	1.111
	Adinggre	MR	8		N	0	0	0	0	0		--		--	--	--	--
	Darigre	LR	8		N		0	0	0	0		--		--	--	--	--
West Jaintia Hills	Rtiang	UR	27	Y		5	4	0	0	3	1	--	Khliehriat, Jowai, Mawkyndeng, Bapung, Guwahati	--	4	4	1.484
	Biar	MR	21	Y		8	5	0	0	2	4	--	Shangpung, Khliehriat, Bapung, Mookaiaw	--	6	6	8.333
	Mukroh	LR	75	Y		14	20	0	0	3	12	--	Mihmyntdu, Raliang, Jowai, Barato, War Jaintia, Hamrem	--	15	15	10.214
East Khasi Hills	Rim Shylla	UR	8		N			0	0	--	--	--		--	--	--	--
	Wah Mawlein	MR	14	Y		4	1	0	0	--	2	--	Ribhoi, Shillong	--	2	2	10.5
	Pepbah	LR	8	Y			1	0	0	--	1	--	Shillong	--	1	1	10.00
West Khasi Hills	Marshan Namlang	UR	8	Y		1	1	1	1	--	2	--	Shillong, Byrki, Nawthung,	2	2	2	10.50
	Byrki	MR	6	Y		3	4	0	0	--	2	--	Nongstoin, Mawpat	--	2	2	10.50
	Mawtynrong	LR	7	Y		1	1	0	0	--	1	--	Guwahati, Bangalore	--	1	1	10.00
TOTAL / AVERAGE		**(PROJECT)**	**199**			**38**	**38**	**1**	**1**	**8**	**27**	**--**	**--**	**2**	**35**	**35**	**8.410**
CONTROL VILLAGE																	
West Garo Hills	Dichingre	CV	13	Y		0	2	0	0	0	2	--	Tura	--	2	2	2.1
West Jaintia Hills	Laskein	CV	62	Y		1	1	0	0	1	1	--	Bangalore, Mookaiaw	--	2	2	11.00
East Khasi Hills	Sohryngkham	CV	15	Y		4	0	0	0	0	2	--	Shillong	--	2	2	10.50
West Khasi Hills	Mawthawniaw	CV	11	Y		2	0	0	0	0	1	--	Siejlieh	--	1	1	10.00
TOTAL / AVERAGE		**(CONTROL)**	**101**			**7**	**3**	**0**	**0**	**1**	**6**	**--**	**--**	**--**	**7**	**7**	**8.171**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under 'Months of Stay':
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of responses (i.e. the average of the months of stay)

Findings (Table-3.33)

Table-3.33 gives the findings of the following Migration parameters, which had been covered by Question Nos. 8-11 of the Schedule:

- Average amount received from migrated members
- Reasons people planning for migration

Analysis (Table-3.33)

The above findings have been analyzed as follows.

Average amount received from migrated members

Project Village: The average amount received per year from migrated members in the project village is approximately Rs. 31,560 per year.

Control Village: There is no seasonal migration in the control villages.

Reasons people planning for migration

As seen from the table in the following page, the main reason why people seasonally migrate to other places is education. This is true for both the project and control villages. Parents tend to send their children to district heads or nearby places which have good educational institutions.

Unemployment is also a factor why people migrate to other places. This is done to seek the available job opportunities in other places.

Table-3.33: MIGRATION PART-2 (Questions 8-11) [BATCH III]

District	Village	Location	Households	If Yes to "Any Member Migrated'					Members Planning to Migrate		If Yes to 'Any Member Planning to Migrate'					
				Any Payment		If Yes, Amount Received					Total Nos. Intending in Village	Nos. Of Households in Village giving following reasons				
				Yes	No	n	$\bar{x}$	SD	Yes	No		Un-employment	Food Shortage	Water Scarcity	Security	Education
PROJECT VILLAGE																
West Garo Hills	Dallangre	UR	9	--	N	--	--	--	--	N	--	--	--	--	--	--
	Adinggre	MR	8	--	N	--	--	--	--	N	--	--	--	--	--	--
	Darigre	LR	8	--	N	--	--	--	--	N	--	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	Y	--	2	3900.00	12727.900	Y	--	--	--	--	--	--	1
	Biar	MR	21	Y	--	2	60000.00	0.0		N	--	--	--	--	--	--
	Mukroh	LR	75	Y	--	1	30000.00	0.0	Y	--	--	--	--	--	--	1
East Khasi Hills	Rim Shylla	UR	8	--	N	--	--	--		N						
	Wah Mawlein	MR	14	--	N	--	--	--	Y	--	--	--	--	--	--	2
	Pepbah	LR	8	--	N	--	--	--	Y	--	--	--	--	--	--	1
West Khasi Hills	Marshan Namlang	UR	8	--	N	--	--	--	Y	--	--	--	--	--	--	2
	Byrki	MR	6	--	N	--	--	--	Y	--	--	1	--	--	--	2
	Mawtynrong	LR	7	--	N	--	--	--	Y	--	--	1	--	--	--	1
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**		**5**	**31560**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
CONTROL VILLAGE																
West Garo Hills	Dichingre	CV	13	--	N	--	--	--	--	N	--	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	--	N	--	--	--	--	N	--	--	--	--	--	--
East Khasi Hills	Sohryngkham	CV	15	--	N	--	--	--	Y	--	--	--	--	--	--	2
West Khasi Hills	Mawthawniaw	CV	11	--	N	--	--	--	Y	--	--	1	--	--	--	1
TOTAL / AVERAGE		**(CONTROL)**	**101**	**--**		**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under 'Amount Received':
n gives the number of responses to the query $\bar{x}$ gives the arithmetical mean of responses (i.e. the average of the amount received)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

3.13. Income [Batch III]

INCOME - SOURCES & QUANTUM

Findings

This sub-section gives discusses the income – sources and quantum of the sampled households. They are based on different sources of income generating activities. In project as well as control village, it is seen that many households are engaged in different income generating activities which are their main source of livelihood. Out of the total household for both project and control village, it is found that not all households are engaged in one activity but in many income generating activities.

Table 3.34 below reports the number of households and their average income received per year in both project and control villages.

Table-3.34: Summary of Incomes (Project & Control Villages)

Source	Project Village		Control Village	
	No. of Households	Average Quantum (Rs.)	No. of Households	Average Quantum (Rs.)
Agriculture Crops	115	26,407	34	32,323
Orchard/ Plantation Crops	26	66,690	7	35,500
Livestock	90	21,408	37	17,614
Fishery	-	-	-	-
NTFP	35	10,704	-	-
Wage Labour	173	6,970	80	4,672
Remittance	5	53,600	-	-
All Others	155	81,433	87	1,03,821

[**Note**: All figures have been rounded off.]

Analysis

In project village, out of the total number of households, it is seen that many households are mostly engaged in 'wage labour' with an average quantum per year of about 6,970.24 and 'remittance' as the least engaged activity with 53,600.00. In control village, 'all others' activity is the most engaged activity with average quantum of 103,821.28 while 'orchard/plantation crops' is the least with 35,500. (All figures are Rs.)

In terms of total average of income received (quantum), it is found that in both project and control village, many households are engaged in 'all others' with an average quantum per year of about 81,433.075 and 1,03,821.282 respectively. The least average of income received in project village is 'livestock' activity with an average quantum per year of about 21,408.339 and in control village is 'wage labour' with 4,672.363.

It is also found that fishery activity is not practiced by any households in both project and control villages.

Table-3.35: INCOME - SOURCES & QUANTUM – Part 1 [BATCH III]

District	Village	Location	Households	Source: Agricultural Crops					Source: Orchard / Plantation Crops					Source: Livestock					Source: Fishery				
				Income Received		If Yes, Quantum			Income Received		If Yes, Quantum			Income Received		If Yes, Quantum			Income Received		If Yes, Quantum		
				Yes	No	n	$\bar{x}$	SD	Yes	No	n	$\bar{x}$	SD	Yes	No	n	$\bar{x}$	SD	Yes	No	n	$\bar{x}$	SD
PROJECT VILLAGE																							
West Garo Hills	Dallangre	UR	9	Y	--	9	34277.780	9024.658	Y	--	9	81411.110	64834.370	Y	--	1	4000.00	0.0	--	--	--	--	--
	Adinggre	MR	8	Y	--	8	27875.00	4517.822	Y	--	6	31750.00	30155.850	Y	--	1	3000.00	0.0	--	--	--	--	--
	Darigre	LR	8	Y	--	4	40000.00	34641.020	Y	--	8	98625.00	68787.330	Y	--	6	36333.330	30252.980	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	Y	--	9	5761.110	5104.520	Y	--	--	--	--	Y	--	13	30700.00	24513.00	--	--	--	--	--
	Biar	MR	21	Y	--	6	33700.00	41947.700	--	--	--	--	--	Y	--	11	44172.700	103335.00	--	--	--	--	--
	Mukroh	LR	75	Y	--	44	16057.500	54645.300	Y	--	2	875.00	1025.305	Y	--	26	10530.800	7748.900	--	--	--	--	--
East Khasi Hills	Rim Shylla	UR	8	Y	--	8	71193.75	99771.130	--	--	--	--	--	Y	--	6	8241.667	6209.864	--	--	--	--	--
	Wah Mawlein	MR	14	Y	--	9	48652.78	43890.990	--	--	--	--	--	Y	--	2	4000.00	2828.427	--	--	--	--	--
	Pepbah	LR	8	Y	--	7	23769.140	9653.299	--	--	--	--	--	Y	--	5	18100.00	11781.34	--	--	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	Y	--	4	1937.500	1569.169	--	--	--	--	--	Y	--	8	22312.500	25957.300	--	--	--	--	--
	Byrki	MR	6	Y	--	2	8450.00	777.817	Y	--	1	20000.00	0.0	Y	--	5	16960.00	15760.960	--	--	--	--	--
	Mawlynrong	LR	7	Y	--	5	37260.00	22437.28	--	--		--	--	Y	--	6	21950.00	10602.590	--	--	--	--	--
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**	**--**	**115**	**26407.30**	**--**	**--**	**--**	**26**	**66690.38**	**--**	**--**	**--**	**90**	**21408.339**	**--**	--	--	--	--	--
CONTROL VILLAGE																							
West Garo Hills	Dichingre	CV	13	Y	--	12	43000.00	10081.490	--	--	3	55000.00	28831.410	Y	--	2	5500.00	6363.961	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	Y	--	2	525.00	530.330	--	--	--	--	--	Y	--	19	16321.053	14968.600	--	--	--	--	--
East Khasi Hills	Sohryngkham	CV	15	Y	--	10	53471.500	39216.540	Y	--	4	20875.00	20307.530	Y	--	6	14000.00	4427.189	--	--	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	Y	--	10	4720.00	4208.074	--	--	--	--	--	Y	--	10	24660.00	29872.730	--	--	--	--	--
TOTAL / AVERAGE		**(CONTROL)**	**101**			**34**	**32322.50**				**7**	**35500.00**	**--**	**--**	**--**	**37**	**17613.514**	**--**	**--**	--	**--**	**--**	**--**

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Quantum (of Income): n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of responses (i.e. the average of the incomes received)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

Table-3.36: INCOME - SOURCES & QUANTUM Part 2 [BATCH - III]

District	Village	Location	Households	Source: NTFP					Source: Wage Labour					Source: Remittance					Source: ALL Others				
				Income Received		If Yes, Quantum			Income Received		If Yes, Quantum			Income Received		If Yes, Quantum			Income Received		If Yes, Quantum		
				Yes	No	n	$\bar{x}$	SD	Yes	No	n	$\bar{x}$	SD	Yes	No	n	$\bar{x}$	SD	Yes	No	n	$\bar{x}$	SD
PROJECT VILLAGE																							
West Garo Hills	Dallangre	UR	9	--	--	--	--	--	Y		9	9780.00	0.0	--	--	--	--	--	--	--	--	--	--
	Adinggre	MR	8	--	--	--	--	--	Y		8	8150.00	0.0	--	--	--	--	--	--	--	--	--	--
	Darigre	LR	8	--	--	--	--	--	Y		8	15281.250	2881.460	--	--	--	--	--	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	--	--	--	--	--	Y		22	6632.390	7139.550	Y		2	39000.00	12727.900	Y		26	91091.900	47562.600
	Biar	MR	21	--	--	--	--	--	Y		18	12081.700	20101.600	Y		2	80000.00	28284.300	Y		10	94250.00	47528.500
	Mukroh	LR	75	Y		30	8916.170	18410.200	Y		67	836.761	314.709	Y		1	30000.00	-	Y		73	79102.700	36973.200
East Khasi Hills	Rim Shylla	UR	8	--					Y		8	13413.750	20937.110	--	--	--	--	--	Y		5	76500.00	41950.23
	Wah Mawlein	MR	14	Y		5	21428.570	10899.540	Y		12	8150.00	0.0	--	--	--	--	--	Y		13	76961.540	49596.480
	Pepbah	LR	8	--	--	--	--	--						--	--	--	--	--	Y		8	82312.500	82678.780
West Khasi Hills	Marshan Namlang	UR	8	--	--	--	--	--	Y		8	15435.00	5427.359	--	--	--	--	--	Y		7	52142.860	11404.360
	Byrki	MR	6	--	--	--	--	--	Y		6	22358.330	16216.210	--	--	--	--	--	Y		6	63206.670	19944.780
	Mawtynrong	LR	7	--	--	--	--	--	Y		7	6885.00	4338.355	--	--	--	--	--	Y		7	107285.70	54374.360
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**		**35**	**10703.66**	**--**			**173**	**6970.238**				**5**	**53600.00**				**155**	**81433.074**	
CONTROL VILLAGE																							
West Garo Hills	Dichingre	CV	13	--	--	--	--	--	Y		13	7322.462	774.497	--	--	--	--	--	Y		1	180000.00	0.0
West Jaintia Hills	Laskein	CV	62	--	--	--	--	--	Y		57	1889.088	2032.036	--	--	--	--	--	Y		62	95733.900	50758.500
East Khasi Hills	Sohryngkham	CV	15	--	--	--	--	--						--	--	--	--	--	Y		13	109153.80	89809.15
West Khasi Hills	Mawthawniaw	CV	11	--	--	--	--	--	Y		10	17091.900	18949.570	--	--	--	--	--	Y		11	136177.30	117809.800
TOTAL / AVERAGE		**(CONTROL)**	**101**	**--**		**--**	**--**	**--**	**--**		**80**	**4672.363**				--	--	--	--		**87**	**103821.285**	**--**

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Quantum (of Income): n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of responses (i.e. the average of the incomes received)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

3.14. Assets [Batch III]

Findings

This sub-section gives discusses the assets possess by the households in both project and control villages. The assets include house, radio, television, mobile connection, bicycle, two-wheeler, other vehicle. Tables-3.37 and 3.38 give the various important assets possessed by households in both project as well as control villages. The above tables are furnished in the following pages.

Analysis

House

It is found that in both project and control village, many household are having semi-pucca type of house with sanitary toilets and having electrical connection. Availability of solar devices is almost non-existent.

Project Village		Control Village	
Semi-pucca house	78%	Semi-pucca house	81%
Sanitary toilet	92%	Sanitary toilet	96%
Electrical connection	76%	Electrical connection	68%
Availability of solar devices	1%	Availability of solar devices	0%

Radio

In project village, only 12% owned a 'radio' as part of their assets while the remaining 88% do not - whereas, in control village, only 11% owned while the remaining do 89% do not.

