IMPACT OF BAREFOOT TECHNICIANS' TRAINING PROGRAMME CONDUCTED BY KILA

AUGUST 2019

Submitted to
Kerala Institute of Local Administration
Thrissur

CSES
Centre for Socio-economic & Environmental Studies (CSES)

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INTRODUCTION

CHAPTER I

1.1 Background

Kerala Institute of Local Administration (KILA), an autonomous training, research and consultancy organisation constituted under the Department of Local Self Government, Government of Kerala has the mandate of strengthening decentralisation and local governance. As part of its training initiatives, KILA provided training to educated persons from rural areas to function as Barefoot Technicians (BFT) under the Mahatma Gandhi Rural Employment Scheme (MGNREGS). The trained personnel were engaged in selected Grama Panchayats in the implementation of MGNREGS to fill the shortage of trained technical personnel in planning, doing layout, measuring and supervising MGNREGS works. KILA decided to assess the impact of the Barefoot Technicians' Training Programme and entrusted the task of conducting the study with the Centre for Socio-economic & Environmental Studies (CSES). This report presents the findings of the study.

1.2 Technical Aspects of MGNREGS Implementation at Grassroot Level

The technical aspects of the MGNREGS works is coordinated by the Accredited engineer and/or overseer. Once the works are identified, prioritized and recommended by the Grama Sabha, the engineer/overseer has to prepare the estimates for the works and get them approved by the authorities concerned. Panchayats have hundreds of small projects to be taken up in their Annual Action Plans. The technical works included - identifying the work as per the requirements specific to the GP, estimating each work done under the GP, monitoring the work, ensuring the quality of work, maintaining registers and documents of the technical works, updating the work progress for processing

wages for the workers, etc. The quantum of work under MGNREGS in some of the GPs was more than what can be handled by the accredited engineer/overseer. To support him/her, BFT is appointed on contract basis in such GPs.

1.3 About Barefoot Technicians

Government of India identified the shortage of technical staff as a critical factor adversely affecting the implementation of MGNREGS in many districts/blocks in the country. To overcome this, it was decided, at the national level, to train persons from the local community who have passed 10th class and who were part of MGNREGS works by virtue of having a job card or having a family member with job card. Those who underwent the training and passed the post training test were deployed in the identified Grama Panchayats (GPs) to assist in technical works. The persons who get certified to do technical work through the training programme are known as Barefoot Technicians (BFT). According to the guidelines of the Government of India, functional specifications of the job of a BFT are as given below:

- Identify scope and nature of work.
- Assist Technical Assistant/Junior Engineer in planning and preparation of estimate.
- Giving mark out/ layouts before commencement of work.
- Day to day supervision of work taken up under MGNREGS to ensure quality and logical closure of works.
- Taking measurements of work done by labourers and record in measurement book.
- Upkeep of technical records of MGNREGS at Grama Panchayat level.
- Identification of works to be taken up.
- Collection of baseline information (land use, ownership).
- Make presentation to Grama Sabha for approval.

- Assist Technical Assistant (TA)/Junior Engineer (JE) in carrying out survey.

BFTs are expected to perform these functions under the supervision and guidance of qualified technical assistant/junior engineer/assistant engineer. BFT shall guide mate/mason in executing works under MGNREGS.

1.4 About the Training Programme

The Barefoot Technicians' Training Programme was developed at the national level to meet the shortage of technicians in rural areas to support the implementation of MGNREGS. In 2014, International Labour Organization identified the need for more personnel for such support and suggested building the capacity of rural youth through a three-month training programme. A Technical Team constituted by the Ministry of Rural Development (MoRD) developed the training module for MGNREGS Barefoot Technicians. National Institute of Rural Development (NIRD) provided training of trainers and was entrusted to monitor the training programmes conducted by the state level agencies. Agricultural Skill Council of India (ASCI) conducted the post training test and certification of the BFTs. At the state level, training was to be carried out by the State Institutes of Rural Development (SIRDs). The trainers were selected by the SIRD. Ten days training was provided to the trainers at NIRD. A direction was issued to all state governments to engage only those who participated in the NIRD training as trainers in the BFT training programme.

In Kerala, the first two batches of the training programme were organised by the State Institute of Rural Development (SIRD) located at Kottarakkara, which was later merged with the Kerala Institute of Local Administration (KILA) and was renamed as KILA Centre for Human Resource Development (KILA-CHRD). The training for the first batch was at Kottarakkara and the subsequent batches were trained at KILA Centre for Tribal Development and Natural Resource Management (CTDNRM) at Agali, Attapady, and Palakkad District. However,

the structure and content of the training programme did not undergo much changes.

According to the programme documents, at the end of the programme, the participants were expected to deliver basic technical services at the village level. The training programme aimed to develop the capacity of the participants in the following areas:

- List the roles and responsibilities
- Understand the specifications of low-end works taken up under MGNREGS
- Learn about the parameters involved in rural infrastructure activities
- Demonstrate the skills of identification, setting and layout of low end MGNREGS works
- Analyse measurements and prepare work proposal, rough drawing, maps and sketches
- Demonstrate the skills of coordination with Grama Sabha and technical team
- Demonstrate the skills of handling teams
- Learn and apply learnings of ICT at work
- Apply organizing, decision making and problem solving skills

The training, organised for three months with 75 training days, employed a participatory approach. Five batches of training were organized in the state. Total number of persons enrolled in the programme was 159 and the number of persons who successfully completed the programme was 149. Batch-wise details of the number of persons trained under the programme is given in Table 1.1.

Table 1.1: Number of Persons who successfully completed the BFT Training Programme

Batch	Number of persons enrolled	Number of persons who successfully completed the training
Batch 1	32	32
Batch 2	30	25
Batch 3	33	31
Batch 4	34	32
Batch 5	30	29
Total	**159**	**149**

Source: Kerala Institute of Local Administration (KILA)

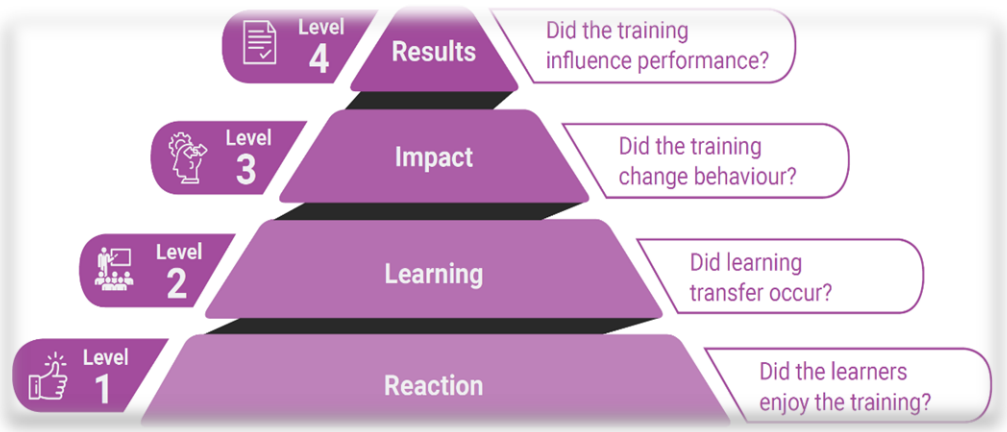
1.5 Objective of the Study

The broad objective of the study is to assess the impact of Barefoot Technicians' training programme conducted by KILA on the persons trained to undertake the tasks such as planning, doing layout, measuring and supervising works under MGNREGS.

1.6 Methodology

To assess the impact of the training programme, the study employed the impact evaluation model propounded by Donald Kirkpatrick. Kirkpatrick's model takes into account the impact of the training along four dimensions:

Illustration 1 - Kirkpatrick's Model of Evaluation of Impact of Training



1. Reaction – How did the respondents react to the training programme? This is more like the immediate impression the trainees have on the training, like a smile sheet on the training.
2. Learning – What impact did the training have on the learning of the respondents?
3. Behaviour – What impact did the training have on the behaviour of the respondents? This is to understand whether the trainees were able to apply what they have learned from their training in their work.
4. Results – Did the training programme bring about the intended outcomes

The methodology involved collecting data from different stakeholders such trainees, trainers, training programme coordinators, staff of KILA and engineers and overseers in GPs and Block Panchayats. In order to accomplish the objective, the study had the following components.

1.6.1 Review of Programme Documents

The objective was to review documents and materials to understand the capacity development objectives, identify indicators as well as outcomes and outputs expected from the capacity development programme. The changes which were expected and the nature of evidence available to assess these outcomes etc. were explored at this stage.

1.6.2 Depth Interviews with Officials of KILA, Trainers and Accredited Engineers

Depth interviews were conducted with officials of KILA who were involved in the Barefoot Technician training programme to understand the process, constraints in capacity development, success and failure factors. The trainers engaged by KILA were also interviewed. The Accredited Engineers/overseers at the Block and Grama Panchayats who are responsible for supervising the activities of the BFTs were also interviewed to get a feedback on their performance and also to assess the functional impact. Five resource

persons/trainers and 50 accredited engineers/overseers (supervising officers of BFTs) were interviewed to elicit their perceptions and opinions on the training programme, training methodology, extent of work allotted to BFT, level of support received from the BFT etc.

1.6.3 Sample Survey of Participants of the Training Programme

An important component of the assignment was to obtain feedback from the participants of the training programme. The respondents were asked to give their feedback on different aspects such as relevance, quality, adequacy, appropriateness of training methodology etc. Questions relating to the impact of various inputs on the trainees were asked. Another aspect considered in these interviews was the capacity needs which remained unfulfilled and what could be done to improve the impact from such initiatives. Survey was carried out among a sample of the participants who had successfully completed the training programme. As per the programme documents, 149 persons had completed the programme successfully. Interviews were done with one-third of such participants. Therefore, the total sample size for the survey of trainees was 50. The respondents were selected on the basis of a systematic sampling procedure using the list of persons who had successfully completed the training programme. Systematic sampling involved a random start and then proceeding with the selection of every k^{th} element.

1.6.4 Research Instruments

The following research instruments were made use of for the study:

1. Questionnaire for interviews with participants
2. Checklists for Depth Interviews with trainers/officials of KILA
3. Questionnaire for Accredited engineers/overseers

1.6.5 Field Work

Prior to the fieldwork, a two-day intensive training programme was conducted to sensitize the investigators and supervisors about the capacity building

programme and anticipated problems in data collection. The training programme was aimed at aiding the investigators in completing the schedules with precision and reliability. The training programme included a field-testing of the research instrument in real life setting by the investigators. The field trials helped in reducing the biases and minimizing the possibilities of errors in filling up the schedules.

1.7 Profile of the Respondents

The socio-economic profile of the trainees in the sample are presented in Table 1.2. Majority of the trainees were women. As per the guidelines of the Ministry of Rural Development, priority was to be given for people from SC/ST in the selection of BFTs. Nearly half of the trainees in the sample belonged to SC/ST communities. Half of the respondents were aged below 35 years. Even though a pass in Class X was the educational qualification required to become a BFT, large majority had education at the higher secondary level or above. Of the 50 trainees in the sample, eight had technical qualifications such as Diploma or ITI and 13 had completed graduation.

Table 1.2: Socio-economic profile of the trainees in the sample

Characteristic	Number of respondents	Percent of respondents
Gender		
Female	38	76
Male	12	24
Community		
SC	10	20
ST	14	28
OBC/OEC	9	18
General	17	34
Age Distribution		
21-25	4	8
26-35	22	44
36-45	17	34
Above 45	7	14
Education Qualification		
SSLC	6	12
Higher Secondary	23	46
ITI/Diploma	8	16
Graduation or above	13	26

Base=50
Source: Primary Survey

1.8 Limitations of the Study

The training programme was conducted in five batches during the period from 2016 to 2018. Thus, the feedback of the programme has been elicited 1-3 years after the respondents attended the training programme. Therefore, the respondents had to recall from their memories, aspects related to the training which they underwent a few years back. This might have affected the quality of the feedback to some extent, especially the reaction component of the impact assessment.

1.9 Structure of the Report

This report is divided into three chapters. This introductory chapter provides a description of the objectives, methodology and limitations of the study. Chapter II presents the findings of the study. Chapter III presents the conclusions and recommendations emerged from the study.

FINDINGS OF THE STUDY

CHAPTER II

2.1 Introduction

This chapter presents the findings of this impact assessment study on the BFT Training Programme conducted by KILA. As noted in Chapter I, the training was conducted in five batches during the period 2016-2018 using a training module prepared at the national level. Altogether 149 trainees from the rural areas of Kerala successfully completed the training programme. Of them, a sample of 50 trainees who were later employed as BFTs under MGNREGS were interviewed as part of the study. In addition, the trainers, Accredited Engineers/overseers under whose supervision the BFTs are working also interviewed.

As mentioned earlier, this impact assessment study followed Kirkpatrick's model of training evaluation (Donald Kirkpatrick, 1959, 1975 and 1993). Kirkpatrick's four levels are designed as a sequence of ways to evaluate training programmes. The four levels are Reaction, Learning, Behaviour and Results. We looked at each level in greater detail and explored the possibilities of improvements in the training. The impact of the training programme has been analysed on the basis of the training objectives.

Level 1: Reaction: The degree to which participants find the training environment favourable, engaging and relevant to their jobs.

Level 2: Learning: The degree to which participants acquire the intended knowledge, skills, attitude, confidence and commitment based on their participation in the training.

Level 3: Behaviour: The degree to which participants apply what they learned during training when they work as BFT.

Level 4: Results: The degree to which targeted outcomes occur as a result of the training.

2.2 Reaction

This section examines the "reaction" of the participants of the training programme on the training environment. It may be noted that the responses of the trainees are usually gathered immediately after completing the training to gauge their reaction. In the present case, it is gathered 1-3 years after the completion of the course. However, it is hoped that the overall perceptions of the trainees about the training programme might not have changed much during this period. Obviously, the reaction component of training impact is more of a hygiene factor, i.e. scoring high on the reaction does not guarantee learning, but scoring low on reaction can weaken the motivation of a trainee to learn and apply it in practice, thus impacting the very purpose of the training. The reaction of the trainees has been gathered on different aspects of the training environment using a five-point scale. The following aspects were considered:

- Trainers
- Training materials
- Time spent on different aspects
- Physical Infrastructure and facilities

2.2.1 Feedback on Trainers

The trained BFTs were asked to rate their opinion on the following aspects pertaining to the trainer:

- Trainer's knowledge
- Language used by the trainers
- Level of engagement with the trainees
- Ability to clarify the doubts raised by the trainees
- Experience sharing, team building and practical sessions

The feedback of the trainees was gauged using a five-point scale with a score of 1 corresponding to Very Poor, 2 – Poor, 3 – Fair, 4 – Good and 5 – Excellent. The minimum, maximum and mean scores on different aspects is presented in Table 2.1.

Table 2.1 Perception of Trainees regarding Trainers

Aspects	Minimum	Maximum	Mean
Trainer's Knowledge of the subject	4	5	4.58
Simplicity of language used	4	5	4.56
Engagement with participants	3	5	4.58
Trainer's ability to clarify the doubts asked by the trainees.	4	5	4.62
Experience Sharing	2	5	4.46

Source: Primary Survey

Most of the trainees were praising trainers for their dedicated work. Overall, the average rating on different aspects except experience sharing was more than 4.5. This indicates that the trainers' knowledge, engagement with participants, ability to communicate with the trainees and in clearing their doubts were considered to be close to 'excellent' by the trainees. Majority of the participants said that the trainers contributed their best. Even in the rating on experience sharing, the rating was close to 4.5. One of the reasons for slightly lower rating on experience sharing was evident from the response of one of the trainees.

> *"Some of the trainers were experienced in technical aspects but their exposure to MGNREGS field experiences was low. Hence, they couldn't share any experience they have with the MGNREGS works. As a BFT, I think we needed trainers who can share their experience with MGNREGS works also."*

2.2.2 Feedback on Learning Materials and Tool Kit

Ten Textbooks and one handbook were provided to the trainees which explain about different aspects of their work. The learning materials were developed at

the national level. Only English version of the materials were available. The details of the learning materials are given below.

1 Construction Measurements and Calculations
2 Maps, Sketches and Drawing
3 Construction Technology and Building Materials
4 Survey and Setting out Construction Works
5 Preparation of Basic Estimates, Bill of Quantities, Schedule of Rates and Measurement Book
6 MGNREGS- Key Features
7 Permissible Works under MGNREGS
8 Construction of Rural Roads
9 MGNREGS- Documents, Forms and Registers
10 MGNREGS-ICT and MIS
11 BFT Handbook: Ready Reckoner for Barefoot Technicians

Since the training was on technical aspects, the trainees were additionally provided with a tool kit to facilitate hands on experience. The tool kit contained A- Frame, Abney level, Hydro marker and Line-level, Trowel, calculator, and Tape.