Television

In project village, only 20% owned a 'television' as part of their assets while the remaining 90% do not whereas, in control village, only 27% owned while the remaining do 73% do not.

Mobile Connection

In project village, 75% of the household have 'mobile connection' as part of their assets while the remaining 25% do not whereas, in control village, 74% have while the remaining do 24% do not. In project village, the average number of connections is 2.257 (approx. about 2 connections) whereas in control village is 1.766 (approx. about 2 connections).

Bicycle

In project village, only 2% owned a 'bicycle' as part of their assets while the remaining 98% do not. There are no household who owned a 'bicycle' in control village.

Two Wheeler

In project village, only 2% owned 'two-wheeler' as part of their assets while the remaining 98% do not. There are no household who owned 'two-wheeler' in control village.

Other Vehicle

In project village, only 1.50% owned 'other vehicle' as part of their assets whereas, in control village, only 1.98% owned such an asset while the remaining do 73% do not.

Table-3.37: POSSESSION OF ASSETS BY TYPE – PART 1 [BATCH III]

District	Village	Location	Households	House		If House = Yes								
				Yes	No	Type of House			Sanitary Toilet		Electrical Connection		Availability of Solar Devices	
						Kutcha	Semi Pucca	Pucca	Yes	No	Yes	No	Yes	No
PROJECT VILLAGE														
West Garo Hills	Dallangre	UR	9	9	0	8	0	1	9	0	5	4	1	8
	Adinggre	MR	8	8	0	7	0	1	7	1	0	8	0	8
	Darigre	LR	8	8	0	8	0	0	8	0	8	0	1	7
West Jaintia Hills	Rtiang	UR	27	27	0	0	27	0	27	0	26	1	0	27
	Biar	MR	21	21	0	0	21	0	21	0	9	12	0	21
	Mukroh	LR	75	75	0	14	60	1	71	4	57	18	0	75
East Khasi Hills	Rim Shylla	UR	8	8	0	0	8	0	0	8	8	0	0	8
	Wah Mawlein	MR	14	14	0	0	14	0	14	0	14	0	0	14
	Pepbah	LR	8	8	0	0	8	0	7	1	8	0	0	8
West Khasi Hills	Marshan Namlang	UR	8	8	0	2	5	1	7	1	6	2	0	8
	Byrki	MR	6	6	0	0	6	0	6	0	5	1	0	6
	Mawtynrong	LR	7	7	0	0	6	1	7	0	5	2	0	7
TOTAL / AVERAGE		**(PROJECT)**	**199**	**199**	**0**	**39**	**155**	**5**	**184**	**15**	**151**	**48**	**2**	**197**
CONTROL VILLAGE														
West Garo Hills	Dichingre	CV	13	13	0	13	0	0	12	1	10	3	0	13
West Jaintia Hills	Laskein	CV	62	62	0	1	59	2	61	1	33	29	0	62
East Khasi Hills	Sohryngkham	CV	15	15	0	0	14	1	13	2	15	0	0	15
West Khasi Hills	Mawthawniaw	CV	11	11	0	2	9		11	0	11	0	0	11
TOTAL / AVERAGE		**(CONTROL)**	**101**	**101**	**0**	**16**	**82**	**3**	**97**	**4**	**69**	**32**	**0**	**101**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Table-3.38: POSSESSION OF ASSETS BY TYPE - PART 2 [BATCH III]

District	Village	Location	Households	Radio		Television		Mobile Connection					Bicycle		Two Wheeler		Other Vehicle	
										If Yes, No. of Connections								
				Yes	No	Yes	No	Yes	No	n	$\bar{x}$	SD	Yes	No	Yes	No	Yes	No
PROJECT VILLAGE																		
West Garo Hills	Dallangre	UR	9	0	9	5	4	6	3	6	1.5	1.225	0	9	1	8	0	9
	Adinggre	MR	8	1	7	0	8	5	3	5	1.4	0.548	2	6	1	7	0	8
	Darigre	LR	8	4	4	2	6	5	3	5	1.2	0.447	2	6	1	7	0	8
West Jaintia Hills	Rtiang	UR	27	0	27	1	26	24	3	24	1.792	1.351	0	27	0	27	1	26
	Biar	MR	21	0	21	1	20	13	8	13	1.846	0.801	0	21	1	20	2	19
	Mukroh	LR	75	10	65	19	56	56	19	56	3	1.414	0	75	0	75	0	75
East Khasi Hills	Rim Shylla	UR	8	0	8	4	4	6	2	6	1.5	0.837	0	8	0	8	0	8
	Wah Mawlein	MR	14	1	13	1	13	13	1	13	1.909	0.944	0	14	0	14	0	14
	Pepbah	LR	8	0	8	1	7	7	1	7	1.143	0.378	0	8	0	8	0	8
West Khasi Hills	Marshan Namlang	UR	8	0	8	1	7	4	4	4	1.5	0.577	0	8	0	8	0	8
	Byrki	MR	6	0	6	2	4	5	1	5	1.8	0.837	0	6	0	6	0	6
	Mawtynrong	LR	7	7	0	3	4	5	2	5	4.5	3.536	0	7	0	7	0	7
TOTAL / AVERAGE		**(PROJECT)**	**199**	**23**	**176**	**40**	**159**	**149**	**50**	**149**	**2.257**	**--**	**4**	**195**	**4**	**195**	**3**	**196**
CONTROL VILLAGE																		
West Garo Hills	Dichingre	CV	13	1	12	1	12	5	8	5	1	0	0	13	0	13	0	13
West Jaintia Hills	Laskein	CV	62	2	60	13	49	47	15	47	1.771	1.016	0	62	0	62	1	61
East Khasi Hills	Sohryngkham	CV	15	1	14	7	8	14	1	14	1.929	1.141	0	15	0	15	1	14
West Khasi Hills	Mawthawniaw	CV	11	7	4	6	5	9	2	9	1.909	1.221	0	11	0	11	0	11
TOTAL / AVERAGE		**(CONTROL)**	**101**	**11**	**90**	**27**	**74**	**75**	**26**	**75**	**1.766**	**--**	**0**	**101**	**0**	**101**	**2**	**99**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village
Under Mobile Connection:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the Nos. of Connections)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

3.15. Government Entitlements [Batch III]

Findings

As per the survey, entitlements received by the households in both project & control villages are given by the Government such as NREGS job card, ration card, BPL card, and other Government facilities. It is found that some households do not avail all these entitlements. Table-3.39 and Table-3.40 (given in the next two pages) indicate the findings of the following entitlements:

- NREGS Job Card;
- Ration Card;
- BPL Card; and
- Any Other Government Facility.

Analysis

NREGS Job Card: In project village, it is found that out of the 199 total households, only 175 household availed of NREGS job card. The average total number of days worked by 175 households is 29.452 days (approx. 30 days) and the average total number of days paid for is 29.452 days (approx. 30 days). In control village, only 80 out of 101 household avail NREGS job card with average total number of days worked is 20.50 days (approx. 21 days) and the total number of days paid for by 175 households is 20. 50 days (approx. 21 days).

Ration Card: In both project and control villages, essential commodities given are rice, kerosene and sugar. Out of 199 total households, only 135 households avail Ration card in project village and only 57 out of 101 households in control village.

BPL Card: Out of 199 total households in the project village, 96 households are found to have BPL cards whereas in control village, only 56 out of 101 households have BPL cards. These cards are made available to households who are determined to be living 'Below the Poverty Line' (BPL).

Any other Government Facility: It is found that Meghalaya Health Insurance Scheme (MHIS) is the only government facility currently available. In project village, only 69 out of 199 households avail MHIS and in control village, only 69 out of 101 households.

Table-3.39: GOVERNMENT ENTITLEMENTS PART 1 – NREGS [BATCH III]

District	Village	Location	Households	NREGS Job Card		If NREGS Job Card = YES					
				Yes	No	No. of Days Worked			No. of Days Paid For		
						n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE											
West Garo Hills	Dallangre	UR	9	9	--	9	60.00	0.0	9	60.00	0.0
	Adinggre	MR	8	8	--	8	50.00	0.0	8	50.00	0.0
	Darigre	LR	8	8	--	8	93.750	17.678	8	93.750	17.678
West Jaintia Hills	Rtiang	UR	27	21	6	21	31.190	10.515	21	31.190	10.515
	Biar	MR	21	19	2	19	30.00	0.0	19	30.00	0.0
	Mukroh	LR	75	67	8	67	5.090	1.721	67	5.090	1.721
East Khasi Hills	Rim Shylla	UR	8	8	--	8	37.00	4.629	8	37.00	4.629
	Wah Mawlein	MR	14	14	--	14	50.00	0.0	14	50.00	0.0
	Pepbah	LR	8	--	8	--	--	--	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	8	--	8	48.125	9.978	8	48.125	9.978
	Byrki	MR	6	6	--	6	51.667	4.082	6	51.667	4.082
	Mawtynrong	LR	7	7	--	7	29.571	18.045	7	29.571	18.045
TOTAL / AVERAGE		**(PROJECT)**	**199**	**175**	**24**	**175**	**29.452**		**175**	**29.452**	**--**
CONTROL VILLAGE											
West Garo Hills	Dichingre	CV	13	13	--	13	45.615	4.629	13	45.615	4.629
West Jaintia Hills	Laskein	CV	62	57	5	57	11.351	12.405	57	11.351	12.405
East Khasi Hills	Sohryngkham	CV	15	--	15	--	--	--	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	10	--	10	40.00	16.159	10	40.00	16.159
TOTAL / AVERAGE		**(CONTROL)**	**101**	**80**	**20**	**80**	**20.500**	**--**	**80**	**20.500**	**--**

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Nos. of Days Worked / No. of Days Paid For:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses (i.e. the average of the Nos. of Days Worked / No. of Days Paid For)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

Table-3.40: GOVERNMENT ENTITLEMENTS PART TWO - OTHER ENTITLEMENTS [BATCH III]

District	Village	Location	Households	Ration Card			BPL Card		Any Other Govt. Facility		
				Yes	No	If Yes Items Cited as Being Purchased	Yes	No	Yes	No	If Yes, Details Cited
PROJECT VILLAGE											
West Garo Hills	Dallangre	UR	9	--	9	Rice, Sugar, Kerosene	4	5	2	7	MHIS
	Adinggre	MR	8	1	7	Rice, Sugar, Kerosene	2	6	7	1	MHIS
	Darigre	LR	8	2	6	Rice, Sugar, Kerosene	8		8		MHIS
West Jaintia Hills	Rtiang	UR	27	20	7	Rice, Sugar, Kerosene	1	26	19	8	MHIS
	Biar	MR	21	15	6	Rice, Sugar, Kerosene	2	19	16	5	MHIS
	Mukroh	LR	75	65	10	Rice, Sugar, Kerosene	65	10	58	17	MHIS
East Khasi Hills	Rim Shylla	UR	8	8	--	Rice, Sugar, Kerosene	7	1	8		MHIS
	Wah Mawlein	MR	14	14	--	Rice, Sugar, Kerosene		14	14		MHIS
	Pepbah	LR	8	6	2	Rice, Sugar, Kerosene	1	7	1	7	MHIS
West Khasi Hills	Marshan Namlang	UR	8	1	7	Rice, Sugar	--	8	--	8	MHIS
	Byrki	MR	6	1	5	Rice, Sugar, Kerosene	6			6	MHIS
	Mawtynrong	LR	7	2	5	Rice, Sugar		7	2	5	MHIS
TOTAL / AVERAGE		**(PROJECT)**	**199**	**135**	**64**	**--**	**96**	**103**	**135**	**64**	
CONTROL VILLAGE											
West Jaintia Hills	Dichingre	CV	13	2	11	Rice, Sugar, Kerosene	8	5	11	2	MHIS
West Jaintia Hills	Laskein	CV	62	48	14	Rice, Sugar, Kerosene	48	14	50	12	MHIS
East Khasi Hills	Sohryngkham	CV	15	4	11	Rice, Sugar, Kerosene	--	15	6	9	MHIS
West Khasi Hills	Mawthawniaw	CV	11	3	8	Rice, Sugar	--	11	2	9	MHIS
TOTAL / AVERAGE		**(CONTROL)**	**101**	**57**	**44**	**--**	**56**	**45**	**69**	**32**	**--**

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

3.16. Saving & Credit [Batch III]

Findings

As per the survey, in both the project and control villages, only some of the households are utilizing the saving and credit facilities offered by certain banks such as SBI, Meghalaya Rural Bank (MRB), Meghalaya Cooperative Apex Bank (MCAB), Canara Bank etc. This is because many of the sampled households are unwilling to divulge their financial status.

Table-3.41 (given at overleaf) indicates the savings and credit utilization in the sampled households of the project villages and control villages.

Analysis

Saving

In both the project and control villages, it is found that most of the households avail of the saving facilities offered by banks such as SBI, MRB, MCAB and Canara Bank as well as savings at home.

In project villages, It is found that only 27 out of 199 total households used saving facilities provided by the above banks and that the average amount saved is Rs. 7,985.184 (approx. Rs. 7,985) whereas in control village, only 13 out of 101 total households with an average amount saved is Rs. 1,411.15 (approx. about Rs. 1,411)

Credit

In both the project and control villages, credit facilities are availed of by only few households. These households avail this facility only in banks such as SBI and MRB. It is found in one such case that loans have been extended by a Self Help Group (SHG) in one project area.

In project villagse, it is found that only 17 out of 199 total households are availing credit facilities with an average amount burrowed is Rs. 5,117.65 (approx. about Rs. 5118) whereas in control village, only 15 out of 101 total households with an average amount burrowed is Rs. 10,133.33 (approx. about Rs. 10,133).

Table-3.41: Saving & Credit [BATCH III]

District	Village	Location	Households	SAVING							CREDIT								
				Amount Saved			Where Saved				Amount Borrowed			Range of Interest Rates (%)		Where Taken			
				n	$\bar{x}$	SD	Bank	Post Office	SHG	Other	n	$\bar{x}$	SD	From	To	Bank	Micro Finance	SHG	Other
PROJECT VILLAGE																			
West Garo Hills	Dallangre	UR	9	9	2444.440	4034.570	SBI	--	--	--	9	5777.78	16596.50	--	--	SBI	--	SHG	--
	Adinggre	MR	8	8	2750.00	3412.160	SBI	--	--	--	8	4375.00	12374.40	--	--	--	--	--	--
	Darigre	LR	8	8	20875.00	25447.100	SBI	--	--	--	--	--	--	--	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	2	2300.00	2404.163	SBI	--	--	--	--	--	--	--	--	--	--	--	--
	Biar	MR	21	--	--	--	SBI	--	--	--	--	--	--	--	--	--	--	--	--
	Mukroh	LR	75	--	--	--	SBI,MRB,MCAB	--	--	--	--	--	--	--	--	--	--	--	--
East Khasi Hills	Rim Shylla	UR	8	--	--	--	CANARA,MRB	--	--	HO-ME	--	--	--	--	--	--	--	--	--
	Wah Mawlein	MR	14	--	--	--	MRB	--	--	--	--	--	--	--	--	--	--	--	--
	Pepbah	LR	8	--	--	--	MRB	--	--	--	--	--	--	--	--	--	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	--	--	--	MRB	--	--	--	--	--	--	--	--	--	--	--	--
	Byrki	MR	6	--	--	--	MRB	--	--	--	--	--	--	--	--	--	--	--	--
	Mawtynrong	LR	7	--	--	--	MRB	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL / AVERAGE		**(PV)**	**199**	**27**	**7985.184**	**--**	**--**	**--**	**--**	**--**	**17**	**5117.648**	--	--	--	--	--	--	--
Control Village																			
West Garo Hills	Dichingre	CV	13	13	1411.150	1529.610	SBI	--	--	--	13	6307.69	22742.70	--	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	--	--	--	SBI	--	--	--	--	--	--	--	--	--	--	--	--
East Khasi Hills	Sohryngkham	CV	15	--	--	--	MRB	--	--	--	2	35000.00	7071.068	7%	--	MRB	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	--	--	--	MRB	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL / AVERAGE		**(CV)**	**101**	**13**	**1411.15**	**--**	**--**	**--**	**--**	**--**	**15**	**10133.33**	--	--	--	--	--	--	--

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Amount Saved / Amount Borrowed:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of the responses in Rs. (i.e. the average of the amounts saved / borrowed)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

3.17. Social Capital [Batch III]

3.17.1 Social Capital - Participation in Village Level Organizations

Findings

This sub-section gives discusses the social participation for both the project and control areas. Participation of the households from each area of project and control villages suggests involvement and active participation in different social groups in terms of social and financial aspects. As per the survey, participation by households in both project and control villages is very less.