The BFTs were asked to rate on the structure, language, case studies, presentation of calculations and measurement in the learning materials. The respondents rated these aspects on a five-point scale, with a score of 1 corresponding to Very Poor, 2 – Poor, 3 – Fair, 4 – Good and 5 – Excellent.

Table. 2.2 Rating on Learning materials by BFTs

Features of the text books/ hand book	Rating done by respondents		
	Minimum	**Maximum**	**Mean**
Structure	3	5	4.16
Language	1	5	3.64
Presentation of Calculations	2	5	4.00
Presentation of Measurement	2	5	4.08
Quality of the Tool Kit	3	5	4.40

Source: Primary Survey

The participants' rating on structure of the training programme and presentation of calculations and measurements hovered around 4 indicating that the materials were good but not excellent. The rating on the language of the learning materials was much lower at 3.64. Overall, it is clear that the respondents were not as much satisfied with the training materials as they are with the trainers. The main issue with the training material is that it is not available in the local language viz., Malayalam. The minimum educational qualification required to become a BFT is a pass at Class X level. The language of the learning materials (English) acted as a major barrier for the trainees with low educational background. The failure of the training institution to provide learning materials in Malayalam has affected the effectiveness of the programme to some extent.

One of the respondents said: *"I used to have doubts regarding the work, but the books were not useful for me as a reference material since I couldn't follow them properly as it is in English"*. Many other BFTs also shared similar views. Another BFT said,

"I can understand English language and since I have a civil engineering diploma, it is easy for me to understand the learning materials. But as the minimum qualification for BFT is kept as 10th std pass, it was necessary to have a translated textbook".

One of the trainers pointed out that "*the translation of all the learning materials was completed. But, unfortunately, for some reason the organizers couldn't print it"*. A former coordinator of the training programme at SIRD recalled that the "*trainers had informed the SIRD that they had translated the textbooks and handbook. But we couldn't print them mainly because funds were not earmarked for the same"*. It was also pointed out that the NIRD or the Ministry of Rural Development did not give any direction for translating the materials prepared at the national level to the local language.

The trainees were generally satisfied with the tool kit provided to them. The average rating on the quality of the tool kit was 4.4. However, a few of them complained about the poor quality of the tool kit. The grievances were more about the calculator that they received as part of the tool kit. Some of them

complained that the calculator was not working or got damaged during the training. They complained that it was not replaced with good ones. A few others mentioned that the size of the calculator was too small to use. Some of them commented that the instrument box provided was too small.

2.2.3 Feedback on Time Spent on Different Aspects

As noted earlier, the BFT training programme was conceived at the national level and executed at the state level. Before examining the feedback of the trainees on the time allocated for different aspects, the time allocated for different sessions and what each session deals with as per the training schedule of the MoRD is examined.

The time allocated for theory and practical sessions to cover different aspects as per the training schedule is presented in Table 2.3. The classroom sessions included Question Based Discussion (QBD), Instructor Led Discussions (ILD), Exercises, Videos and activities. Practical sessions were of three types viz., Practice to Perfect, Field Visits and Campus exercise. These practical sessions were based on methods like - QBD, exercises, Role plays, Drills, Practice and Buddy-up. On Job Training (OJT) was also given for three days to identify and fill knowledge gaps through practical sessions.

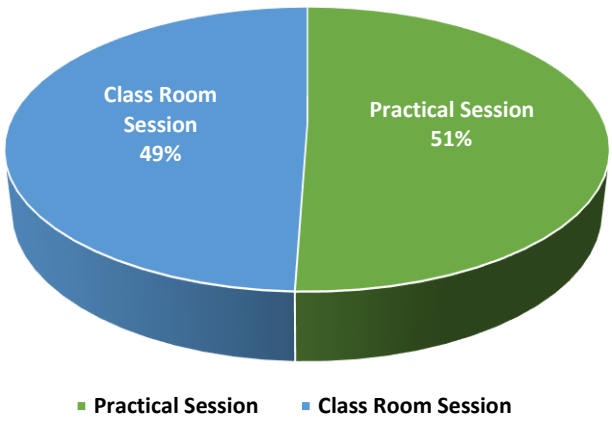
As per the training schedule, one-third of the time has to be spent on key features of MGNREGS and permissible works under the scheme. Eleven percent of the time was allocated for recap and summarising the training content which was done in the last few days of the programme. The remaining sessions were to be used for technical aspects of the job. Training schedule gave almost equal importance for classroom sessions and practical sessions (Figure 2.1).

Table 2.3: Timing of the Sessions as per Training Schedule

Sessions	Time taken for Practical Session (in hour)	Time taken for classroom session (in hour)	Total Time taken	Percentage of time consumed for the session
Introduction	0	12 hrs 15 mts	12 hrs 15 mts	02.6
Construction Measurement and Calculation	30 hrs	07 hrs 30 mts	37 hrs 30 mts	08.1
Maps, Sketches and Drawing	06 hrs	07 hrs 30 mts	13 hrs 30 mts	02.9
Construction Materials and Technologies	07 hrs 45 mts	15 hrs 15 mts	23 hrs	05.0
Basic Survey and Setting out	10 hrs 15 mts	06 hrs 15 mts	16 hrs 30 mts	03.6
Basic Estimate BoQ and SoQ	10 hrs 30 mts	08 hrs 30 mts	19 hrs	04.1
Key Features of MGNREGA	29 hrs	24 hrs 30 mts	53 hrs 30 mts	11.4
MGNREGA Permissible work	48 hrs 30 mts	44 hrs	92 hrs 30 mts	20.0
Construction of rural roads	08 hrs 30 mts	05 hrs 30 mts	14 hrs	03.0
Forms and Documents	23 hrs 30 mts	16 hrs 30 mts	40 hrs	08.7
Soft skill (DAY)	10 hrs 45 mts	17 hrs	27 hrs 45 mts	06.0
Computer Application	0	37 hrs 30 mts	37 hrs 30 mts	08.1
Overall Work Field Visit	06 hrs 24 mts		06 hrs 24 mts	01.4
OJT	15 hrs		15 hrs	03.2
Recap			24 hrs 30 mts	05.3
Summarize			30 hrs 15 mts	06.6
Total	206 hrs 9 mts	202 hrs 15 mts	463 hrs 9 mts	100.0

Source: Primary Survey

Figure 2.1: Time Allotment for Theory and Practical Sessions



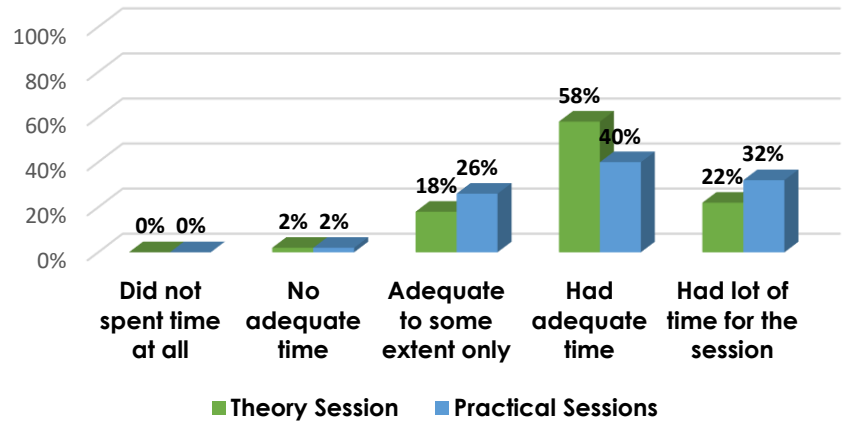
Source: Primary Survey

Training coordinators said that they could successfully coordinate each training programme in such a way that all the portions in the module got covered. The trainees, however, pointed out that there were some differences in the actual time spent on different sessions in the training programme they attended. Most of the BFTs responded that they got adequate time for both classroom and practical sessions, while some of them said that the training sessions included more desk sessions than field practices. They said that it helped to get more marks in theory examination during post training evaluation. But they felt that the lesser time devoted to practical sessions compared to theory classes adversely affected their performance when they were deployed on the field, post training.

Most of the BFTs are satisfied with the duration of the training programme. However, a few trainees gave some critical comments also. One of the BFTs said:

> *"the training module which was planned was very nice. But it was not followed properly which affected the learning. On many days, the classroom sessions prolonged after the stipulated time which helped to learn the theory more. But, as a result, practical learning received less time".*

Figure 2.2: Perception of Trainees on the time spent on Theory and Practical Sessions



Source: Primary Survey

Many participants as well as their supervisors (AEs/Overseers) shared their opinion that the training could have more practical oriented sessions. Overall, it appears that more importance could have been given to practical aspects. Also, better time management was necessary.

2.2.4 Physical Aspects of Training

To assess the physical aspects of training, the trainees were asked to rate the accommodation, training hall, seating arrangements and use of visual aids and food provided during the training programme. The ratings were provided on a five-point scale: 1- very poor; 2- poor; 3- average; 4- good; 5- excellent. Table 2.4 presents the average score on different facilities provided to the trainees.

The respondents considered the facilities provided as good. But the rating on food was only 'above average'. Even though most of the respondents said that they got a modest accommodation during the training, some of them said that the accommodation facilities were not up to the mark. One of the respondents said, *"We, six persons, had to adjust in a very congested room and had only one bathroom"*. Another person said, *"Seven women got one room which was too congested for that many people. We had to use the same bathroom and had to get ready for the training by 7 am. This was quite difficult"*. Half of the trainees were not fully satisfied with the food provided during the training. They mentioned incidents of food poisoning in some batches. They also reported the difficulty to adjust with the taste of food and the quality of water they had.

Table 2.4: Feedback on Facilities Provided for the Trainees

Facilities	Rating		
	Minimum	Maximum	Mean
Accommodation	3	5	4.08
Space of training hall	3	5	4.36
Seating arrangements	3	5	4.42
Visual Aids	4	5	4.48
Food	2	5	3.64

Source: Primary Survey

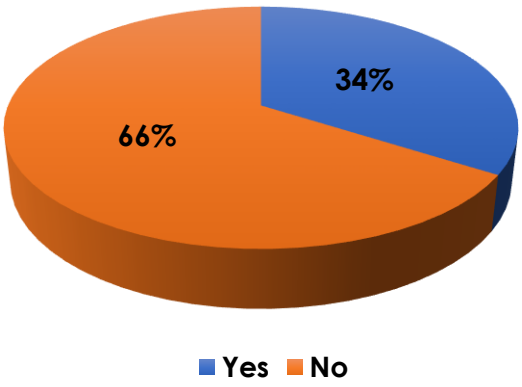
2.3 Learning

Learning impact is the degree to which participants acquire the intended knowledge, skills, attitude, confidence and commitment based on their participation in the training. It is the measurement of the increase in knowledge after successfully completing the training programme. It covered the following factors:

- Success rate of the programme
- Learning acquired through training
- Understanding of application in different knowledge areas through training

But before discussing the impact of the programme on the learning outcome, the experience of the participants related to technical work before they joined BFT training is examined. About one-third of the respondents (34%) had prior experience either as Barefoot Engineers (who were enrolled in the pilot programme) or in other construction/civil engineering works.

Figure 2.3: Percentage of BFTs having Prior Technical Experience



Source: Primary Survey

Of the 17 respondents who had previous work experience, 13 had served as Barefoot Engineers of MGNREGS before becoming BFTs. The remaining four BFTs had experience in civil engineering works. It may be noted that 63 Barefoot Engineers were deployed in a pilot programme in Thrissur and Idukki districts during 2010, before introducing the BFT training programme in the state. The last

batch of BFT training was exclusively for Barefoot Engineers from Idukki who got deployed as BFTs.

2.3.1 Success Rate of the Training Programme

The trainees in each batch were selected after a screening test held at the district level. The candidates for the screening test were recommended by the Grama Panchayats. The screening test was conducted mainly to test the numerical ability of the candidates. However, formats for screening test was not provided by the state or central government departments or NIRD. After the training, post test was conducted by the Agriculture Skill Council of India (ASCI), while KILA arranged the facilities for examination. As noted earlier, 159 trainees had undergone the BFT training conducted by KILA. Among them, 149 passed the post test conducted by the Agriculture Skill Council of India (ASCI). The details of the number of persons enrolled in different batches of the training programme and the number of persons who had successfully completed the training are presented in Table 2.5.

Table 2.5: Success Rate of Training Programme in Different Batches

Batch	Number of persons enrolled	Number of persons who successfully completed the programme	Percentage of trainees who passed in the post test
Batch 1	**32**	**32**	**100.0**
Batch 2	**30**	**25**	**83.3**
Batch 3	**33**	**31**	**93.9**
Batch 4	**34**	**32**	**94.1**
Batch 5	**30**	**29**	**96.7**
Total	**159**	**149**	**93.7**

Source: Primary Survey

The overall success rate of the training programme was 94 per cent. While the first batch achieved a hundred percent pass, the pass percentage dropped to 83 per cent in Batch 2. In all the subsequent years, the success rate was more than 93 percent.

2.3.2 Learning Acquired through Training

The training aimed to give thorough knowledge about the technical works undertaken in MGNREGS. The feedback of the trainees on different knowledge areas were obtained during the survey on a five-point scale: 1- did not understand at all; 2- Understood a little; understood to some extent; understood much; understood very much. Table 2.6 presents the level of understanding of understanding of trainees in different knowledge areas.

Table 2.6: Learning Acquired through Training

Knowledge area	Response on level of understanding		
	Minimum rating obtained	Maximum Rating obtained	Mean
Key Features of MGNREGA	4	5	4.46
Regarding Permissible Work under MGNREGA	3	5	4.44
Regarding Negative Work under MGNREGA	3	5	4.36
Construction Measurement and Calculation	3	5	4.16
Maps, Sketches and Drawing	2	5	4.08
Construction Materials and Technologies	1	5	3.84
Basic Survey and Setting out	2	5	4.08
Basic Estimates of Bill of Quantity (BoQ) and Standard of Quality (SoQ)	2	5	3.96
Watershed Management works	3	5	4.20
Construction of rural roads	3	5	4.24
Land Development Works	4	5	4.30
Forms and Documents	2	5	4.10
Soft skill	3	5	4.44
Computer Application	1	5	3.54

Source: Primary Survey

Highest rating (4.46) was obtained for the sessions on key features of MGNREGA followed by sessions on permissible works under MGNREGA and soft skill development (4.44 each). The rating on technical aspects was much lower. It hovered around 4 for most of such aspects. Many of the trainees were particularly dissatisfied with their understanding of computer application they could gain from the training programme. The rating was only 3.54. Besides computer application, the rating was below 4 in the case of sessions on

construction materials and technology and basic estimates of bill of quantity and standard of quality. These aspects, particularly the estimation of bill of quantity and standard of quality are essential capabilities that a BFT should possess to perform the tasks assigned to them.

Some of the Accredited Engineers and Overseers who were interviewed as part of the study said that they were not fully satisfied with the performance of the BFT with whom they were working. They were of the opinion that BFTs had good theoretical knowledge but was lacking in practical aspects of their work. An AE from Palakkad District reported that:

> *"BFT didn't know to do some of the works we regularly do as part of MGNREGS. When we asked her about this, she said they didn't get much exposure to this kind of works during the training. However, she had theoretical knowledge about those works and hence she could learn it very fast after joining as BFT".*

Apart from practical sessions, most of the BFTs said that, they got very less time in computer learning. One of the BFTs said,

> *"We got only three days training in computer applications. We were 32 members in the training programme and because of that, we got very little time to familiarize with the computer applications, even though in the module there was more time for the same. The training schedule was not followed".*

2.3.3 Extent of Application of the Learned Knowledge and Skills

The transfer of learning of the participants of the knowledge and skills gained from the classroom to the work place is very important in a training process. The participants were asked whether they were able to apply the knowledge and skills received during the training, at the work place. The responses were obtained on a five point scale: 1- not at all; 2- a little; 2- to some extent; 4- much; 5- very much.