Table-3.42 gives the participation by the households in different village level organizations such as:

- Self Help Group (SHG);
- User Group (UG);
- Farmer Producer Institution; and
- Any other organization (Non-political).

Analysis

From the above table, it is found that Self Help Groups (SHGs) have members in the project villages and control villages. Except for one village (where the sampled households belong to a User Group), there is no participation of the sampled households in any other type of village level organization.

The pertinent details are given as follows:

Self Help Groups (SHGs): In both project and control villages, the number of households that are participating in SHGs is very less. Only 12% of the households are members in SHGs while the remaining 88% are not members. It is found that only few households are members of SHG in the districts of West Garo Hills and West Jaintia Hills.

User Groups: In one village of West Garo Hills (Adinggre), the household members are a part of a User Group. This accounts for only 4% out of the total households in the studied project villages. In other villages (project as well as control) there is no participation in User Groups by members of the sampled households.

Other Organizations: There is no participation of the household members in any other type of groups like Farmer producer Institution etc.

Table-3.42: Social Capital (Part I) Participation [BATCH III]

District	Village	Location	Households	Self Help Group			User Group			Farmer Producer Institution			Any Other Organization (Non-Political)		
				Yes	No	If Yes Details	Yes	No	If Yes Details	Yes	No	If Yes Details	Yes	No	If Yes Details
PROJECT VILLAGE															
West Garo Hills	Dallangre	UR	9	6	3	Member	0	9	--	0	9	--	0	9	--
	Adinggre	MR	8	3	5	Member	8	0	--	0	8	--	0	8	--
	Darigre	LR	8	1	7	Member	0	8	--	0	8	--	0	8	--
West Jaintia Hills	Rtiang	UR	27	9	18	Member	0	27	--	0	27	--	0	27	--
	Biar	MR	21	5	16	Member	0	21	--	0	21	--	0	21	--
	Mukroh	LR	75	0	75	--	0	75	--	0	75	--	0	75	--
East Khasi Hills	Rim Shylla	UR	8	0	8	--	0	8	--	0	8	--	0	8	--
	Wah Mawlein	MR	14	0	14	--	0	14	--	0	14	--	0	14	--
	Pepbah	LR	8	0	8	--	0	8	--	0	8	--	0	8	--
West Khasi Hills	Marshan Namlang	UR	8	0	8	--	0	8	--	0	8	--	0	8	--
	Byrki	MR	6	0	6	--	0	6	--	0	6	--	0	6	--
	Mawtynrong	LR	7	0	7	--	0	7	--	0	7	--	0	7	--
TOTAL / AVERAGE		**(PROJECT)**	**199**	**24**	**175**	**--**	**8**	**191**	**--**	**0**	**199**		**--**	**199**	
CONTROL VILLAGE															
West Garo Hills	Dichingre	CV	13	8	5	Member	0	13	--	0	13	--	0	13	--
West Jaintia Hills	Laskein	CV	62	2	60	Member	0	62	--	0	62	--	0	62	--
East Khasi Hills	Sohryngkham	CV	15	0	15	--	0	15	--	0	15	--	0	15	--
West Khasi Hills	Mawthawniaw	CV	11	0	11	--	0	11	--	0	11	--	0	11	--
TOTAL / AVERAGE		**(CONTROL)**	**101**	**10**	**91**	**--**	**0**	**101**	**--**	**0**	**101**	**--**	**--**	**101**	**--**

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

3.17.2 Social Capital - Self Sufficiency of the Households

Findings

This sub-section gives discusses the social self sufficiency of the sampled households for both the project and control areas. Self sufficiency indicates the independent utilization and sustainability of certain necessities required by any household for a period of time. As per the survey, self sufficiency of each household is recorded under period of month/year. Table-3.44 gives the different categories of self sufficiency for items like:

- Food;
- Fodder;
- Fuel;
- Drinking water; and
- Employment.

Analysis

It is found that in both project and control villages, almost all households are siting 'round the year' as the months of self sufficiency in every category followed by '9-11 months' and vice-versa.

For essentials like food and drinking water, all the households gets sufficient food and drinking water 'round the year,' in both project and control villages. In the case of the other categories (fodder, fuel and employment); the sampled households are mostly self-sufficient for '9-11 months.'

The following table illustrates the summary of the results.

Table-3.43: Self Sufficiency Status of the Sampled Households [BATCH III]

Category	Months of Self Sufficiency	No. of Household	
		Project Village	Control Village
Food	Round the year	198	101
	9-11 months	1	-
Fodder	Round the year	40	29
	9-11 months	151	72
	6-9 months	8	-
Fuel	Round the year	86	68
	9-11 months	112	33
	6-9 months	1	-
Drinking water	Round the year	198	99
	6-9 months	1	-
	3-6 months	-	2
Employment	Round the year	24	12
	9-11 months	141	76
	6-9 months	6	1
	3-6 months	25	8
	Below 3 months	3	4

Table-3.44: Social Capital (Part I) Self Sufficiency [BATCH III]

District	Village	Location	Households	No. of Households Reporting Self Sufficiency under Category																								
				Food					Fodder					Fuel					Drinking Water					Employment				
				Round the Year	9-11 Months	6-9 Months	3-6 Months	Below 3 Months	Round the Year	9-11 Months	6-9 Months	3-6 Months	Below 3 Months	Round the Year	9-11 Months	6-9 Months	3-6 Months	Below 3 Months	Round the Year	9-11 Months	6-9 Months	3-6 Months	Below 3 Months	Round the Year	9-11 Months	6-9 Months	3-6 Months	Below 3 Months
PROJECT VILLAGE																												
West Garo Hills	Dallangre	UR	9	9	--	--	--	--	9	--	--	--	--	9	--	--	--	--	9	--	--	--	--	--	--	--	9	--
	Adinggre	MR	8	8	--	--	--	--	8	--	--	--	--	8	--	--	--	--	8	--	--	--	--	--	--	--	8	--
	Darigre	LR	8	8	--	--	--	--	8	--	--	--	--	8	--	--	--	--	8	--	--	--	--	--	--	--	8	--
West Jaintia Hills	Rtiang	UR	27	27	--	--	--	--	--	27	--	--	--	--	27	--	--	--	27	--	--	--	--	--	26	--	--	1
	Biar	MR	21	21	--	--	--	--	--	21	--	--	--	2	19	--	--	--	21	--	--	--	--	--	19	--	--	2
	Mukroh	LR	75	75	--	--	--	--	15	52	8	--	--	59	15	1	--	--	75	--	--	--	--	24	45	6	--	--
East Khasi Hills	Rim Shylla	UR	8	8	--	--	--	--	--	8	--	--	--	--	8	--	--	--	7	--	1	--	--	--	8	--	--	--
	Wah Mawlein	MR	14	13	1	--	--	--	--	14	--	--	--	--	14	--	--	--	14	--	--	--	--	--	14	--	--	--
	Pepbah	LR	8	8	--	--	--	--	--	8	--	--	--	--	8	--	--	--	8	--	--	--	--	--	8	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	8	--	--	--	--	--	8	--	--	--	--	8	--	--	--	8	--	--	--	--	--	8	--	--	--
	Byrki	MR	6	6	--	--	--	--	--	6	--	--	--	--	6	--	--	--	6	--	--	--	--	--	6	--	--	--
	Mawlynrong	LR	7	7	--	--	--	--	--	7	--	--	--	--	7	--	--	--	7	--	--	--	--	--	7	--	--	--
TOTAL / AVERAGE		**(PROJECT)**	**199**	**198**	**1**		--	--	--	**151**	**8**	**--**	--	--	**112**	**1**	**--**	--	--	**--**	**1**	**--**	--	--	**141**	**6**	**25**	**3**
CONTROL VILLAGE																												
West Garo Hills	Dichingre	Control Village	13	13	--	--	--	--	13	--	--	--	--	13	--	--	--	--	13	--	--	--	--	--	1	--	8	4
West Jaintia Hills	Laskein	Control Village	62	62	--	--	--	--	16	46	--	--	--	55	7	--	--	--	62	--	--	--	--	12	49	1	--	--
East Khasi Hills	Sohryngkham	Control Village	15	15	--	--	--	--	--	15	--	--	--		15	--	--	--	13	--	2	--	--		15	--	--	--
West Khasi Hills	Mawthawniaw	Control Village	11	11	--	--	--	--	--	11	--	--	--		11	--	--	--	11	--	--	--	--		11	--	--	--
TOTAL / AVERAGE		**(CONTROL)**	**101**	**101**	**--**	**--**	**--**	**--**	**29**	**72**	**--**	**--**	**--**	**--**	**33**	**--**	**--**	**--**	**99**	**--**	**2**	**--**	**--**	**12**	**76**	**1**	**8**	**4**

Note: UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

3.18. Access to Services [Batch III]

The following sub-sections discuss the access of the sampled households to various services such as: agricultural extension services, education, health, veterinary services, credit facility, farm inputs and access to markets for their farm produces.

The pertinent discussion is available as follows.

3.18.1 Access to Agricultural Extension Services & Credit Facility

Findings

Table-3.46 (available at next page) indicates the findings of the access of the sampled households to the following services:

- Agricultural Extension Services
- Credit Facility

Analysis

Access to Agricultural Extension Services

Project Villages: Out of the total 199 households, 54 households have access to agricultural services.

Control Villages: In the control village, out of the total number of 101 households, 13 households have access to agricultural services.

Access to Credit Facilities

Project Village: As shown in the table, all of the households have access to credit services.

Control Village: 101 of the total households have access to credit facilities.

Distance to the Facilities (Agricultural Extension Facility & Credit Facility)

The following table gives the number of households having agricultural services and credit facilities within specified distances.

Table-3.45: Nos. of Sampled Households having Facility within Indicated Distances [Agricultural Extension Facility & Credit Facility]

Project Village		
	Agricultural Extension Services	**Credit Facility**
Within village (0)	0	0
Within 5 km (1)	0	0
More than 5 km (2)	54	199
Control Village		
	Agricultural Extension Services	**Credit Facility**
Within village (0)	0	15
Within 5 km (1)	0	0
More than 5 km (2)	13	86

Table-3.46: Access to Agricultural Extension Services & Credit Facility [BATCH III]

District	Village	Location	Households	Agricultural Extension Services							Credit Facility						
				Access		If Access = Yes					Access		If Access = Yes				
						Who Provides	Where - Nos. of Households who have marked (*)			Frequency of Use			Who Provides	Nos. of Households who have marked (*)			Frequency of Use
				Yes	No		0	1	2		Yes	No		0	1	2	
PROJECT VILLAGE																	
West Garo Hills	Dallangre	UR	9	Y		--	--	--	9	--	Y	--	--	--	--	9	Monthly
	Adinggre	MR	8	Y		--	--	--	8	--	Y	--	--	--	--	8	Monthly
	Darigre	LR	8	Y		--	--	--	8	--	Y	--	--	--	--	8	Monthly
West Jaintia Hills	Rtiang	UR	27	--	N	--	--	--		--	Y	--	--	--	--	27	Monthly
	Biar	MR	21	Y		--	--	--	21	--	Y	--	--	--	--	21	Monthly
	Mukroh	LR	75	--	N	--	--	--		--	Y	--	--	--	--	75	Monthly
East Khasi Hills	Rim Shylla	UR	8	--	N	--	--	--		--	Y	--	--	--	--	8	Monthly
	Wah Mawlein	MR	14	--	N	--	--	--		--	Y	--	--	--	--	14	Monthly
	Pepbah	LR	8	Y		--	--	--	8	--	Y	--	--	--	--	8	Monthly
West Khasi Hills	Marshan Namlang	UR	8	--	N	--	--	--		--	Y	--	--	--	--	8	Monthly
	Byrki	MR	6	--	N	--	--	--		--	Y	--	--	--	--	6	Monthly
	Mawtynrong	LR	7	--	N	--	--	--		--	Y	--	--	--	--	7	Monthly
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**	**--**	**--**	**--**	**--**	**54**	**--**	**--**		**--**	**--**	**--**	**199**	**--**
Control Village																	
West Garo Hills	Dichingre	CV	13	Y	--	--	--	--	13	--	Y	--	--			13	Monthly
West Jaintia Hills	Laskein	CV	62	--	N	--	--	--	--	--	Y	--	--			62	Monthly
East Khasi Hills	Sohryngkham	CV	15	--	N	--	--	--	--	--	Y	--	--	15			Monthly
West Khasi Hills	Mawthawniaw	CV	11	--	N	--	--	--	--	--	Y	--	--			11	Monthly
TOTAL / AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	--	--	**13**	**--**	--	**--**	--	**15**		**86**	**--**

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

(*) Under 'Where Provided' scores have been given as follows:
0 for within village, 1 for within 5 km, 2 for more than 5 km

3.18.2 Access to Health & Education

Findings

Table-3.48 (available at next page) indicates the findings of the access of the sampled households to the following services:

- Health facility; and
- Educational Facility.

Analysis

Access to Health Facility

Project Village: As per the total of 199 households, they all have access to health services.

Control Village: Out of the 101 households in the control village, all have access to health services.

Access to Educational Facility

Project Village: In the project village, 199 households have access to educational services.

Control Village: 101 households have access to educational services.

Distance to the Facilities (Health & Educational Facility)

The following table gives the number of households having health and educational facilities within specified distances.