Table 2.7: Extent of Application of Gained Knowledge and Skills in the Work Place

Response	Frequency	Percentage
Not at all	1	2.0
A little	1	2.0
To some extent	5	10.0
Much	23	46.0
Very much	20	40.0
Total	50	100.0

Source: Primary Survey

Large majority of the respondents were of the opinion that they were able to make use of the knowledge and skills they gained from the training programme. This shows the positive impact of the training. However, seven out of the 50 BFTs were not that successful in translating the knowledge and skills learned to the workplace. The reasons for having issues in applying skills and knowledge in the field was probed to find out the areas of improvement needed in the training process. A few BFTs responded that they were not getting assigned to do the work for which they were trained for. A BFT from Wayanad district, who got the training at SIRD, Kottarakkara told the study team that

> *"the geographical specialties where we work is entirely different from the area where we got the field training. Because of that, we didn't get useful practical knowledge to perform our work in a hilly area like Wayanad".*

On the other hand, a participant from Malappuram district said that

> *"due to the geographical differences, the practical training which I got from the KILA training at Attappady and the real field in this Panchayat are different. I had to adapt my learning to apply in an area like this".*

It is necessary that the differences between the geographical contexts has to be discussed both in classroom sessions and field based sessions. However, the response given above also indicates that in spite of the initial difficulties, the participant was able to adapt the learning to suit the context in which he was working.

2.4 Behaviour

The degree to which participants apply what they learned during training when they work as BFT

- Extent of involvement of BFT in various activities
- Change in confidence level
- Aspects of technical work found to be difficult for BFTs

2.4.1 Extent of Involvement of BFT in Different Activities of MGNREGS

As per the defined roles and responsibilities of Barefoot Technicians, they shall provide basic technical service in the execution of simple works of MGNREGS. They assist AE/Overseer, in the execution of works of MGNREGS. It also articulates that she/he will be present at work site as far as possible to take care of day-to-day supervision of works. The involvement of the BFT was assessed according to nine major roles and responsibilities listed by Ministry of Rural Development, Government of India. Involvement of BFTs in the said works was assessed based on the feedback of BFT and their supervisors (AE/Overseer).

Table 2.8: Functions Carried out by BFTs

Work/Job to be carried out	Proportion of BFTs reportedly involved in the activity (%)	
	Reported by BFT	Reported by Overseer/AE
Identifying scope and nature of work	84	72
Assisting overseer/AE Engineer in planning and preparation of estimate	66	66
Giving mark out/ layouts before commencement of work	64	60
Day to day supervision of work taken up under MGNREGS to ensure quality and logical closure of works.	96	88
Upkeep of technical records at Grama Panchayat level	52	46
Identification of works to be taken up	82	76
Collection of baseline information (Land use, ownership)	66	72
Make presentation to Grama Sabha for Approval	50	48
Assist overseer/AE in carrying out survey	96	88

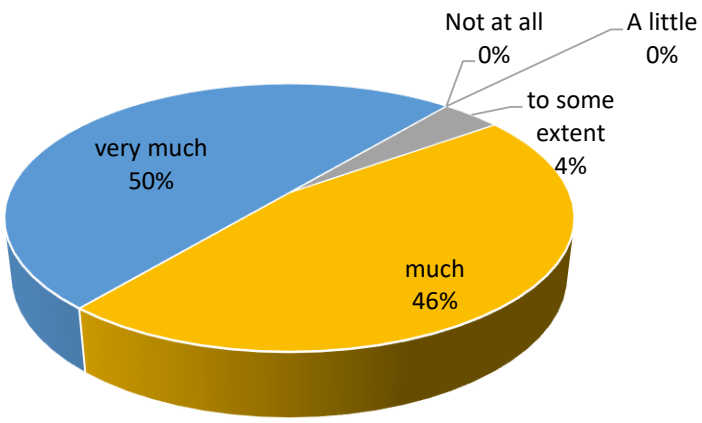
Source: Primary Survey

As per the responses given by the BFTs, the most common work carried out by the BFTs were assisting overseer/accredited engineer in carrying out the field level survey and day today supervision of works taken up under MGNREGS to ensure quality and logical closure of the works. The involvement of BFTs in these activities was confirmed by 96 percent of the BFTs and 88 percent of their supervisors. Two-thirds of the BFTs assist in the preparation of estimates, giving mark out/lay outs, collect baseline information as per the responses of both BFTs and their supervisors. Only about half the BFTs mentioned that they are involved in upkeep of technical records and make presentations in the Grama Sabha. Overall, it appears that a significant proportion of BFTs do not perform the functions they are expected to undertake. It can be because the trainees are not confident to undertake the tasks, or their supervisors do not consider their knowledge or practical experience sufficient to perform their tasks.

2.4.2 Confidence Level to Do the Job after the Training

Training has the objective to impart more confidence on the trainees to perform the functions according to the training content. The trainees were asked if they had enhanced their confidence level to perform technical jobs after the training.

Figure 2.4: Whether Confidence Level of the BFTs Imporved after the Training



Source: Primary Survey

Most of the BFTs interviewed reported that the training programme improved their confidence to undertake the tasks assigned to them. They included those who had prior work experience including those trained as Barefoot Engineers in the pilot programme. Ninety six percent of the trainees indicated that their confidence level had increased 'very much' or 'much'. The training programme had succeeded in bolstering the confidence level of the trainees substantially.

2.4.3 Experience of Difficulty to Perform Job Due to Lack of Training

The difficulties faced by the BFTs in performing the job, specifically due to lack of training, was also explored as part of the study. One-fifth (10 out of 50 trainees in the sample) indicated that they had experienced some difficulty while on the job. Computer related works, estimate preparation using software, measurement and construction related works related to material component of the MGNREGS work were the difficult works reported by respondents. Six out of the ten BFTs who experienced some difficulty said that computer training was not sufficient to perform the job. Four of them specifically mentioned that estimate preparation using the software was not included in the training which caused difficulties in performing the work in the GP. Four of them felt that the training was insufficient to get involved in the supervision of material component of MGNREGS work.
A BFT from Wayanad district said:

> *"During the training, we didn't get enough practical sessions to learn technical works related to estimate preparation, measurement and construction materials. Due to this, we face some difficulties in performing the assigned works."*

Another BFT from Malappuram district said:

> *"We lacked the training regarding the estimate preparation using the computer software. We actually didn't get enough exposure to use computer during the training. When we joined as BFT, it was very difficult to assist the work related to estimate preparation work as it is being done using software."*

The difficulties in performing their role as BFT due to insufficient training inputs was examined batch-wise. It was found that such issues were reported only by the first three batches. Four out of nine respondents in Batch 1, three out of nine and three out of ten respondents in second and third batches respectively said that they have experienced some difficulties in performing some works due to the lack of training. None of the BFTs from batch 4 and 5, experienced this issue, which shows that the recent training programmes have effectively addressed this issue.

2.5 Outcome/Results

The impact of the training programme is assessed by understanding whether the targeted outcomes occur as a result of the training. The following aspects have been considered:

- Supervisor's assessment on whether the training was relevant for BFT's work
- Application of skills and knowledge gained through training
- Supervisor's assessment of Work/ Functions carried out by BFTs
- Changes in MGNREGS implementation due to the deployment of BFTs

In addition, case studies of some of the GPs are presented to illustrate how the engagement of BFTs has influenced the outcome positively.

2.5.1 Supervisor's observations regarding relevance of training for BFT's work

Supervisors were asked to give their opinion on whether the training was beneficial to BFTs for performing their tasks. Their responses are summarised in Table. 2.9.

Table 2.9: Opinion of Supervisors on whether the Training Programme was Beneficial to BFT

Supervisors' response	Frequency	Percent
Benefitted through training	47	94.0
Not Benefitted through training	3	6.0
Total	50	100.0

Source: Primary Survey

Most of the supervisors (96%) have opined that the training has benefitted the BFTs to perform technical jobs with the team. An overseer from Attapady Block Panchayat said:

> *"The training for the BFT was held at KILA Centre near our Panchayat. I could closely observe the way they were trained as the field training for them was conducted with the MGNREGS team of our GP along with those of other nearby GPs. The training was excellent for them to learn the work under MGNREGS. As far as I observed, the good management of training by the coordinators and support from the trainers enhanced the quality of this programme."*

An accredited engineer from Idukki district opined:

> *"The BFT is performing technical activities which they are asked to do. She really helps to complete the work speedily, as she has good skill to manage the workers. The technical works aren't that easy to do without training. But from the demonstrated efficiency in the works she does, it is evident that she got good training."*

2.5.2 Application of Skills and Knowledge

The prime objective of the training held by KILA was to develop a good quality team of BFTs in the State, who are technically skilled to assist the technical team of the MGNREGS in the concerned GPs. So, the impact of the training depends on the outcome in terms of their skills which they were able to employ on the field once they are deployed as BFTs. This outcome factor of the training was analysed by understanding their demonstrated skills and knowledge in their job. Supervisors of BFTs have given their observations regarding BFT's performance. Table 2.10 presents the rating given by the supervising AE/Overseers regarding the performance of BFT. The ratings are on a five-point scale with 1-Very poor, 2- Poor, 3-Average, 4-Good, 5-Excellent.

Table 2.10: Supervisor's Rating of BFT's Skills and Knowledge in Application Level

Knowledge/Skill in application level	Minimum rating	Maximum rating	Mean
Understanding about BFT's role and responsibilities	3	5	4.08
Knowledge regarding the specifications of low end work taken up under MGNREGA	2	5	4.02
Knowledge about the parameters involved in rural infrastructure activities	2	5	3.74
Demonstration of the skills of identification, setting and layout of low end MGNREGA works	2	5	3.74
Analysis of measurements and preparation of work proposal, rough drawing, maps and sketches	2	5	3.88
Demonstration of the skills of coordination with Grama Sabha and Overseer / AE	3	5	3.98
Demonstration of the skills of handling teams	3	5	4.28
Knowledge and application of learnings of ICT at work	2	5	3.64
Application of organizing, decision making and problem solving skills	3	5	4.14

Source: Primary Survey

From Table 2.10, it is clear that soft skills of the BFTs such as team handling, organizing, decision making and problem solving skills have been rated very well, hovering over "good". The easier learning aspects - knowledge about BFT's role and responsibilities and knowledge regarding the specifications of low end work taken up under MGNREGS are also rated in between "good" and "excellent". At the same time, aspects related to knowledge about the parameters involved in rural infrastructure activities, demonstration of the skills of identification, setting and layout of low end MGNREGS works, analysis of measurements and preparation of work proposal, rough drawing, maps and sketches, demonstration of the skills of coordination with Grama Sabha and Overseer/AE and knowledge and application of learnings of ICT at work needed improvement as they were rated only between average and good. As noted earlier, an observation made by most of the supervisors was regarding the poor knowledge of the BFTs regarding the computer application. An Accredited Engineer from Malappuram district said:

"BFT perform well in all works other than those related to computer. The training could have covered computer application too. The estimate preparation software is unknown to BFT. BFTs also don't know to operate MIS system or any work related to computer. As we use ICT in MGNREGS works, BFT also need to learn the same to assist AE."

The difficulties in performing the functions related to computer was already discussed in the previous sections. Both assessments emphasize the fact that the BFTs need to overhaul their skills and knowledge levels in the use of relevant software needed in their job.

2.5.3 Supervisor's Assessment of Work/ Functions carried out by BFTs

Supervisor (AE/Overseer), in the concerned GP assign the works to the BFTs. Supervisors revealed that BFTs are not assigned to do all the works according to the listed job responsibilities, due to different reasons. Most commonly, the work done by BFTs are geo-tagging and site visit. The activities of BFTs are rated by their supervisors. The details are presented in Table 2.11.

All the functions are rated in between good and excellent which shows a very positive impact of the training.

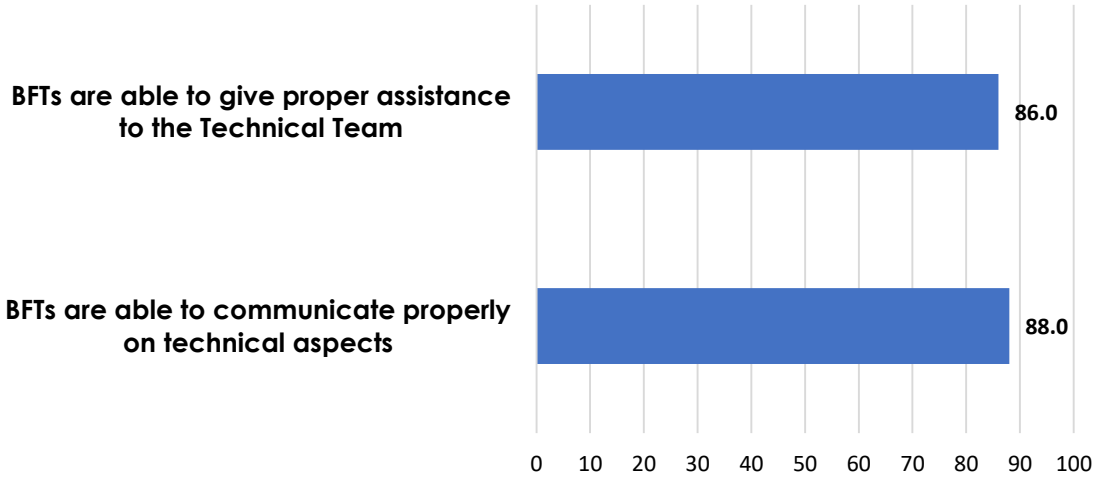
Table 2.11: Supervisors' Rating of Functions undertaken by BFTs

Work/Function	% of Supervisors reporting that BFT is doing the work	Rating		
		Minimum	Maximum	Mean
Identifying scope and nature of work	72	3	5	4.22
Assisting overseer/AE Engineer in planning and preparation of estimate	66	3	5	4.21
Giving mark out/ layouts before commencement of work	60	3	5	4.30
Day to day supervision of work taken up under MGNREGS to ensure quality and logical closure of works.	88	3	5	4.30
Upkeep of technical records at Grama Panchayat level	46	4	5	4.39
Identification of works to be taken up	76	3	5	4.11
Collection of baseline information (Land use, ownership)	72	3	5	4.25
Make presentation to Grama Sabha Approval	48	3	5	4.33
Assist overseer/AE in carrying out survey	88	3	5	4.25

Source: Primary Survey

BFT's major job responsibility is to assist the technical works of overseer/ engineer of the GP. This is dependent on how properly they communicate with and assist the technical supervisor. According to the supervisors, most of them receive proper communication and assistance from the BFT working with them (Figure 2.5).

Figure 2.5: Proportion of Supervisors reporting that BFTs are able to Communicate properly on Technical Aspects and provide Proper Assistance to the Technical Team (%)



Source: Primary Survey

Large majority of the supervisors interviewed by the study team (44 out of 50 supervisors) opined that the BFTs are able to communicate with them properly on technical/job-related aspects. The supervisors who were not satisfied with communication of the BFTs pointed out that lack of knowledge of the BFTs about the technical work makes it difficult for them to communicate properly with the BFTs. Large majority (43 out of 50 supervisors; 86%) reported that they are getting proper assistance from BFT. Among the seven supervisors who are not getting proper assistance from BFTs, four have said that lack of technical knowledge is preventing the BFT to extent such support. One of the supervisors pointed out that the BFT working with him argues that geo-tagging is the only work he can do. A related response of another supervisor was that the BFT is always in the field and therefore not available for work at the office. Another supervisor said that the BFT is not able to complete the assigned work and yet another supervisor mentioned that he is unable to assign any technical work to the BFT due to incompetence of the latter. The supervisor reported:

"I don't know about their exact roles and responsibilities. I also don't know how far BFT can perform any technical work after their training. I am

unaware about the training components. And because of that, I couldn't assign any work which need technical skills."

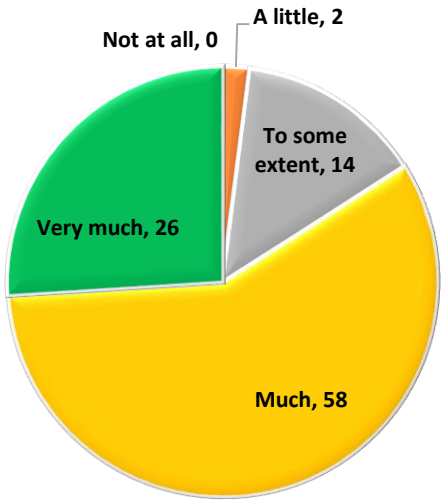
It is not clear whether such responses have come because of the lack of training or incompetence of the particular BFT. It is also possible that the supervisor was not able to provide the necessary support to the BFT in the initial days.

Overall, large majority of the AEs/Overseers interviewed by the study team were not aware of the kind of works the BFTs are capable of doing, the nature of assistance they can expect from BFTs, the content of the BFT training programme and the support that they should extend to BFT initially. In many cases, they were just informed by the Block Panchayat Office about the deployment of BFT to assist them in MGNREGS work. It appears that better orientation could have been given to the supervisors about the role of BFTs and the training that the BFTs received. They should also have been given orientation on the kind of initial support they should extend to BFTs. Some of the AEs/Overseers were of the opinion that there are works which the BFTs cannot do without support from them. The need for initial support to BFT by AE/Overseer was also highlighted by some of the supervisors. Some of the supervisors observed that as a new recruit, it took some time to catch up with the nature of work at the GP, and that's why BFTs needed initial help.