Table-3.47: Nos. of Sampled Households having Facility within Indicated Distances [Health & Educational Facilities]

Project Village		
	Health	**Education**
Within village (0)	0	191
Within 5 km (1)	0	0
More than 5 km (2)	199	8
Control Village		
	Health	**Education**
Within village (0)	62	101
Within 5 km (1)	0	0
More than 5 km (2)	39	0

Table-3.48: Access to Health & Educational Facility [BATCH III]

District	Village	Location	Households	Health							Education						
				Access		If Access = Yes					Access		If Access = Yes				
						Who Provides	Where -Nos. of Households who have marked (*)			Frequency of Use			Who Provides	Nos. of Households who have marked (*)			Frequency of Use
				Yes	No		0	1	2		Yes	No		0	1	2	
PROJECT VILLAGE																	
West Garo Hills	Dallangre	UR	9	Y	--	--	--	--	9	--	Y	--	--	9	--	--	--
	Adinggre	MR	8	Y	--	--	--	--	8	--	Y	--	--		--	8	--
	Darigre	LR	8	Y	--	--	--	--	8	--	Y	--	--	8	--	--	--
West Jaintia Hills	Rtiang	UR	27	Y	--	--	--	--	27	--	Y	--	--	27	--	--	Daily
	Biar	MR	21	Y	--	--	--	--	21	--	Y	--	--	21	--	--	Daily
	Mukroh	LR	75	Y	--	--	--	--	75	--	Y	--	--	75	--	--	Daily
East Khasi Hills	Rim Shylla	UR	8	Y	--	--	--	--	8	--	Y	--	--	8	--	--	Daily
	Wah Mawlein	MR	14	Y	--	--	--	--	14	--	Y	--	--	14	--	--	Daily
	Pepbah	LR	8	Y	--	--	--	--	8	--	Y	--	--	8	--	--	Daily
West Khasi Hills	Marshan Namlang	UR	8	Y	--	--	--	--	8	--	Y	--	--	8	--	--	Daily
	Byrki	MR	6	Y	--	--	--	--	6	--	Y	--	--	6	--	--	Daily
	Mawtynrong	LR	7	Y	--	--	--	--	7	--	Y	--	--	7	--	--	Daily
TOTAL / AVERAGE		**(PV)**	**199**			**--**	**--**	**--**	**199**	**--**	**--**		**--**	**191**	**--**	**8**	**--**
CONTROL VILLAGE																	
West Garo Hills	Dichingre	CV	13	Y	--	--	--	--	13	--	Y	--	--	13	--	--	--
West Jaintia Hills	Laskein	CV	62	Y	--	--	62	--		--	Y	--	--	62	--	--	Daily
East Khasi Hills	Sohryngkham	CV	15	Y	--	--	--	--	15	--	Y	--	--	15	--	--	Daily
West Khasi Hills	Mawthawniaw	CV	11	Y	--	--	--	--	11	--	Y	--	--	11	--	--	Daily
TOTAL / AVERAGE		**(CV)**	**101**	**--**	**--**	--	**62**	**--**	**39**	**--**	--	**--**	**--**	**101**	**--**	**--**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

(*) Under 'Where Provided' scores have been given as follows:
0 for within village,1 for within 5 km, 2 for more than 5 km

3.18.3 Access to Veterinary Services

Findings

Table-3.50 (available at next page) indicates the findings of the access of the sampled households to the following veterinary services:

- Veterinary Services - Health Camp; and
- Veterinary Services - Artificial Insemination Services.

Analysis

Access to Veterinary Services- Health Camp

Project Village: In the project village, out of the total 199 households, 46 households have access to Veterinary Services- Health camp.

Control Village: Out of the 101 households, 13 households have access to Veterinary Services- Health camp.

Access to Veterinary Services- Artificial Insemination Services

Project Village: Out of the total 199 households, all have access to Veterinary Services- Artificial Insemination Services.

Control Village: In the control village, 101 of the total households have access to Veterinary Services- Artificial Insemination Services.

Distance to the Facilities (Veterinary Services)

The following table gives the number of households having the given veterinary services (health camp and artificial insemination services) within specified distances.

Table-3.49: Nos. of Sampled Households having Facility within Indicated Distances [Veterinary Services]

Project Village		
	Veterinary Services - Health Camp	**Veterinary Services - Artificial Insemination Services**
Within village (0)	21	0
Within 5 km (1)	0	0
More than 5 km (2)	25	0
Control Village		
	Veterinary Services - Health Camp	**Veterinary Services - Artificial Insemination Services**
Within village (0)	0	0
Within 5 km (1)	0	0
More than 5 km (2)	13	0

Table-3.50: Access to Veterinary Services [BATCH III]

District	Village	Location	Households	Veterinary Services - Health Camp							Veterinary Services - Artificial Insemination Services						
				Access		If Access = Yes					Access		If Access = Yes				
						Who Provides	Where -Nos. of Households who have marked (*)			Frequency of Use			Who Provides	Nos. of Households who have marked (*)			Frequency of Use
				Yes	No		0	1	2		Yes	No		0	1	2	
PROJECT VILLAGE																	
West Garo Hills	Dallangre	UR	9	Y	--	--	--	--	9	--	--	N	--	--	--	--	--
	Adinggre	MR	8	Y	--	--	--	--	8	--	--	N	--	--	--	--	--
	Darigre	LR	8	Y	--	--	--	--	8	--	--	N	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	--	N	--	--	--	--	--	--	N	--	--	--	--	--
	Biar	MR	21	Y		--	21	--	--	--	--	N	--	--	--	--	--
	Mukroh	LR	75	--	N	--	--	--	--	--	--	N	--	--	--	--	--
East Khasi Hills	Rim Shylla	UR	8	--	N	--	--	--	--	--	--	N	--	--	--	--	--
	Wah Mawlein	MR	14	--	N	--	--	--	--	--	--	N	--	--	--	--	--
	Pepbah	LR	8	--	N	--	--	--	--	--	--	N	--	--	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	--	N	--	--	--	--	--	--	N	--	--	--	--	--
	Byrki	MR	6	--	N	--	--	--	--	--	--	N	--	--	--	--	--
	Mawtynrong	LR	7	--	N	--	--	--	--	--	--	N	--	--	--	--	--
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**	**--**	**--**	**21**	**--**	**--**	**--**	**--**		**--**	**--**	**--**	**--**	**--**
CONTROL VILLAGE																	
West Garo Hills	Dichingre	CV	13	Y	--	--	--	--	13	--	--	N	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	--	N	--	--	--	--	--	--	N	--	--	--	--	--
East Khasi Hills	Sohryngkham	CV	15	--	N	--	--	--	--	--	--	N	--	--	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	--	N	--	--	--	--	--	--	N	--	--	--	--	--
TOTAL / AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	**--**	**--**	**13**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

(*) Under 'Where Provided' scores have been given as follows:
0 for within village,1 for within 5 km, 2 for more than 5 km

3.18.4 Access to Farm Inputs - 1: HYV Seeds & Fertilizers

Findings

Table-3.52 (available at next page) indicates the findings regarding the access of the sampled households to the following farm inputs:

- Farm Inputs- HYV seeds; and
- Farm Inputs- Fertilizers.

Analysis

Access to Farm Inputs- HYV seeds

Project Village: In the project village, out of the total 199 households, 46 households have access to farm inputs- HYV seeds.

Control Village: Out of the 101 households, 13 households have access to farm inputs- HYV seeds.

Access to Farm Inputs- Fertilizers

Project Village: Out of the total 199 households, all have access to farm inputs- fertilizers.

Control Village: In the control village, 101 of the total households have access to farm inputs- fertilizers.

Distance to the Facilities (Farm Inputs - HYV Seeds & Fertilizers)

The following table gives the number of households having access to the given farm inputs (HYV Seeds and Fertilizers) within specified distances.

Table-3.51: Nos. of Sampled Households having Facility within Indicated Distances [Farm Inputs - HYV Seeds & Fertilizers]

Project Village		
	Farm Inputs - HYV Seeds	**Farm Inputs - Fertilizers**
Within village (0)	0	21
Within 5 km (1)	8	8
More than 5 km (2)	88	131
Control Village		
	Farm Inputs - HYV Seeds	**Farm Inputs - Fertilizers**
Within village (0)	0	0
Within 5 km (1)	0	15
More than 5 km (2)	11	11

Table-3.52: Access to Farm Inputs – 1 [BATCH III] HYV Seeds & Fertilizers

District	Village	Location	Households	Farm Inputs - HYV Seeds							Farm Inputs - Fertilizers						
				Access		If Access = Yes					Access		If Access = Yes				
						Who Provides	Where -Nos. of Households who have marked (*)			Frequency of Use			Who Provides	Nos. of Households who have marked (*)			Frequency of Use
				Yes	No		0	1	2		Yes	No		0	1	2	
PROJECT VILLAGE																	
West Garo Hills	Dallangre	UR	9	--	N	--	--	--	--	--	--	N	--	--	--	--	--
	Adinggre	MR	8	--	N	--	--	--	--	--	--	N	--	--	--	--	--
	Darigre	LR	8	--	N	--	--	--	--	--	--	N	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	--	N	--	--	--	--	--	Y	--	--	--	--	27	Quarterly
	Biar	MR	21	--	N	--	--	--	--	--	Y	--	--	21	--	--	Quarterly
	Mukroh	LR	75	Y	--	--	--	--	75	--	Y	--	--	--	--	75	Quarterly
East Khasi Hills	Rim Shylla	UR	8	Y	--	--	--	8	--	--	Y	--	--	--	8	--	Quarterly
	Wah Mawlein	MR	14	--	N	--	--	--	--	--	--	N	--	--	--	--	--
	Pepbah	LR	8	--	N	--	--	--	--	--	Y	--	--	--	--	8	Quarterly
West Khasi Hills	Marshan Namlang	UR	8	--	N	--	--	--	--	--	Y	--	--	--	--	8	Quarterly
	Byrki	MR	6	Y	--	--	--	--	6	--	Y	--	--	--	--	6	Quarterly
	Mawtynrong	LR	7	Y	--	--	--	--	7	--	Y	--	--	--	--	7	Quarterly
TOTAL / AVERAGE		(PROJECT)	**199**	**--**	**--**	**--**	**--**	**8**	**88**	**--**	**--**	**--**	**--**	**21**	**8**	**131**	**--**
Control Village																	
West Garo Hills	Dichingre	CV	13	--	N	--	--	--	--	--	--	N	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	--	N	--	--	--	--	--	--	N	--	--	--	--	--
East Khasi Hills	Sohryngkham	CV	15	--	N	--	--	--	--	--	--	N	--	--	15	--	--
West Khasi Hills	Mawthawniaw	CV	11	--	N	--	--	--	11	--	Y	--	--	--	--	11	Quarterly
TOTAL / AVERAGE		(CONTROL)	**101**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**15**	**11**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

(*) Under 'Where Provided' scores have been given as follows:
0 for within village,1 for within 5 km, 2 for more than 5 km

3.18.5 Access to Farm Inputs 2 (Pesticides & Herbicides)

Findings

Table-3.54 (available at next page) indicates the findings regarding the access of the sampled households to the following farm inputs:

- Farm Inputs- Pesticides; and
- Farm Inputs- Herbicides (weed killers).

Analysis

Access to Farm Inputs- Pesticides

Project Village: In the project village, out of the total 199 households, 160 households have access to pesticides.

Control Village: Out of the 101 households, 88 households have access to pesticides.

Access to Farm Inputs- Herbicides

Project Village: Out of the total 199 households, 85 households have access farm inputs- herbicides.

Control Village: In the control village, 26 households have access to herbicides.

Distance to the Facilities (Farm Inputs - Pesticides & Herbicides)

The following table gives the number of households having access to the given farm inputs (Pesticides and Herbicides) within specified distances.

Table-3.53: Nos. of Sampled Households having Facility within Indicated Distances [Farm Inputs - Pesticides and Herbicides]

Project Village		
	Farm Inputs – Pesticides	**Farm Inputs - Herbicides**
Within village (0)	0	0
Within 5 km (1)	8	8
More than 5 km (2)	152	77
Control Village		
	Farm Inputs – Pesticides	**Farm Inputs - Herbicides**
Within village (0)	15	15
Within 5 km (1)	0	0
More than 5 km (2)	73	11

Table-3.54: Access to Farm Inputs – 2 [BATCH III] Pesticides & Herbicides

District	Village	Location	Households	Farm Inputs – Pesticides							Farm Inputs - Herbicides						
				Access		If Access = Yes					Access		If Access = Yes				
						Who Provides	Where -Nos. of Households who have marked (*)			Frequency of Use			Who Provides	Nos. of Households who have marked (*)			Frequency of Use
				Yes	No		0	1	2		Yes	No		0	1	2	
PROJECT VILLAGE																	
West Garo Hills	Dallangre	UR	9	--	N	--	--	--	--	--	--	N	--	--	--	--	--
	Adinggre	MR	8	--	N	--	--	--	--	--	--	N	--	--	--	--	--
	Darigre	LR	8	--	N	--	--	--	--	--	--	N	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	Y	--	--	--	--	27	Quarterly	Y	--	--	--	--	27	--
	Biar	MR	21	Y	--	--	--	--	21	Quarterly	Y	--	--	--	--	21	--
	Mukroh	LR	75	Y	--	--	--	--	75	Quarterly	--	N	--	--	--	--	--
East Khasi Hills	Rim Shylla	UR	8	Y	--	--	--	8	--	Half Yearly	Y		--	--	8	--	--
	Wah Mawlein	MR	14		N	--	--	--	--	--	--	N	--	--	--	--	--
	Pepbah	LR	8	Y	--	--	--	--	8	Half Yearly	Y	--	--	--	--	8	--
West Khasi Hills	Marshan Namlang	UR	8	Y	--	--	--	--	8	Half Yearly	Y	--	--	--	--	8	--
	Byrki	MR	6	Y	--	--	--	--	6	Half Yearly	Y	--	--	--	--	6	--
	Mawtynrong	LR	7	Y	--	--	--	--	7	Half Yearly	Y	--	--	--	--	7	--
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**	**--**	**--**	**--**	**8**	**152**	**--**	**--**	**--**	**--**		**--**	**77**	
CONTROL VILLAGE																	
West Garo Hills	Dichingre	CV	13	--	N	--	--	--	--	--	--	N	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	Y	--	--	--	--	62	Quarterly	--	N	--	--	--	--	--
East Khasi Hills	Sohryngkham	CV	15	Y	--	--	15	--	--	Half Yearly	Y	--	--	15	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	Y	--	--	--	--	11	Half Yearly	Y	--	--	--	--	11	--
TOTAL / AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	**15**	**--**	**73**	**--**	**--**	**--**	**--**	**15**	**--**	**11**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

(*) Under 'Where Provided' scores have been given as follows:
0 for within village,1 for within 5 km, 2 for more than 5 km

3.18.6 Access to Farm Inputs- 3 Diesel

Findings

Table-3.56 (available at next page) indicates the findings regarding the access of the sampled households to the following farm inputs:

- Farm inputs- Diesel

Analysis

Access to Farm Inputs- Diesel

Project Village: None of the 199 households have access to Farm Inputs- Diesel

Control Village: Out of the 101 households, 62 households have access to Farm Inputs- Diesel.

Distance to the Facilities (Farm Inputs - Diesel)

The following table gives the number of households having access to the given farm inputs (diesel) within specified distances.

Table-3.55: Nos. of Sampled Households having Facility within Indicated Distances [Farm Inputs - Diesel]

Project Village	
	Farm Inputs – Diesel
Within village (0)	0
Within 5 km (1)	0
More than 5 km (2)	0
Control Village	
	Farm Inputs – Diesel
Within village (0)	0
Within 5 km (1)	0
More than 5 km (2)	62

Table-3.56: Access to Farm Inputs – 3 [BATCH III] Diesel

District	Village	Location	Households	Farm Inputs - Diesel						
				Access		If Access = Yes				
						Who Provides	Where - Nos. of Households who have marked (*)			Frequency of Use
				Yes	No		0	1	2	
PROJECT VILLAGE										
West Garo Hills	Dallangre	UR	9	--	N	--	--	--	--	--
	Adinggre	MR	8	--	N	--	--	--	--	--
	Darigre	LR	8	--	N	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	--	N	--	--	--	--	--
	Biar	MR	21	--	N	--	--	--	--	--
	Mukroh	LR	75	--	N	--	--	--	--	--
East Khasi Hills	Rim Shylla	UR	8	--	N	--	--	--	--	--
	Wah Mawlein	MR	14	--	N	--	--	--	--	--
	Pepbah	LR	8	--	N	--	--	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	--	N	--	--	--	--	--
	Byrki	MR	6	--	N	--	--	--	--	--
	Mawtynrong	LR	7	--	N	--	--	--	--	--
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
Control Village										
West Garo Hills	Dichingre	CV	13	--	N	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	Y	--	--	--	--	62	--
East Khasi Hills	Sohryngkham	CV	15	--	N	--	--	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	--	N	--	--	--	--	--
TOTAL / AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	--	**--**	**62**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

(*) Under 'Where Provided' scores have been given as follows:
0 for within village,1 for within 5 km, 2 for more than 5 km

3.18.7 Access to Market for Farm Product-1 [Crops & Orchard Output]

Findings

Table-3.58 (available at next page) indicates the findings regarding the access of the sampled households to the following markets:

- Market for Crops; and
- Market for Orchard output.