2.5.4 Changes in MGNREGS Implementation due to BFT Deployment

The supervisors' perception of the changes in the quality of technical works due to the deployment of BFTs has been captured by the study on a five point scale: 1-not at all improved; 2- improved a little; 3-improved to some extent; 4-improved much; 5- improved very much. The average score was 4.08 which implies that the technical quality of work has "much improved". This shows the positive impact of the training, in general. But it also highlights the scope for further improvement. Figure 2.6 presents the perception of supervisors about the extent of improvement in the quality of technical works under MGNREGS due to the deployment of BFTs.

Figure 2.6: Supervisor's Opinion on Improvement in Quality of Technical Work due to Deployment of BFT



Source: Primary Survey

None of the supervisors opined that the technical quality "has not improved" while only one of them said that it "improved only a little" with the intervention of BFT. Seven supervisors (14%) said that the technical quality of the work "improved to some extent only". More than four-fifths of the AE/Overseer indicated that the technical quality has improved after the introduction of BFTs in their GPs. While about three-fifths agreed that it has "improved much" and about one-fourths thought that "it has improved very much."

2.5.5 Special Cases of BFT Initiated Activities

The BFTs were trained on different aspects of MGNREGS including how they can support the community in identifying MGNREGS works, defining the scope of the work etc. They are also trained on the permissible works under the scheme. In addition, they were given training on some of the essential technical aspects. The BFTs, who are selected from the respective panchayats, are also likely to be closer to the local community than the AE/Overseer who may be from outside the GP. This helps them to identify the needs of the local community. Some of the cases which came across during the course of the

present study illustrates this point. These cases were developed on the basis of discussions with the BFTs, their supervisors and other stakeholders.

2.5.5.1 Panjal Grama Panchayat, Thrissur District

The present BFT in Panjal GP in Pazhayannur Block of Thrissur District has been in service since April 2017. She joined as BFT after successfully completing the KILA training programme (Batch 3). The benefit of having a person from the local community was highlighted by the Accredited Engineer of the GP. In his words:

> *"I have a degree in Engineering, but the works related to MGNREGS need better understanding about the locality and local resources which can only be gained through practice. By choosing a person from the same locality as BFT, I got the required assistance to know more about the local needs and resources. BFT who works with me have the capability to take up all the works expected of her".*

Some parts of Panjal GP have hilly terrain especially areas near the forest where the community experience water scarcity during summer. According to the AE, the BFT identified a solution to this issue which was raised by the local community. Considering the terrain of the area and needs of the people, BFT suggested building a gabion structure to store water. In the words of the AE:

> *"BFT suggested a Gabion Structure under watershed programme of MGNREGS which will be useful for people in three wards of the GP. To be frank, I have only learned about gabion structures in textbooks and even after being an engineer, I couldn't suggest this kind of a suitable method here. BFT could do this because she has field experience and because she is from the local community."*

2.5.5.2 Agali GP, Palakkad District

Deploying BFT from the same locality helped the work progress a lot according to the overseers of Agali GP in Attappadi block. Agali GP Overseer said:

> *"We have two BFTs in this GP. Both are from this GP. They know the pulse of this locality and have an idea about what works should be done for the progress of the ST community of this locality. And so, the work became easier."*

A significant proportion of the population of Agali belongs to ST community. Irula, Muthuva and Kurumba are the tribes in the GP. These tribes have different culture and livelihood seeking behaviour. Even their conversing languages are different. The GP is one of the backward GPs in the state. According to the overseer:

> *"A major issue was regarding communication. We, Overseer and Engineer, struggled hard to manage the workers' team of MGNREGS. It was a challenge for us to make the people understand about the Act and the nature of work. Form filling, basic data collection and work identification were very difficult for the team before. We used to seek the help of people from the local community who could understand both Malayalam and the language of the tribal community. They, in fact, acted as facilitators. But such help was very infrequent and could not always be banked upon. We often failed to make these informal facilitators understand about the MGNREGS and its technical part. We failed to reach some of the habitations (Ooru) in remote localities to identify work".*

Overseer said that their work was affected in the absence of a person with the technical knowledge who also knew the local language and culture of the tribal community. According to the Overseer, after deploying BFTs, the communication with the MGNREGA workers became smooth. He also pointed out that it also helped to include more people to MGNREGS works particularly those in tribal hamlets.

Since Agali GP is located close to the KILA Centre for Tribal Development and Natural Resource Management at Attappadi, where the trainings were held for batch 2 to 5, it was a GP which was selected for the field study of the BFTs. Overseers of the GP said that they could closely observe the training programme which was very disciplined and specific towards MGNREGA vision and mission. He appreciated the training for moulding quality candidates who can perform well on the field.

2.5.5.3 Pattanchery GP, Palakkad

BFT in Pattanchery GP of Kollangode Block of Palakkad district was appreciated by the Accredited Engineer for her initiative to address a perennial issue of the farming community of the locality. According to the Accredited Engineer:

> *"Pattanchery faces acute shortage of water during summer. It adversely affects the farming operations. Based on the felt needs of the local community, the BFT suggested a farm pond under watershed management work of MGNREGS. She said that even though she has been staying in this area for a long time, she got this idea only after attending the training. This farm pond was beneficial to 5 acres of farm land in the GP."*

The Engineer/Overseer of Kamakshi GP in Idukki district, East Eleri GP in Kasargode district, Edavaka GP in Wayanad district, Chinnakkanal GP and Karunapuram GP in Idukki district and Pattancherry GP in Palakkad district also reported that farm ponds were constructed because of the initiative of the BFT who are from the local community.

2.5.5.4 Devikulam GP and Munnar GP, Idukki District

According to the Accredited Engineer of the Devikulam GP, Munnar and Devikulam are areas where the people who have very low socio-economic profile participated in MGNREGS work after their work in the tea estates. He further explained the role of BFT in MGNREGS work of the GP:

"BFT has a good understanding regarding the issues which can be solved through MGNREGS works and also how to prioritise them. Her first initiative was to build a tank to collect and store water. With the help of others, she identified a suitable place for the same as she was well trained for this kind of technical work. The work was sanctioned and is being executed now."

In Munnar, the overseer mentioned about the BFT who had initiated some land development work and a check dam project. She identified the work to build a check dam which will be beneficial for the people as a source of drinking water.

2.5.5.5 Thondernad GP, Wayanad District

Overseer of Thondernad GP, which has a significant share of its population belonging to ST community, mentioned about BFT he is working with as follows:

"The support from local community has a very vital role in the implementation of MGNREGS. BFT helped a lot to make us understand the works needed to be undertaken among the vulnerable groups. In Thondernad GP, we identified a proper drainage system for the vulnerable community as a work to be undertaken under MGNREGS. BFT helped in planning, estimating and doing the work. The training and the awareness about local community of BFT helped him to complete this work very well."

2.5.5.6 Edavaka GP, Wayanad District

*Rural sanitation is an important work included in MGNREGS. The O*verseer of Edavaka GP of Mananthavady Block in Wayanad district mentioned about the role of BFT in identifying such works in the GP. He further pointed out that b*eing a person from the locality, BFT could identify the families in the vulnerable community which do not have proper sanitation facility.* He also said that after the BFT's deployment, the interventions for the tribal settings became easier.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

CHAPTER III

As part of its training initiatives, KILA provided training to educated persons from rural areas to function as Barefoot Technicians (BFT) under the Mahatma Gandhi Rural Employment Scheme (MGNREGS). The training programme was designed at the national level by the Ministry of Rural Development, Government of India and executed at the state level by KILA. The trainers were trained by the National Institute of Rural Development. The training, organised for three months with 75 training days, employed a participatory approach. Five batches of training were organized in the state by KILA during the period 2013-2016.

The trained personnel were engaged in the implementation of MGNREGS in selected Grama Panchayats to fill the shortage of trained technical personnel in planning, doing layout, measuring and supervising MGNREGS works. At the BP/GP, Accredited Engineer (AE) and/or Overseer has the responsibility of MGNREGS works done. BFT is expected to function as technical assistant under the supervision of the AE/Overseer in the GP.

The study involved a survey of trainees and their supervisors (Accredited engineer/Overseer in the GP) and feedback on different aspects of interest were obtained mainly on a five-point scale. Qualitative data was also gathered through discussions/depth interviews with trainers, training coordinators and Engineers in Block Panchayats. In addition, case studies of some of the initiatives of the trainees when they were employed as BFTs were also developed.