Analysis

Access to Market for Crops

Project Village: In the project village, it shows all the 199 households have access to market for crops.

Control Village: All of the households have access to the market for crops.

Access to Market for Orchard Output

Project Village: Out of the total 199 households, 131 households have access for marketing of orchard outputs.

Control Village: In the control village, 73 households have access to marketing of orchard outputs.

Distance to the Markets (Crops & Orchard Output)

The following table gives the number of households having access to the markets for crops and orchard output within specified distances.

Table-3.57: Nos. of Sampled Households having Market within Indicated Distances

Project Village		
	Market for Crops	**Market for Orchard Output**
Within village (0)	0	0
Within 5 km (1)	15	15
More than 5 km (2)	184	116
Control Village		
	Market for Crops	**Market for Orchard Output**
Within village (0)	77	62
Within 5 km (1)	0	0
More than 5 km (2)	24	11

Table-3.58: Access to Markets for Farm Product-1 [BATCH III] Crops & Orchard Output

District	Village	Location	Households	Market for – Crops					Market for - Orchard Output				
				Access to Market		If Yes			Access to Market		If Yes		
				Yes	No	Where Sold	Location	When Sold	Yes	No	Where Sold	Location	When Sold
PROJECT VILLAGE													
West Garo Hills	Dallangre	UR	9	Y	--	2	--	--	--	N	--	--	--
	Adinggre	MR	8	Y	--	2	--	--	--	N	--	--	--
	Darigre	LR	8	Y	--	2	--	--	--	N	--	--	--
West Jaintia Hills	Rtiang	UR	27	Y	--	2	--	Weekly	Y	--	2	--	Weekly
	Biar	MR	21	Y	--	2	--	Weekly	--	N	--	--	--
	Mukroh	LR	75	Y	--	2	--	Weekly	Y	--	2	--	--
East Khasi Hills	Rim Shylla	UR	8	Y	--	1	--	Weekly	Y	--	1	--	Weekly
	Wah Mawlein	MR	14	Y	--	2	--	Weekly	--	N	--	--	--
	Pepbah	LR	8	Y	--	2	--	Weekly	--	N	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	Y	--	2	--	Weekly	Y	--	2	--	Weekly
	Byrki	MR	6	Y	--	2	--	Weekly	Y	--	2	--	Weekly
	Mawtynrong	LR	7	Y	--	1	--	Weekly	Y	--	1	--	Weekly
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
CONTROL VILLAGE													
West Garo Hills	Dichingre	CV	13	Y	--	2	--	--	--	N	--	--	--
West Jaintia Hills	Laskein	CV	62	Y	--	0	--	Weekly	Y	--	0	--	Weekly
East Khasi Hills	Sohryngkham	CV	15	Y	--	0	--	Weekly	--	N	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	Y	--	2	--	Weekly	Y	--	2	--	Weekly
TOTAL / AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

(*) Under 'Where Provided' scores have been given as follows:
0 for within village,1 for within 5 km, 2 for more than 5 km

3.18.8 Access to Market for Farm Product-2 [Livestock & Fishery]

Findings

Table-3.60 (available at next page) indicates the findings regarding the access of the sampled households to the following markets:

- Market for livestock; and
- Market for fisheries.

Analysis

Access to Market for Livestock

Project Village: In the project village, out of the total 199 households, 174 households have access for marketing livestock.

Control Village: The total number of 101 households who were responsive. Out of which 88 households have access for marketing livestock.

Access to Market for Fisheries

Project Village: Out of the total 199 households, 166 households have access for marketing fisheries.

Control Village: Out of the total 101 households, 88 households have access for marketing fisheries.

Distance to the Markets (Livestock & Fishery)

The following table gives the number of households having access to the markets for livestock and fishery within specified distances.

Table-3.59: Nos. of Sampled Households having Market within Indicated Distances [Livestock & Fishery]

Project Village		
	Market for Livestock	**Market for Fisheries**
Within village (0)	0	0
Within 5 km (1)	15	7
More than 5 km (2)	159	159
Control Village		
	Market for Livestock	**Market for Fisheries**
Within village (0)	77	77
Within 5 km (1)	0	0
More than 5 km (2)	11	11

Table-3.60: Access to Markets for Farm Product-2 [BATCH III] Livestock & Fishery

District	Village	Location	Households	Market for - Livestock					Market for - Fishery				
				Access to Market		If Yes			Access to Market		If Yes		
				Yes	No	Where Sold	Location	When Sold	Yes	No	Where Sold	Location	When Sold
PROJECT VILLAGE													
West Garo Hills	Dallangre	UR	9	--	N	--	--	--	--	N	--	--	--
	Adinggre	MR	8	--	N	--	--	--	--	N	--	--	--
	Darigre	LR	8	--	N	-	--	--	--	N	--	--	--
West Jaintia Hills	Rtiang	UR	27	Y	--	2	--	Weekly	Y	--	2	--	Weekly
	Biar	MR	21	Y	--	2	--	Weekly	Y	--	2	--	Weekly
	Mukroh	LR	75	Y	--	2	--	Weekly	Y	--	2	--	Weekly
East Khasi Hills	Rim Shylla	UR	8	Y	--	1	--	Weekly	--	N		--	
	Wah Mawlein	MR	14	Y	--	2	--	Weekly	Y	--	2	--	Weekly
	Pepbah	LR	8	Y	--	2	--	Weekly	Y	--	2	--	Weekly
West Khasi Hills	Marshan Namlang	UR	8	Y	--	2	--	Weekly	Y	--	2	--	Weekly
	Byrki	MR	6	Y	--	2	--	Weekly	Y	--	2	--	Weekly
	Mawtynrong	LR	7	Y	--	1	--	Weekly	Y	--	1	--	Weekly
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**	**--**	**--**	**--**	--	**--**	**--**	**--**	**--**	**--**
CONTROL VILLAGE													
West Garo Hills	Dichingre	CV	13	--	N	--	--	--	--	N	--	--	--
West Jaintia Hills	Laskein	CV	62	Y	--	0	--	Weekly	Y	--	0	--	Weekly
East Khasi Hills	Sohryngkham	CV	15	Y	--	0	--	Weekly	Y	--	0	--	Weekly
West Khasi Hills	Mawthawniaw	CV	11	Y	--	2	--	Weekly	Y	--	2	--	Weekly
TOTAL/AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

(*) Under 'Where Provided' scores have been given as follows:
0 for within village,1 for within 5 km, 2 for more than 5 km

3.18.9 Access to Market for Farm Product-3 [NTFP]

Findings

Table-3.62 (available at next page) indicates the findings regarding the access of the sampled households to the following market:

- Market for NTFP

Analysis

Access to Market for NTFP

Project Village: As per the total number of households, 137 households have access to market NTFP.

Control Village: Out of the 101 households, 88 households have access to market NTFP.

Distance to the Markets (NTFP)

The following table gives the number of households having access to the markets for NTFP within specified distances.

Table-3.61: Nos. of Sampled Households having Market within Indicated Distances [NTFP]

Project Village	
	Market for - NTFP
Within village (0)	0
Within 5 km (1)	21
More than 5 km (2)	116
Control Village	
	Market for - NTFP
Within village (0)	77
Within 5 km (1)	0
More than 5 km (2)	11

Table-3.62: Access to Markets for Farm Product-3 [BATCH III] NTFP

District	Village	Location	Households	Market for - NTFP				
				Access to Market		If Yes		
				Yes	No	Where Sold	Location	When Sold
PROJECT VILLAGE								
West Garo Hills	Dallangre	UR	9	--	N	--	--	--
	Adinggre	MR	8	--	N	--	--	--
	Darigre	LR	8	--	N	--	--	--
West Jaintia Hills	Rtiang	UR	27	Y	--	2	--	Monthly
	Biar	MR	21	--	N	--	--	--
	Mukroh	LR	75	Y	--	2	--	--
East Khasi Hills	Rim Shylla	UR	8	--	N	--	--	--
	Wah Mawlein	MR	14	Y	--	1	--	Weekly
	Pepbah	LR	8	--	N	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	Y	--	2	--	Monthly
	Byrki	MR	6	Y	--	2	--	Monthly
	Mawtynrong	LR	7	Y	--	1	--	Monthly
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**	**--**	**--**	**--**	**--**
CONTROL VILLAGE								
West Garo Hills	Dichingre	CV	13	--	N	--	--	--
West Jaintia Hills	Laskein	CV	62	Y	--	0	--	--
East Khasi Hills	Sohryngkham	CV	15	Y	--	0	--	--
West Khasi Hills	Mawthawniaw	CV	11	Y	--	2	--	Monthly
TOTAL / AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	**--**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

(*) Under 'Where Provided' scores have been given as follows:
0 for within village,1 for within 5 km, 2 for more than 5 km

3.18.10 Access to Services: Mobile Connectivity & ATM / BANK

Findings

Table-3.64 (available at next page) indicates the findings regarding the access of the sampled households to the following services:

- Mobile connectivity; and
- ATM & Bank.

Analysis

Access to Mobile Connectivity

Project Village: In the project village, all of the 199 households have access to mobile connectivity.

Control Village: All of the 101 households have access to mobile connectivity.

Access to ATM & Banks

Project Village: All of the 199 households have access to ATM & banks

Control Village: All of the 101 households have access to ATM & banks

Distance to Services (Mobile Connectivity & ATM / Bank)

The following table gives the number of households having access to the services like Mobile Connectivity and Bank / ATM Services within specified distances.

Table-3.63: Nos. of Sampled Households having Access to Services within Indicated Distances [Mobile Connectivity & ATM / BANK]

Project Village		
	Mobile Connectivity	**ATM & BANK**
Within village (0)	0	0
Within 5 km (1)	7	7
More than 5 km (2)	192	192
Control Village		
	Mobile Connectivity	**ATM & BANK**
Within village (0)	15	15
Within 5 km (1)	0	0
More than 5 km (2)	86	86

Table-3.64: Access to Mobile & ATM / BANK Services [BATCH III]

District	Village	Location	Households	Mobile Connectivity							ATM & BANK						
				Access		If Access = Yes					Access		If Access = Yes				
						Who Provides	Where -Nos. of Households who have marked (*)			Frequency of Use			Who Provides	Nos. of Households who have marked (*)			Frequency of Use
				Yes	No		0	1	2		Yes	No		0	1	2	
PROJECT VILLAGE																	
West Garo Hills	Dallangre	UR	9	Y	--	--	--	--	9	--	Y	--	--	--	--	9	--
	Adinggre	MR	8	Y	--	--	--	--	8	--	Y	--	--	--	--	8	--
	Darigre	LR	8	Y	--	--	--	--	8	--	Y	--	--	--	--	8	--
West Jaintia Hills	Rtiang	UR	27	Y	--	--	--	--	27	Weekly	Y	--	--	--	--	27	Monthly
	Biar	MR	21	Y	--	--	--	--	21	Weekly	Y	--	--	--	--	21	Monthly
	Mukroh	LR	75	Y	--	--	--	--	75	Weekly	Y	--	--	--	--	75	Monthly
East Khasi Hills	Rim Shylla	UR	8	Y	--	--	--	--	8	Weekly	Y	--	--	--	--	8	Monthly
	Wah Mawlein	MR	14	Y	--	--	--	--	14	Weekly	Y	--	--	--	--	14	Monthly
	Pepbah	LR	8	Y	--	--	--	--	8	--	Y	--	--	--	--	8	Monthly
West Khasi Hills	Marshan Namlang	UR	8	Y	--	--	--	--	8	Monthly	Y	--	--	--	--	8	Monthly
	Byrki	MR	6	Y	--	--	--	--	6	Monthly	Y	--	--	--	--	6	Monthly
	Mawtynrong	LR	7	Y	--	--	--	7		Monthly	Y	--	--	--	7		Monthly
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**	**--**	**--**	**--**	**7**	**192**	**--**	**--**	**--**	**--**		**7**	**192**	**--**
CONTROL VILLAGE																	
West Garo Hills	Dichingre	CV	13	Y	--	--	--	--	13	--	Y	--	--	--	--	13	--
West Jaintia Hills	Laskein	CV	62	Y	--	--	--	--	62	Weekly	Y	--	--	--	--	62	Monthly
East Khasi Hills	Sohryngkham	CV	15	Y	--	--	15	--		--	Y	--	--	15	--		Monthly
West Khasi Hills	Mawthawniaw	CV	11	Y	--	--	--	--	11	Monthly	Y	--	--	--	--	11	Monthly
TOTAL / AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	**15**	**--**	**86**	**--**	**--**	**--**	**--**	**15**	**--**	**86**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

(*) Under 'Where Provided' scores have been given as follows:
0 for within village,1 for within 5 km, 2 for more than 5 km

3.18.11 Access to Services: Workshop for Machinery & Vehicles

Findings

Table-3.66 (available at next page) indicates the findings regarding the access of the sampled households to the following services:

- Workshop for machinery & vehicles

Analysis

Access to Workshop for machinery & vehicles

Project Village: As per the total number of 199 households, all have access to workshop for machinery & vehicles.

Control Village: All of the 101 households have access to workshop for machinery & vehicles.

Distance to Services (Workshop for Machinery & Vehicles)

The following table gives the number of households having access to the markets for NTFP within specified distances.

Table-3.65: Nos. of Sampled Households having Access to Services within Indicated Distances [Workshop for Machinery & Vehicles]

Project Village	
	Workshop for machinery & vehicles
Within village (0)	0
Within 5 km (1)	7
More than 5 km (2)	192
Control Village	
	Workshop for machinery & vehicles
Within village (0)	15
Within 5 km (1)	0
More than 5 km (2)	86

Table-3.66: Access to Workshop Services for Machinery & Vehicles [BATCH III]

District	Village	Location	Households	WORKSHOP FOR MACHINERY / VEHICLES						
				Access		If Access = Yes				
						Who Provides	Where -Nos. of Households who have marked (*)			Frequency of Use
				Yes	No		0	1	2	
PROJECT VILLAGE										
West Garo Hills	Dallangre	UR	9	Y	--	--	--	--	9	--
	Adinggre	MR	8	Y	--	--	--	--	8	--
	Darigre	LR	8	Y	--	--	--	--	8	--
West Jaintia Hills	Rtiang	UR	27	Y	--	--	--	--	27	--
	Biar	MR	21	Y	--	--	--	--	21	--
	Mukroh	LR	75	Y	--	--	--	--	75	--
East Khasi Hills	Rim Shylla	UR	8	Y	--	--	--	--	8	--
	Wah Mawlein	MR	14	Y	--	--	--	--	14	--
	Pepbah	LR	8	Y	--	--	--	--	8	--
West Khasi Hills	Marshan Namlang	UR	8	Y	--	--	--	--	8	--
	Byrki	MR	6	Y	--	--	--	--	6	--
	Mawtynrong	LR	7	Y	--	--	--	7		--
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**	**--**	**--**	**--**	**7**	**192**	**--**
CONTROL VILLAGE										
West Garo Hills	Dichingre	CV	13	Y	--	--	--	--	13	--
West Jaintia Hills	Laskein	CV	62	Y	--	--	--	--	62	--
East Khasi Hills	Sohryngkham	CV	15	Y	--	--	15	--		--
West Khasi Hills	Mawthawniaw	CV	11	Y	--	--	--	--	11	--
TOTAL / AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	**15**	**--**	**86**	**--**

Note:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

(*) Under 'Where Provided' scores have been given as follows:
0 for within village,1 for within 5 km, 2 for more than 5 km

3.19. Other Questions [Batch III]

Findings

This sub-section gives discusses the other questions asked to the sampled households during the survey. These queries related to agriculture, capacity building, livestock, management and practices for both project and control villages. Tables-3.67, 3.68 and 3.69 give the findings in this regard. The analysis of the responses is furnished below.