3.1 Summary of Findings and Conclusions

- Majority of the trainees were women. As per the guidelines of the Ministry of Rural Development, priority was to be given for people from SC/ST communities in the selection of BFTs. Nearly half of the trainees in the sample were from SC/ST families indicating that SC/ST candidates were given priority in the selection.
- The study finds that there was heterogeneity in the profile of the participants especially the educational qualifications and work experience. Moreover, a significant proportion of the trainees had completed engineering diploma or graduation. On the other hand, there were participants who had just completed Class X with no previous work experience. One-third of the participants had some experience in undertaking technical works. It appears that this difference in the profile of the participants did not get due attention in the training programme.
- The trainees were selected after a screening test held at the district level. The candidates for the screening test were recommended by the Grama Panchayats. The screening test was conducted mainly to test the numerical ability of the candidates. However, formats for screening test was not provided by the state or central government departments or NIRD.
- After the completion of the BFT training, the participants appeared for a post-training evaluation test conducted by the Agricultural Skill Council of India. The number of persons enrolled in the programme was 159 and the number of persons who successfully completed the programme was 149. Thus, the overall success rate of the training programme was 94 per cent which is fairly good. It is important to note that the test was conducted not by the training institution but by an independent agency viz., Agricultural Skill Council of India thereby increasing the validity of the test results.

- This impact assessment indicates that the BFT training programme of KILA increased the participants' knowledge and skills for working as technical assistants in MGNREGS. The course provided the participants with a better understanding about MGNREGS and technical works. Even those who had some previous technical experience and those who were participants of the pilot training programme for Barefoot Engineers found this course to be much beneficial to them in their job.
- The trainers were rated highly by the trainees on almost all aspects such as their knowledge, engagement with participants, ability to communicate with the trainees and in clearing the doubts of the trainees. A slightly lower rating was given on experience sharing by trainers mainly because some of the trainers did not have exposure to MGNREGS work though they were good in technical expertise.
- The trainees considered the training facilities such as training hall and seating arrangements good. But the rating on food and accommodation was lower. The participants were generally not very happy with the food provided. Experience of sharing accommodation with 6 or 7 persons in a room with single toilet/bathroom made some of them dissatisfied with the accommodation facilities. A few of them also complained about the quality of water.
- The learning materials provided to the participants included 10 Textbooks and one handbook covering topics relating to MGNREGS and the technical aspects of the BFT's work. They were developed at the national level. The trainees felt that there was scope for improvement in the language of the learning materials and presentation of calculations and measurements. The main issue with the training material is that it was not available in the local language viz., Malayalam. As majority of the trainees were educated up to higher secondary level only (with some of them completing only class X), language of the learning materials (English) acted as a major barrier for majority of the trainees. The failure

of the training institution to provide learning materials in Malayalam has affected the effectiveness of the programme to some extent. It was pointed out that the translation of the materials was completed but could not be published as funds were not earmarked for the same.

- The trainees were generally satisfied with the tool kit provided to them. However, a few trainees complained that the calculator was not functioning properly and that its size was too small.
- The trainees gave high rating on sessions on key features of MGNREGA followed by sessions on permissible works under MGNREGA and soft skill development. The rating on technical aspects was lower. It hovered around 4 for most of such aspects indicating that there was scope for improvement. Many of the trainees were particularly dissatisfied with their understanding of computer application they could gain from the training programme. Besides computer application, the rating was below 4 (out of 5) in the case of sessions on construction materials and technology and basic estimates of bill of quantity and standard of quality. These aspects, particularly the estimation of bill of quantity and standard of quality are essential capabilities that a BFT should possess to perform the tasks assigned to them.

- The involvement of BFT in MGNREGS was assessed according to nine major roles and responsibilities listed by Ministry of Rural Development, Government of India. The most common work carried out by the BFTs was assisting overseer/accredited engineer in carrying out the field level survey and day today supervision of work. Two-thirds of the BFTs assist in the preparation of estimates, giving mark out/lay outs, collect baseline information. Only about half of the BFTs are involved in upkeep of technical records or make presentations in the Grama Sabha. Overall, it appears that a significant proportion of BFTs do not perform some of the functions they are expected to undertake. It can be because the trainees

are not confident to undertake the tasks, or their supervisors do not consider their knowledge or practical experience sufficient to perform the task.

- The major work related problems reported by trainees are in Computer applications, estimate preparation using software, measurement and construction related works related to material component of the MGNREGS works.

- More than four-fifths of the AEs/Overseers indicated that the technical quality has improved after the induction of BFTs in their GPs. Their deployment also helped to increase work completion rate.
- Being from the same locality, the BFTs were also more familiar with the needs of the people including the needs of vulnerable groups which has helped them to identify some solutions to long felt needs of the community.

3.2 Recommendations

- If such programmes are organised in future, the organisers should adjust the course design to increase focus on how participants can apply what they learned from the programme in real-life situations. It has been noticed that even though the training schedule had given almost equal importance to classroom/theory sessions and practical/on field training, this was not fully followed in actual practice. While the courses already have a strong focus on practical application, this aspect should be further strengthened. There is a need to ensure that the course design prepared on the basis of the practical nature of the job of a BFT should be followed.
- To strengthen the capability of the currently employed BFTs, KILA may organise a short duration in-service training (for 10 days). There should be opportunities to clear their doubts and issues they encountered in their work as BFTs. It can also be used as an opportunity to strengthen their

understanding on computer applications, use of relevant software and geotagging. The knowledge and skills for preparing basic estimates of bill of quantity and standard of quality also may be addressed in the programme. The programme may include discussion on the experiences of BFTs and presentation by the participants and problem-solving approaches.

- The training programme should be organised in such a way that the situation in different geographical context is explained in the training programme. It is also important to ensure that the concepts are explained keeping in mind the job responsibilities of a BFT under MGREGS.
- To strengthen the training programme, there is a need to further integrate multi-media and information technology (e.g. to include video clipping/short films/documentary films) to illustrate concrete examples of application and complement more theoretical aspects of the training.
- There is a need to give more attention to the selection process. In some GPs, some works were not entrusted with BFTs due to the lack of knowledge and skills. It was also pointed out that there were no guidelines from the Ministry of Rural Development, NIRD or the state government on the selection of BFTs. The candidates recommended by the GPs are selected at the district level by employing a test which primarily assesses the candidates' ability to do arithmetical calculations. But the job profile of the BFTs indicates that it goes much beyond doing calculations. As noted earlier, one of the main contributions of the BFT is in identifying projects which addresses local issues. The pre-test could be restructured taking into account the capabilities required to perform the job of a BFT.
- BFT training programme was designed at the national level and executed at the state level. Whenever learning materials for such programmes are prepared at the national level in English or Hindi, it should be made available in Malayalam. Such materials developed at the state level could

also have examples on the implementation of MGNREGS in the state. Inclusion of materials and examples drawn from the reality of practice in the state would have increased the use of the learning materials not only during the training period but also when they work as BFT as reference materials. State-specific learning materials can be developed with due consideration to the modules prepared at the national level through a workshop of different stakeholders such as Accredited engineers, Overseers, Engineers in Block Panchayats and trainers.

- The study finds that the some of the Accredited engineers/Overseers with whom the BFTs work are not fully aware of the content of the training programme and what can be expected from a BFT. It has also been observed that BFTs require some support from their supervisors especially in the initial period. While such support has been forthcoming in many cases, it was not universally available. This calls for organising an orientation programme for Accredited Engineers and Overseers on the deployment of BFTs, their roles and responsibilities as well as the content of the training programme.
- KILA can facilitate initiation of interactive discussion groups in Facebook or Whatsapp for BFTs so that the alumni stay connected and the network can be leveraged for exchanging successful practices, sharing of learnings, clearing doubts regarding technical aspects etc.
- In future training programmes, videography of a few important sessions may be done so that the participants can go back to it whenever they want.
- Some cultural activities could be interspersed into the training schedule without diluting the learning atmosphere for reducing the stress of trainees in a long duration residential program as this.

Overall, the results of this assessment show that the training also filled a clear gap in the availability of technical persons to support the Accredited Engineer/Overseer to undertake the technical works related to the implementation of MGNREGS. It also provides positive evidence that the BFT

training Programme was effective in developing the knowledge and skills required for trainees to work as BFTs.