Analysis

Has Household used new technology for farming?

It is found that out of the total number of household in project village, only households from West Garo Hills and West Jaintia Hills is utilizing new technology for farming. As per the survey, no information was given who provided technology, but the household received demonstration on new technology and as a result, have helped them earn more. While in control village, there is no household using the new technology in farming.

Does Household practice INM, IPM & IDM?

It is found that in both project and control village, there are none who practiced Integrated Nutrient Management (INM), Integrated Pest Management (IPM) and Integrated Disease Management (IDM).

Awareness about Climate Change

Out of the total number of household in both project and control village, only households in West Garo Hills have received awareness on climate change.

Any members receiving Training

In project village, members from each household have received training provided by resource organization or any other Government departments whereas there is no training in control village.

Gone on exposure visit

In project village, it is found that some household of Adinggre village in West Garo Hills is the only village who has responded to the question whereas there are none in control village. Exposure visit are being organized and conducted by some organization or any other Government departments as per the requirement and need of the people.

Use of machinery (owned or hired)

There is no use of any machinery by any household from both project and control village. Machinery whether owned or hired is not used during land preparation, crop irrigation, harvesting and threshing by any household. As per the survey, it is found that the use of machinery is not required by many household.

Stall feeding of livestock & Fodder Cultivation

Nil

Table-3.67: Other Questions [Questions 1-5] [BATCH III]

District	Village	Location	Households	Has Household Used New Technology for Farming							Does household Practice					
				Yes	No	If 'Yes'					Integrated Nutrient Management		Integrated Pest Management		Integrated Disease Management	
						Who Provided Technology	Did they Demonstrate		Does it help earn more							
							Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
PROJECT VILLAGE																
West Garo Hills	Dallangre	UR	9	Y	--	--	--	N	Y	--	--	N	--	N	--	N
	Adinggre	MR	8	Y	--	--	Y	--	--	--	--	N	--	N	--	N
	Darigre	LR	8	--	N	--	--	--	--	--	--	N	--	N	--	N
West Jaintia Hills	Rtiang	UR	27	--	N	--	--	--	--	--	--	N	--	N	--	N
	Biar	MR	21	Y		--	Y	--	Y	--	--	N	--	N	--	N
	Mukroh	LR	75	--	N	--	--	--	--	--	--	N	--	N	--	N
East Khasi Hills	Rim Shylla	UR	8	--	N	--	--	--	--	--	--	N	--	N	--	N
	Wah Mawlein	MR	14	--	N	--	--	--	--	--	--	N	--	N	--	N
	Pepbah	LR	8	--	N	--	--	--	--	--	--	N	--	N	--	N
West Khasi Hills	Marshan Namlang	UR	8	--	N	--	--	--	--	--	--	N	--	N	--	N
	Byrki	MR	6	--	N	--	--	--	--	--	--	N	--	N	--	N
	Mawtynrong	LR	7	--	N	--	--	--	--	--	--	N	--	N	--	N
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**	--	**--**	**--**	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**
CONTROL VILLAGE																
West Garo Hills	Dichingre	CV	13	--	N	--	--	--	--	--	--	N	--	N	--	N
West Jaintia Hills	Laskein	CV	62	--	N	--	--	--	--	--	--	N	--	N	--	N
East Khasi Hills	Sohryngkham	CV	15	--	N	--	--	--	--	--	--	N	--	N	--	N
West Khasi Hills	Mawthawniaw	CV	11	--	N	--	--	--	--	--	--	N	--	N	--	N
TOTAL / AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	--	--	--	--	--	--	**--**	**--**	**--**	**--**

Table-3.68: Other Questions [Questions 6-10] [BATCH III]

District	Village	Location	Households	Awareness about Climate Change		Any members received Training		Gone on Exposure Visits		Use of Machinery (owned or Hired)							
										Land Preparation		Crop Irrigation		Harvesting		Threshing	
				Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
PROJECT VILLAGE																	
West Garo Hills	Dallangre	UR	9	Y	--	Y	--	--	N	--	--	--	N	--	N	--	N
	Adinggre	MR	8	Y	--	Y	--	Y		--	--	--	N	--	N	--	N
	Darigre	LR	8	Y	--	--	N	--	N	--	--	--	N	--	N	--	N
West Jaintia Hills	Rtiang	UR	27	--	N	Y	--	--	N	--	--	--	N	--	N	--	N
	Biar	MR	21	--	N	Y	--	--	N	--	--	--	N	--	N	--	N
	Mukroh	LR	75	--	N	Y	--	--	N	--	--	--	N	--	N	--	N
East Khasi Hills	Rim Shylla	UR	8	--	N	--	N	--	N	--	--	--	N	--	N	--	N
	Wah Mawlein	MR	14	--	N	Y	--	--	N	--	--	--	N	--	N	--	N
	Pepbah	LR	8	--	N	Y	--	--	N	--	--	--	N	--	N	--	N
West Khasi Hills	Marshan Namlang	UR	8	--	N	Y	--	--	N	--	--	--	N	--	N	--	N
	Byrki	MR	6	--	N	Y	--	--	N	--	--	--	N	--	N	--	N
	Mawtynrong	LR	7	--	N	--	N	--	N	--	--	--	N	--	N	--	N
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**	--	**--**	**--**	**--**	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
CONTROL VILLAGE																	
West Garo Hills	Dichingre	Control Village	13	Y	--	--	N	--	N	--	N	--	N	--	N	--	N
West Jaintia Hills	Laskein	Control Village	62	--	N	--	N	--	N	--	N	--	N	--	N	--	N
East Khasi Hills	Sohryngkham	Control Village	15	--	N	--	N	--	N	--	N	--	N	--	N	--	N
West Khasi Hills	Mawthawniaw	Control Village	11	--	N	--	N	--	N	--	N	--	N	--	N	--	N
TOTAL / AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	--	**--**	--	**--**	--	**--**	--	**--**	--	**--**	--

Table-3.69: Other Questions [Questions 11-14] [BATCH III]

District	Village	Location	Households	Stall Feeding of Livestock		If Yes			Fodder Cultivation		If Fodder Cultivation is Yes							
						Quantity of Fodder					Area under Fodder		Fodder Obtained		Fodder Sold		Income Received	
				Yes	No	n	$\bar{x}$	SD	Yes	No	n	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$
PROJECT VILLAGE																		
West Garo Hills	Dallangre	UR	9	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
	Adinggre	MR	8	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
	Darigre	LR	8	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
West Jaintia Hills	Rtiang	UR	27	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
	Biar	MR	21	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
	Mukroh	LR	75	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
East Khasi Hills	Rim Shylla	UR	8	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
	Wah Mawlein	MR	14	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
	Pepbah	LR	8	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
West Khasi Hills	Marshan Namlang	UR	8	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
	Byrki	MR	6	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
	Mawtynrong	LR	7	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
TOTAL / AVERAGE		**(PROJECT)**	**199**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
CONTROL VILLAGE																		
West Garo Hills	Dichingre	CV	13	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
West Jaintia Hills	Laskein	CV	62	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
East Khasi Hills	Sohryngkham	CV	15	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
West Khasi Hills	Mawthawniaw	CV	11	--	N	--	--	--	--	N	--	--	--	--	--	--	--	--
TOTAL / AVERAGE		**(CONTROL)**	**101**	**--**	**--**	**--**	--	--	--	--	**--**	--	--	--	--	--	--	--

Under Quantity of Fodder / If Fodder Cultivation is Yes:
n gives the number of responses to the query
$\bar{x}$ gives the arithmetical mean of responses (i.e. the average of the quantities / areas / incomes)
s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses] - for quantity of fodder

3.20. Income & Expenditure [Batch III]

Findings

This sub-section gives discusses the income and expenditure for both the project and control village. The annual household income is categorised under primary source and secondary source, and also monthly expenditure. The annual household income includes all work income of the entire household and monthly expenditure includes living expenses spent by a household in a month. It is found that in both project and control villages, all households are having income only as primary source; and monthly expenditure.

Table 3.70 gives the findings of the survey about the income and expenditure received and utilised respectively by households.

Analysis

Annual Household Income

As per the survey, all households in both project and control villages are having only primary income as their source of income. In project village, the average of primary income is Rs. 1,06,814.90 (approx. about Rs. 1,06,815) whereas in control village is Rs. 1,13,313.00 (approx. about Rs. 1,13,313). It is also found that in both the project and control areas, the households are not having any secondary source and only depend on primary source of income. The average amount of primary income for both project and control villages are almost the same which indicate steady and reliable income received by the households annually.

Monthly Expenditure

In project village, the average of monthly expenditure is Rs. 4772.73 (approx. about Rs. 4773) whereas in control village is Rs. 4975.248 (approx. about Rs. 4975) which indicate that the average monthly expenditure of a household is almost half of the average annual income for both project and control villages.

Table-3.70: Income & Expenditure [BATCH III]

District	Village	Location	Households	Annual Household Income						Monthly Expenditure		
				Primary Source			Secondary Source					
				n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD
PROJECT VILLAGE												
West Garo Hills	Dallangre	UR	9	9	125913.3	67471.83	--	--	--	9	5544.44	156.861
	Adinggre	MR	8	8	60212.5	29694.2	--	--	--	8	3762.5	1476.422
	Darigre	LR	8	8	166156.3	86924.3	--	--	--	8	6687.5	2153.693
West Jaintia Hills	Rtiang	UR	27	27	115555.4	47471.41	--	--	--	27	4929.63	1764.787
	Biar	MR	21	21	121065.2	63716.38	--	--	--	21	4680.952	2038.288
	Mukroh	LR	75	75	92705.07	55084.32	--	--	--	75	4592.00	1646.845
East Khasi Hills	Rim Shylla	UR	8	8	84266.25	41435.69	--	--	--	8	4250.00	654.654
	Wah Mawlein	MR	14	14	117583.9	45064.05	--	--	--	14	4326.667	626.871
	Pepbah	LR	8	8	114423.00	94865.23	--	--	--	8	4600.00	1452.092
West Khasi Hills	Marshan Namlang	UR	8	8	84341.25	23552.93	--	--	--	8	4625.00	876.2746
	Byrki	MR	6	6	99856.67	25027.77	--	--	--	6	5466.667	1107.55
	Mawtynrong	LR	7	7	169599.3	58888.97	--	--	--	7	5614.286	1020.504
TOTAL / AVERAGE		**(PROJECT)**	**199**	**199**	**106814.90**	**--**	**--**	**--**	**--**	**199**	**4772.73**	**---**
CONTROL VILLAGE												
West Garo Hills	Dichingre	Control Village	13	13	73809.92	52740.9	--	--	--	13	4215.385	2149.359
West Jaintia Hills	Laskein	Control Village	62	62	103376.8	51500.36	--	--	--	62	4967.742	2018.34
East Khasi Hills	Sohryngkham	Control Village	15	15	141414.3	85267.73	--	--	--	15	4326.667	1126.605
West Khasi Hills	Mawthawniaw	Control Village	11	11	177682.7	123672.5	--	--	--	11	6800.00	3534.119
TOTAL / AVERAGE		**(CONTROL)**	**101**	**101**	**113313.00**	**--**	**--**	--	--	**101**	**4975.248**	**--**

Notes:
UR: Upper Reach / MR: Middle Reach / LR: Lower Reach/ CV: Control Village

Under Annual Household Income (Primary Source / Secondary Source) / Monthly Expenditure: n gives the number of responses to the query

$\bar{x}$ gives the arithmetical mean of responses (i.e. the average of the incomes / expenditures)

s. d. is the standard deviation of the responses received: [Standard deviation is a measure of the variation of the responses]

4. BENCHMARKING

In terms of implementation of IWMP, benchmarking has been defined as 'a process of setting realistic standards of watershed outcomes by assigning specific values to the indicators identified for this purpose and taking into consideration agro-ecological variation and production processes across the sectors.' The indicators and benchmarks for the IWMP have been developed and refined in 2015 with the collaboration of domain experts and practitioners from multi-disciplinary areas. Accordingly, the 'Operational Guidelines' on benchmarking of watershed management outcomes has been brought out by the DoLR in 2015. It furnishes the major ecological regions considered for benchmarking. India has been classified into eight such regions based on the factors like Physiography, slope, soil type, forest cover and availability of water resources.

Referring the said 'Operational Guidelines', a review meeting related to Benchmarking was held with the officials of SLNA-IWMP, Meghalaya on 13th February 2017 in presence of the representative officials of PIAs in Shillong. Based on the detail discussions held in the review meeting, the baseline values has been fixed for the identified indicators considering the agro-climatic zone and usefulness to the watershed projects implemented in Meghalaya.

It is against these baseline values that the achievements shall be monitored and compared against the benchmarks to assess the impacts of the interventions in the watersheds. The indicators and benchmarks so finalised are shown below;

Table-ES.3: Benchmark Values Fixed For Meghalaya (Western & Eastern Himalayas Region)

Sl. No.	Indicator	Frequency/ Stages	Benchmark Values (in %)
A.	**Soil Health**		
1.	Soil Organic Carbon Increase	5 Years	5
B.	**Hydrology**		
1.	Drinking water availability Increase	3 Years	15 to 20
		5 Years	20 to 25
2.	Status of Water Bodies		
	a. Spread Area Increase	Annually	5 to 10
	b. Rejuvenation	Monthly	10 to 20
	c. New Water Bodies	Monthly	5 to 10

Table-ES.3: Benchmark Values Fixed For Meghalaya (Western & Eastern Himalayas Region)

Sl. No.	Indicator	Frequency/ Stages	Benchmark Values (in %)
C.	**Forestry**		
1.	Tree Cover Increase	3 Years	10 to 15
		5 Years	15 to 20
	Survival of Planted	3 Years	50
		5 Years	70
D.	**Agriculture and Horticulture**		
1.	Diversification in agriculture & horticulture Increase	5 Years	5 to 10
2.	Area covered under improved varieties/HYV of total cultivable land	5 Years	5 to 10
3.	Area enhanced under Irrigation as to total cultivable land	5 Years	5 to 10
4.	Area covered micro irrigation system Increase	5 Years	5 to 10
5.	Demonstration of new technology increase	5 Years	5
6.	Farmers aware about climate change impacts Increase	5 Years	15 to 20 Nos.
7.	Cropping intensity viz. Shift from single to double, triple/inter cropping Increase	5 Years	15 to 20
8.	Fallow and wasteland reduction as percentage of total agricultural land	5 Years	5-15
9.	Adoption of INM/IPM/IDM	5 Years	10-25
10.	No. of Farmers undergoing Training	Annually	20% HH
E.	**Animal Husbandry, Dairy and Fisheries**		
1.	Increase in Livestock Units and Population	5 Years	10 to 25
2.	Health Camp	Annually	1
F.	**Economic, Financial, Process, Assets, Institutional, Risks and Convergence**		
1.	Total Income	3 Years	5 to 10
		5 Years	10 to 15

Table-ES.3: Benchmark Values Fixed For Meghalaya (Western & Eastern Himalayas Region)

Sl. No.	Indicator	Frequency/ Stages	Benchmark Values (in %)
2.	Finance/Credit linkages (SHGs/UGs/CIGs)	5 Years	20 to 25
3.	Watershed Development Fund	5 Years	100% as planned
4.	Common Property Resources Maintenance Mechanism	5 Years	60-80% as planned
5.	Status of Area Treatment	5 Years	100% as planned in DPR
6.	Status of Drainage line Treatment	5 Years	100% as planned in DPR
7.	No. of Social Audits	5 Years	80% as planned under IWMP
8.	No. of SHGs/CBOs/Micro Enterprise Formed	3 Years	50% as planned by 3rd Year
9.	No. of Watershed Committee Functional	3 Years	100% Functional
10.	Capacity Building of WC/PIAs/CBOs	5 Years	As planned under IWMP
11.	No. of common watershed assets created	3 Years	50% as planned under IWMP
		5 Years	100% as planned under IWMP
12.	No. of Private assets	5 Years	80% as planned under IWMP
13.	No. of CBOs/Micro Enterprises linked to market	5 Years	50% as planned under IWMP
14.	Convergence of Scheme	3 Years	60% as planned under IWMP
		5 Years	100% as planned under IWMP
15.	Technology	3 Years	60% as planned under IWMP
		5 Years	100% as planned under IWMP

5. CONCLUSION

The present Baseline Survey was carried out with the objective of obtaining field data on the baseline (pre-project) status of the project indicators chosen under IWMP for benchmarking. This Report has covered a sample of households from project villages and control villages. These villages have been chosen based on the study methodology to cover 25% of the projects implemented under Batch-III in Meghalaya.

In the present instance, the Baseline Study covered 25% of the batch-wise projects. In other words, around one-quarter of the projects taken up under Batch-III were taken up under the present exercise. The Baseline Survey had been carried out in 2016 covering four districts of the state; viz. West Garo Hills, West Jaintia Hills, East Khasi Hills and West Khasi Hills. In each district, a project was studied, with three project villages - one of these villages was located in each of the Upper Reach (UR) or ridge, Middle Reach (MR) and Lower Reach (LR) or Valley of the watershed covered under the project. In addition, one village was taken as the Control Village.

In all, the survey covered 199 households in the Project Villages and 101 in the Control Villages - totalling 300 households in all.

This Report covers the Baseline Survey and Benchmarking of the project indicators for Batch III projects. Based on the detail discussions held in the review meeting with SLNA on 13/02/2017, the baseline values has been fixed for the identified indicators considering the agro-climatic zone and usefulness to the watershed projects implemented in Meghalaya. It is against these baseline values that the achievements shall be monitored and compared against the benchmarks to assess the impacts of the interventions in the watersheds.

PHOTOGRAPHS OF FIELD SURVEY

Field Survey under EKH IWMP-XI in East Khasi Hills District

Field Survey under EKH IWMP-XI in East Khasi Hills District

Field Survey under EKH IWMP-XI in East Khasi Hills District

Field Survey under EKH IWMP-XI in East Khasi Hills District

PHOTOGRAPHS OF FIELD SURVEY

Field Survey under WKH IWMP-VIII in West Khasi Hills District

Field Survey under WKH IWMP-VIII in West Khasi Hills District

Field Survey under WKH IWMP-VIII in West Khasi Hills District

Field Survey under WKH IWMP-VIII in West Khasi Hills District

PHOTOGRAPHS OF FIELD SURVEY

Field Survey under WJH IWMP-VII in West Jaintia Hills District

Field Survey under WJH IWMP-VII in West Jaintia Hills District

Field Survey under WJH IWMP-VII in West Jaintia Hills District

Field Survey under WJH IWMP-VII in West Jaintia Hills District

PHOTOGRAPHS OF FIELD SURVEY

Field Survey under WGH IWMP-XI in West Garo Hills District

Field Survey under WGH IWMP-XI in West Garo Hills District

Field Survey under WGH IWMP-XI in West Garo Hills District

Field Survey under WGH IWMP-XI in West Garo Hills District

INTERESTING FACTS OBSERVED DURING FIELD SURVEY

1. EAST KHASI HILLS DISTRICT:

Two projects were covered for baseline survey under East Khasi Hills District. IWMP–XI of BATCH III included Mawphlang, Mawkynrew and Mawryngkneng C& RD Block. The villages selected for the survey were Rim Shylla as Upper Reach, Wah Mawlein as Middle Reach, Pepbah as Lower Reach and Sohryngkham as Control village.

Wah Mawlein under Lower Umjar project with 70 Households is one of the cleanest village in the project area. It has around **25 Community Dustbins** placed in the village road sides. The village has around **6 Public Toilets** constructed in different locations of the village area out of which 2 toilets are from the EPA structure of IWMP. Outside the Community hall of the village, a board is placed showing all records and benefits of various schemes which includes the amount received by the village from different Governmental and Non-governmental institutions. This is a good practise followed by the Village Headman in order to show transparency and smooth functioning of these schemes in the village.

PHOTO: GOOD PRACTICES OF THE DORBAR IN WAH MAWLIEN VILLAGE

Rim Shylla is a small and new village under Upper Umjar Micro Watershed, a total number of 32 households resides in the village out of which **15 of the households** are headed by women.

Sohryngkham is the village selected as Control village for the survey. It is a large village located in Mawryngkneng in East Khasi Hills district with total 1039 families residing. It is reputed to be the **largest village** in Asia, in terms of size and jurisdictional area. The Sohryngkham village has population of 5736 of which 2824 are males while 2912 are females as per Population Census 2011.

In Sohryngkham village, total nos. of children between the age group 0-6 is 1115. The village has higher literacy rate compared to Meghalaya. In 2011, literacy rate of Sohryngkham village was 84.44 % compared to 74.43 % of Meghalaya. In Sohryngkham, Male literacy stands at 82.31 % while female literacy rate was 86.50 %.

IWMP XIII of BATCH IV is another project selected for the base line survey. The villages selected are Wah Rymben as Upper Reach, Mawriang as Middle Reach, Umsyiem as Lower Reach and Nongshyrngan as the Control village. In most of these villages, villagers do not have their own agricultural land, they usually take lease from the landowners for their agricultural activities.

Common Measurements practised by local community are given below:

1 Mon = 40 kg. 1 Pun = 80 numbers. 1 Bhar = 32 numbers. 1 Thup = One pile of wood.

2. EAST JAINTIA HILLS DISTRICT:

IWMP I of BATCH V was selected for the base line survey. The villages selected are Saipung A as Upper Reach, Ngaibang as Middle Reach, Lura as Lower Reach and Bam Khosngi as Control village. These villages are about 60 km from Khliehriat, the District Headquarter, however the road condition to these villages is poor.

In Saipung village, majority of the people are Biate tribe. The **Biate people** are one of the oldest tribes of Mizoram, Assam and Meghalaya. Their language belongs to the Tibeto-Burman family. Though they are less in term of population, they have their own identity with rich, distinctive history, culture, dialect and religious heritages. They are also one of the oldest living tribes in North East India especially among the Chin-Kuki-Mizo family. They follow a Patrilineal system.

PHOTO: SAIPUNG VILLAGE

PHOTO: POOR ROAD CONDITION ON THE WAY TO SAIPUNG

Common Measurements practised by local community are given below:

1 Bhar = 64 Numbers. 1 Nong = 178.4 Meter². 1 Tin = 6 Nong. 1 Tin = 15 kg.

3. WEST JAINTIA HILLS DISTRICT:

IWMP VII of BATCH III- Rtiang village was selected as Upper Reach, Bear & Sarhen as Middle reach, Mukroh as Lower Reach and Laskein as Control village.

Some local measurements practised are given below:

1 Shari = 0.2 Hectare.

4. NORTH GARO HILLS DISTRICT:

IWMP IV of BATCH V was selected for the base line survey. The villages are Merongdik as upper Reach, Garo Thorkakona as Middle reach, Samkalak Songma as Lower Reach and Rapha Thorikakona as the Control village.

As compared to Khasi and Jaintia Hills, people in Garo Hills normally possess large homestead and agricultural land, however economic condition is relatively poor. In some parts of the plain areas, villages are prone to flood which causes damage to households, vegetations and fish ponds etc.

Common Measurements practised by local community are given below:

1 Bigha = 0.16 Hectare.

5. SOUTH WEST KHASI HILLS DISTRICT:

IWMP IV of BATCH was selected for the base line survey. Under this project, villages selected are Wahkaji as Upper reach, Mawthabah as Middle Reach, Langpa as Lower Reach and Mawkhlaitngap as Control village.

It has been observed that in most of the village under the projects, undesirable practices like cutting trees and burning them to produce charcoal (**wood carbonisation**) for livelihood is followed. Hence, work related to IWMP activities like Natural Resources Management including afforestation, conservation and regeneration of resources etc are affected. People can always look for better livelihood options. Most of the land areas in the project are found to be barren and uncultivable.

Road conditions to the project area are very poor with no proper mobile network and electricity.

PHOTO: DEFORESTATION IN SOUTH WEST KHASI HILLS

PHOTO: WOOD CARBONISATION IN SOUTH WEST KHASI HILLS

PHOTO: LIVELIHOOD ACTIVITY

6. RI BHOI DISTRICT:

The Base Line Survey of NEDFi started in Ri- Bhoi District, IWMP- VIII, BATCH –IV which falls under Umsning-Umling C& RD Block. The Villages selected for the survey was Plasha as Upper Reach, Kynton Phanram as Middle Reach, Umshit as Lower Reach and Himphala & Tomonpoanglong as Control village. These villages are approximately 27 km from Nongpoh, the District Headquarters. Most of the people in the surveyed area are from the **Mikir** Tribe. One can witness some of Mikir tribal community in different districts of the Assam valley. Apart from residing in different places of Assam, Mikir tribal community are found in other places of India like Meghalaya and Nagaland.

Common Measurements practised by local community are given below:

1 Kani = 1 Bag (60 kg).

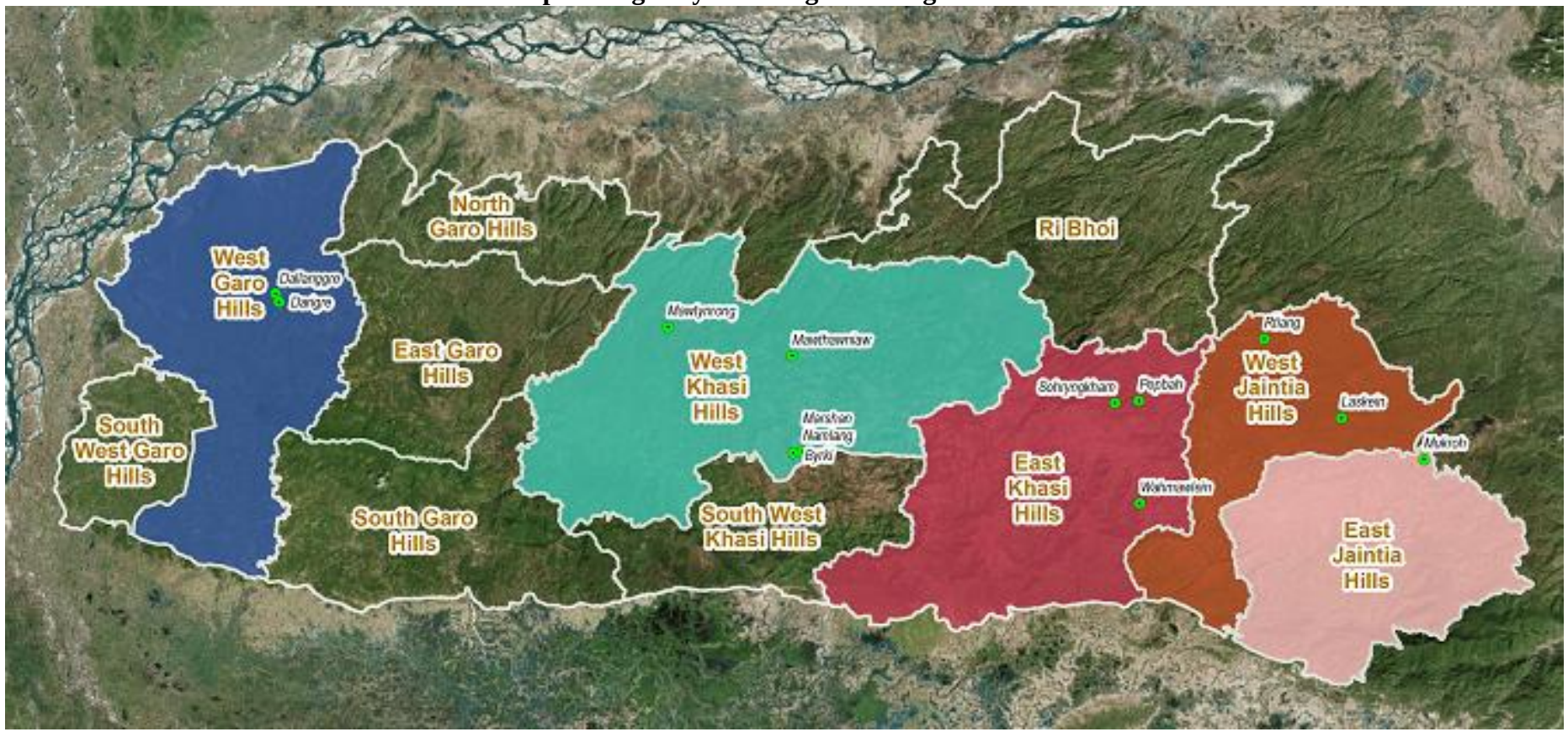
1 Dang = 35*35 Pruh (1 Pruh = 18 inch).

25 Dang = 1 Hectare.

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

LIST OF APPENDICES

Appendix-1
Map of Meghalaya showing the Village Locations



Appendix-2
Village Schedule

[Attached in the next few pages]

Integrated Watershed Management Programme
BASELINE STUDY & BENCHMARKING UNDER MEL&D

S-V

SURVEY SCHEDULE - VILLAGE

Note: Data is being collected through this Schedule as required for the above Government of India funded Integrated Watershed Management Programme, which is being implemented by the State Level Nodal Agency – IWMP (Meghalaya)

(A)	**VILLAGE DETAILS**	
	Name of Village:	Revenue Circle:
	IWMP Project / Watershed:	Development Block:
	Micro-watershed:	District:
(B)	**AREA & POPULATION DETAILS**	

Area

Area of Village: _____ Ha [1 Bigha = 0.13378 Hectare (Ha)]

Area as per Land Classification

Classification of Land	Area (Ha)	Remarks
Forest		Incl. private forests
Area under Non-Agricultural Use		Incl. all lands occupied by buildings, roads & railways or under water, e.g. rivers & canals and other lands put to uses other than agriculture
Barren and Un-culturable Land		Land which cannot be brought under cultivation except at an exorbitant cost
Permanent Pastures and other Grazing Lands		Incl. village common grazing land
Land under Miscellaneous Tree Crops, etc.		Incl. all cultivable land which is not included in 'Net area sown' but is put to some agricultural uses. Lands under *Casurina* trees, thatching grasses, bamboo bushes and other groves for fuel, etc. which are not included under 'Orchards'
Culturable Waste Land		Lands available for cultivation, whether not taken up for cultivation or taken up for cultivation once but not cultivated during the current year and the last five years or more in succession for one reason or other.
Fallow Lands other than Current Fallows		includes all lands, which were taken up for cultivation but are temporarily out of cultivation for a period of not less than one year and not more than five years
Current Fallows:		This represents cropped area, which are kept fallow during the current year
Net area Sown		This represents the total area sown with crops and orchards

No. of Water Bodies _____ Area under Water bodies _____ (Ha)

Area under Marshes / Seasonal Swamps: _____ (Ha)

Area susceptible to erosion _____ (Ha)

Households & Population

Households

Scheduled Caste	Scheduled Tribe	Other Backward Class	General	TOTAL

Households (Continued)

No. of Landless Households (Households without Farm Land):

No. of Households without Adult male members:

No. of Households with BPL Cards:

Main Avenues of Employment

(a)

(b)

(c)

(d)

Population of Village

Male	Female	Total	Children (0-6)	No. of persons migrated [Past Five Years]	
				Permanently	Seasonally

(C) PROVISION OF AMENITIES

1. Does the village have the following amenities:
   (a) Electricity Supply: Yes / No [If 'Yes', Nos. of Electrified Households _____]
   (b) Rural Piped Water Supply : Yes / No [If 'Yes', Nos. of Households Connected _____]
   (c) Black-topped Access Road: Yes / No [If 'No', is village connected by metalled road? Yes / No]
   (d) Lower Primary School: Yes / No [If 'No', distance to nearest Lower Primary School ____ km]
   (e) Anganwadi Kendra: Yes / No: If 'Yes', please mention the number ____
2. Distance in Km to nearest

Post Office	Bank	Community Hospital (30 bedded)	High School	College	Veterinary Centre	Daily Bazar	Weekly Bazar

3. Main Sources of Drinking Water: _____
4. Main Sources of Fuel for Cooking: _____
5. Main Sources of Fodder for Cattle _____

(D) COMMON PROPERTY RESOURCES

Details of Common Property Resources [Please use separate sheet if necessary]

Particulars	Nature of Right	Months Used in the Year	Nos. of HH Benefitted	User Charges
Grazing Reserve / Ground				
Water bodies				
Forest (source of NTFP)				
Other				

(E) SOIL, WATER & VEGETATION RELATED

1. Depth of Water Table (metres below ground level)

Month →	February-March	June-July	September - October
Depth (metres below ground level) →			

2. Observed instances of Soil Erosion/ Landslide
   a.

b.
c.
d.

3. Details of Areas under Forest / Groves in Village (in Ha, Type of Forest / Grove etc.)

4. Average Annual Rainfall _____ (in mm) Any Change in Rainfall Pattern in last 3-5 years_____
5. Water Availability in the Streams – (i) Perennial (ii) Seasonal - Up to which Month.._____
6. Floods: YES / NO. If 'Yes'
   Duration _____ Frequency _____ per year and Extent of Damage_____.
7. Period of shortage of Water, if any _____
8. Reasons for Crop Failure if any._____.
9. Soil Organic Carbon _____
10. Any other point about Soil & Water Resources:

(F) VILLAGE LEVEL INSTITUTIONS (NON-POLITICAL / NON-RELIGIOUS)

Details of Village Level Institutions (excludes Political & Religious Institutions)

Name of Institution	Year of Formation	No. of Members	Main Activities

(G) DETAILS OF VILLAGE MICRO-ENTERPRISES (INCL. SELF HELP GROUPS)

As follows.

Type	Number of Units

(H) DETAILS OF GOVERNMENT SCHEMES

Details of Government Schemes implemented / on-going in the village (Last 5 Years)

Name of Scheme	Department	Year Started & Finished	Nos. of HH Benefited

Signature of Respondent
Name:
Designation:
Mobile No:

Signature of Data Collector
Name:

Appendix-3

Household Schedule

[Attached in the next few pages]

Integrated Watershed Management Programme
BASELINE STUDY & BENCHMARKING UNDER MEL&D

S-H

SURVEY SCHEDULE - HOUSEHOLD

Note: Data is being collected through this Schedule as required for the above Government of India funded Integrated Watershed Management Programme, which is being implemented by the State Level Nodal Agency – IWMP (Meghalaya)

(A)	**LOCATION**	
	1. Name of IWMP Project:	2. Name of Watershed:
	3. Micro-watershed:	4. Village:
	5. Hamlet/Locality:	7 Revenue Circle: 8. Block: 9. District:
	6. Position of Habitation in the Watershed: Upper Reach / Middle Reach / Lower Reach	

(B)	**HOUSEHOLD & LAND DETAILS**	
	1. Name of Respondent:	
	2. Relationship to Head of Household:	3. Social Category: SC/ST/OBC/GEN

4. Details of Household Members including Respondent (Head of Household to be listed first)

Name	Age	Male / Female	Education	Occupation		Whether member of SHG / UG/ Village Dorbar
				Primary	Secondary	

If the above table is insufficient, details of additional members may recorded separately using the above format

5. Details of Land & Operational Holdings

Homestead Land: _____ (in Ha) [1 Bigha = 0.13378 Hectare (Ha)]

Operational Holdings

Classification	Owned + Utilized by Self		Other Utilized		Total Area (in Ha)
	No. of Plots	Area (in Ha)	No. of Plots	Area (in Ha)	
Cropped					
(i) Irrigated					
(ii) Non-Irrigated					
Fallow Land					
Other					

Leased Out Land Area (in Ha): _____

Distribution of Land & Operational Holdings in Micro-watershed [All figures in Ha]

	Upper Reach	Middle Reach	Lower Reach	Total
Owned + Self Utilized				
Other Utilized				
Leased out				

6. Soil Health

Has your soil ever been tested (Y/N)	Name of Soil Testing Agency	Cost of Soil Testing (Rs.)	Status of Organic Carbon

(C) IRRIGATION

1. Irrigated Area & Sources (Area in Ha)

Season	UPPER REACH		MIDDLE REACH		LOWER REACH		Total Irrigated Area
	Area	Source	Area	Source	Area	Source	
PRE-KHARIF							
KHARIF							
RABI							

2. Information on Irrigation Sources – Number of Sources

Source of Irrigation	Nature of Source	No. of Sources		
		UPPER REACH (UR)	MIDDLE REACH (MR)	LOWER REACH (LR)
Well (incl. Shallow Tube Well)	Perennial			
	Seasonal			
Pond	Perennial			
	Seasonal			
River	Perennial			
	Seasonal			
Spring	Perennial			
	Seasonal			
Other Specify: _____	Perennial			
	Seasonal			

3. Water Availability (For **Seasonal Sources** ONLY)

Source of Irrigation	Water Availability in the Indicated Month ('YES' where applicable)								
	February-March			June-July			September-October		
	UR	MR	LR	UR	MR	LR	UR	MR	LR
Well (incl. Shallow Tube Well)									
Pond									
River									
Spring									
Other [Specify: _____]									

(D) DRINKING WATER

1. Information about Drinking Water Sources [Months of Scarcity _____]

Month	Source(s) of Water	Distance from Residence (metres)	Time Spent in Fetching Water (min)
February-March			
June-July			
September-October			

(E) COOKING FUEL

Source of Cooking Fuel

Type	Source	Distance from Home (km)	Purchased / Collected	Quantity Used per Month	Rate (in Rs.) per Unit
Firewood					
Dried Cow dung					
Other Biomass					
Kerosene					
LPG					
Other _____					

(F) CROPS GROWN

Details of Crops, Production & Income [Income is the Income per crop per year after harvest net of all Expenses]

(A) Under Irrigated Conditions

Crop	Growing Season		Area (Ha)	Area under HYV (Ha)	Avg.. Yield (Kg / Ha)	Income (Rs. / Ha)
	From	To				

(B) Under Non-Irrigated Conditions

Crop	Growing Season		Area (Ha)	Area under HYV (Ha)	Avg.. Yield (Kg / Ha)	Income (Rs. / Ha)
	From	To				

If the above table is insufficient, details of additional crops may be recorded separately using the above format

(G) ORCHARD, PLANTATION CROPS & AGRO-FORESTRY

Details of Fruit & Nut bearing Trees [Income is the Annual Income net of all Expenses]

Type of Plant	Area Covered (in Ha)	No. of Trees	Year Started	Output (with Unit)	Income (Rs.)

(H) LIVESTOCK

Details of Ownership of Livestock [Income is the Annual Income net of all Expenses, Unit of Output to be given]

Particulars	Nos. Owned	Output (Milk/Wool/Meat/Egg)	Income (Rs.)
Cattle			
Buffaloes			
Goats			
Pigs			
Poultry			
Others			

(I) FISHERY

Details of Fishery Operations [Income is the Annual Income net of all Expenses]

Area under Fishery _____ (Ha)

Type of Water Body & Size	Types of Fish	Period of Culture		Output (Kg)	Income (Rs.)
		From	To		

(J) NON TIMBER FOREST PRODUCT (NTFP)

NTFP Output

Type of NTFP	Quantity Collected	Quantity Sold	Income from Sale (Rs.)

(K) WAGE LABOUR

Receipts from Wage Labour

Source	**Days worked / Year**	**Main Months of Work**	**Rate (Rs. / Day)**	**Amount Received (Rs.)**

(L) MIGRATION

1. Any member of the household migrated outside? Yes / No (Pls. omit Married Persons Shifted)
   If Yes: please answer the following questions (2-9)
2. Nos. of Members Migrated: Male _____ Female _____
3. Nos. permanently Migrated: Male _____ Female _____
4. Reasons for Migration: Work (Pls. specify work done _____) / Study / Other _____
5. Destination(s):
6. Is migration seasonal or permanent:
7. In case seasonal, then the months of stay outside the household per year _____
8. Does the household receive any payment from the migrated persons? Yes / No
9. If 'Yes' to (8), then the amount received: Rs. _____ per year
10. Any members planning to migrate? Yes / No
11. If 'Yes' to (10) details:
    Nos. intending to migrate:
    Reasons: Unemployment[ ] Food Shortage[ ] Water Scarcity [ ] Security / Safety [ ]Education [ ]

(M) INCOME

Sources & Quantum

Source	Income Received (Yes / No)	(If Yes) Income Per Year (Rs.)
Agriculture Crops		
Orchard / Plantation Crops		
Livestock		
Fishery		
Non Timber Forest Produce		
Wage Labour		
Remittance from Migration		
Other (1) _____		
(2) _____		
(3) _____		

(N) ASSETS

Possession of Assets by Type

1. **House** Yes / No –
   If (1) is 'Yes', please answer (2-4)
2. **Type of House**: Kutcha / Semi Pucca / Pucca
3. **Sanitary Toilet:** Yes / No
4. **(a) Electric Connection to House:** Yes / No **(b) Availability of Solar Devices for Light:** Yes / No
5. **Radio**: Yes / No
6. **Television**: Yes / No
7. **Mobile Connection**: Yes / No [If 'Yes', no. of active connections in the household_____]
8. **Bicycle:** Yes / No
9. **Two Wheeler**: Yes / No
10. **Other Vehicle**: Yes / No [If 'Yes', pls. specify type(s) _____]

(O) GOVERNMENT ENTITLEMENTS

1. Have you/ your household got NREGS Job Card? Yes / No
2. If 'Yes', no. of days worked _____ no. of days paid for _____
3. Ration Card: Yes / No
4. If 'Yes'; items purchased regularly & Quantity per year
   a. _____
   b. _____
   c. _____
5. BPL Card: Yes / No
6. Any other Govt. facility: Yes / No
7. If 'Yes' to (6), details _____

(P) SAVING & CREDIT

Saving

1. Amount Saved: Rs. _____
2. Where Saved: Bank _____ / Post Office / SHG _____ / Other _____

Credit

1. Amount Borrowed: Rs. _____ Interest Rate _____ per annum
2. Where taken: Bank _____ / Micro-Finance _____/ SHG _____ / Other [Pls. indicate source _____ _____]

(Q) SOCIAL CAPITAL

Participation in the following

Type of Organization	Yes / No	If 'Yes', details
Self Help Group		
User Group		
Farmer Producer Institution		
Any other Organization (non-political)		

Self Sufficiency

Particulars	Round the year	9-11 months	6-9 months	3-6 months	Below 3 months
Food					
Fodder					
Fuel					
Drinking water					
Employment					

(R) ACCESS TO SERVICES [under 'Where Provided': '0' for 'within village'; '1' for 'within 5 km'; '2' for 'more than 5 km]

Do you / your household have access to the following services:

Service	Yes / No	If 'Yes'		
		Who Provides	Where Provided	Frequency of Use
AGRICULTURAL EXTENSION SERVICES				
EDUCATION				
HEALTH				
VETERINARY SERVICES				
• Health Camp				
• Artificial Insemination Services				
CREDIT FACILITY				
FARM INPUTS				
• HYV Seeds				
• Fertilizers				
• Pesticides				
• Weedicides				
• Diesel				
MARKET FOR FARM PRODUCE	Yes/No	Where Sold	Location of Market	Remark when Sold
• Crops				
• Orchard Output				
• Livestock				
• Fishery				
• Non Timber Forest Produce (NTFP)				

Service	Yes / No	If 'Yes'		
		Who Provides	Where Provided	Frequency of Use
MOBILE CONNECTIVITY				
ATM & BANK				
WORKSHOP FOR MACHINERY / VEHICLES				

(S) OTHER QUESTIONS

1. Has your household used new technology for farming? Yes / No. If 'Yes' please answer (2) - (4), else go to (5)
2. Who provided the technology?
3. Did they demonstrate the technology in the village or nearby? Yes / No
4. Did it help your household to earn more?
5. Does your household practice:
   Integrated Nutrient Management (INM)
   Integrated Pest Management (IPM)
   Integrated Disease Management (IDM)
6. Are you aware of climate change? Yes / No. If 'Yes', please tell us what it means _____
   _____
7. Have you or any of your household members received any training? Yes / No
8. If 'Yes', details _____
   _____
9. Have you or household members gone for any exposure visits (on improved farming practices)? Yes / No
   If 'Yes', places visited and under whom:
   (a)
   (b)
   (c)
10. Use of machinery (own or hired) & type (like Tractor, Power Tiller, Combine, Rotavator, Shallow Tube Well etc.):
    Land Preparation
    Irrigation of Crop
    Harvesting
    Threshing of Crop
11. Do you carry out stall-feeding of livestock? Yes / No
12. If 'Yes', details like quantity of fodder used, nos. and types of animals fed etc.:
    (a)
    (b)
13. Do you undertake fodder cultivation? Yes / No [If 'No', sources of fodder _____]
14. If 'Yes':
    Type of Fodder Cultivated & Area under Cultivation (in Ha)
    Fodder obtained (Kg/Year) _____
    Fodder sold, if any (Kg/Year) _____ Income received: Rs./Year. _____

(T) INCOME & EXPENDITURE

Annual Household Income (in Rs.)

Primary Source	Secondary Source

Monthly Expenditure (in Rs.)

Signature of Respondent
Mobile No:

Signature of Data Collector
Name: