RESPONSIBLE BUSINESS FOR SUSTAINABLE FUTURE

EXECUTIVE SUMMARY

British American Tobacco Bangladesh (BATB) believes that responsible business operation is at the heart of success – a philosophy reflected in the company's corporate social responsibility efforts. BATB has launched three CSR projects till date with beneficiaries distributed all over its operational territories in the country. The first of these projects, named Bonayan, was launched in 1980 with a view to combat climate change and help create a greener environment. Probaho is an initiative aimed at providing pure drinking water in areas where water is contaminated with arsenic and other impurities. Deepto serves communities in hilly regions of Bangladesh without access to electricity by setting up solar home systems in their areas. This report attempts to highlight the impact of Bonayan, Probaho and Deepto on the lives of their beneficiaries.

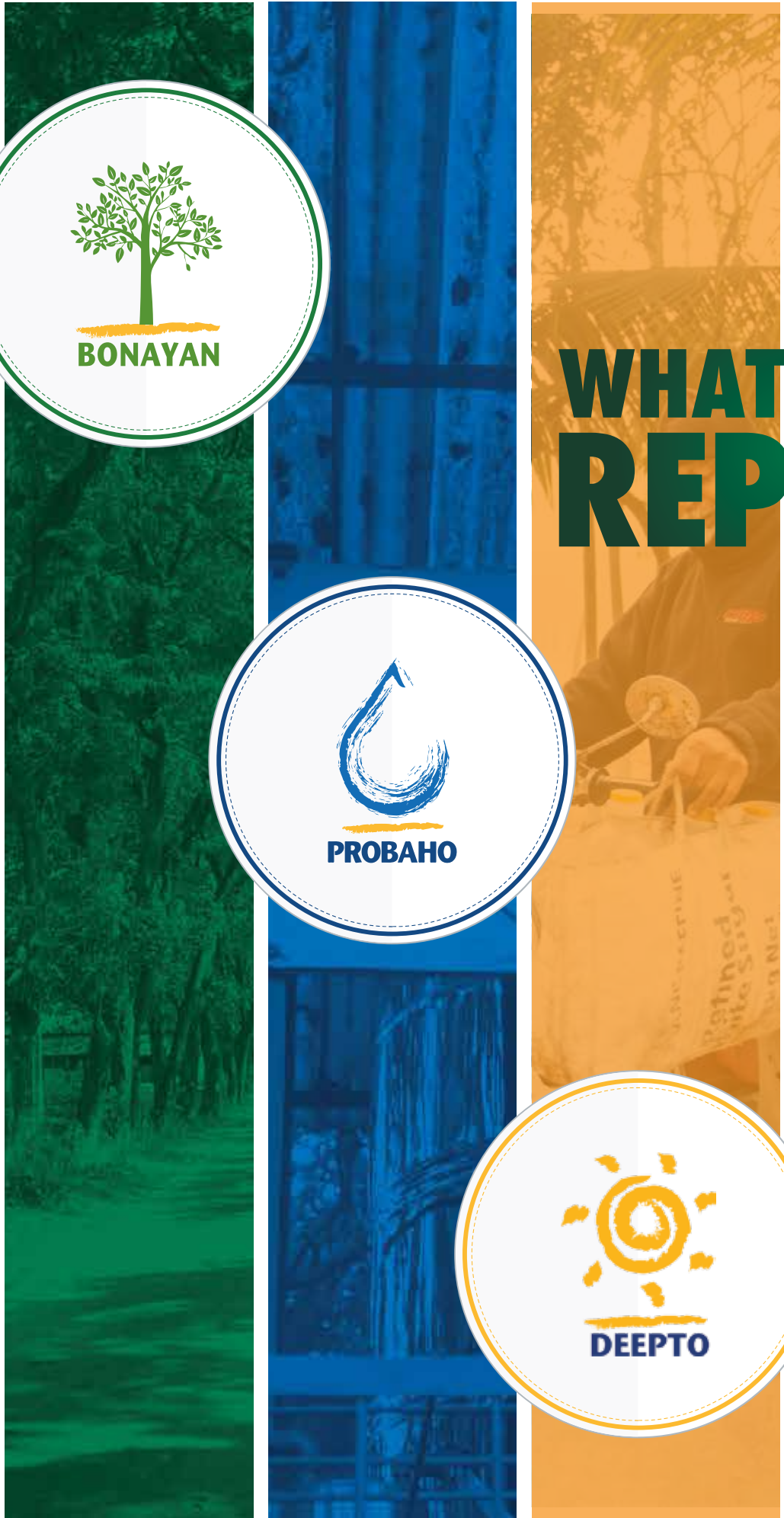
The study was conducted using diverse methodological tools for both quantitative and qualitative analysis. In both control areas where no project has been implemented and in intervention areas where BATB has implemented its CSR projects, Face to Face Interview technique was used to collect data. A total of 2100 Face to Face interviews were conducted; 800 for Probaho, 500 for Deepto and 800 for Bonayan. Focused Group Discussion (FGD), Key Informant Interview (KII) and Participatory Rapid Appraisal (PRA) were used to collect qualitative data.

The beneficiary size for Bonayan is vast, as the project has distributed over 9 crore free saplings in operational territories all across Bangladesh. Beneficiaries take the free saplings from Bonayan and plant them in their own land or along the hills. Sometimes they make tree gardens and get commercial gains from these trees by either selling them or using the fruit and wood from them. The water from Probaho serves around 170,000 people every day. Deepto provides solar power to more than 11000 rural people in remote villages.

The areas where Bonayan has been implemented are visibly greener according to study respondents. The negative impact on heath due to deforestation is mostly mitigated by the initiatives taken by Bonayan. In the intervention areas of Probaho, 32.3% people used to suffer from water-borne diseases before the project was implemented. After Probaho filtration plants were installed and clean water became available, the percentage of people affected by water-borne diseases reduced to 0.3%. Prior to the installation of solar power by Deepto, people had to resort to kerosene lamps as the sole source of light. Besides being a fire hazard, these lamps produced harmful black fumes. People who inhaled these fumes were susceptible to breathing problems. After Deepto began providing solar power, light bulbs replaced kerosene lamps, minimizing the health and safety risks caused by kerosene lamps in the past. The implementation of the projects Bonayan, Probaho and Deepto has ensured better health and safety for communities who needed it the most.

BATB's CSR initiatives are also aligned with the United Nations' (UN's) Sustainable Development Goals (SDGs). Each project is aligned with multiple targets of the global goals and these targets act as indicators validating the positive impact the projects have individually had on their beneficiaries.

The following chapters of this report explore the impact created by Bonayan, Probaho and Deepto in areas where the projects have been implemented. To draw a better contrast, the lives of people in areas without project implementation have also been analysed from impact assessment angles. The resultant findings presented in this report hence elucidate the difference that each of these projects have made in their implementation areas.



BONAYAN

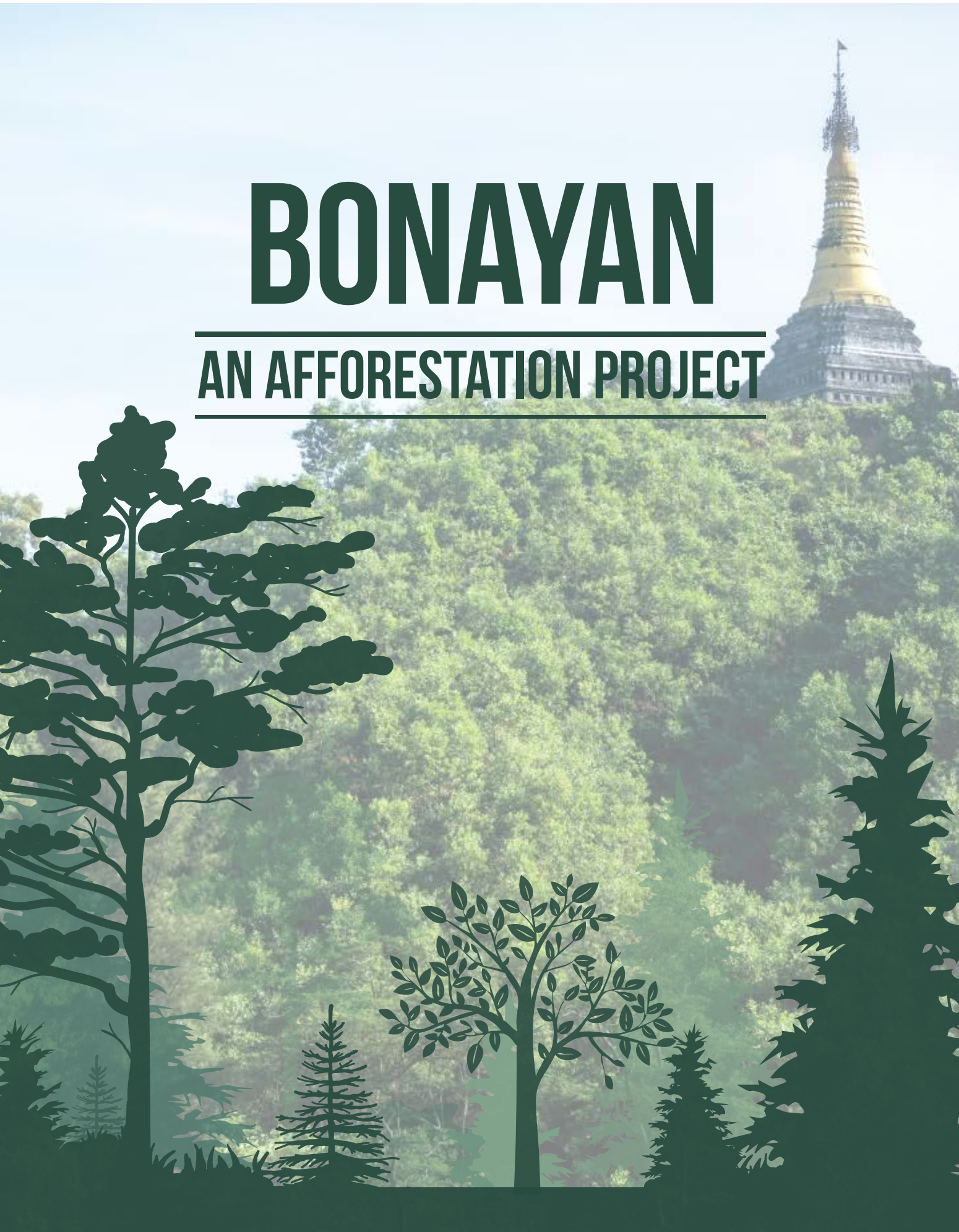
WHAT'S IN THE REPORT

PROBAHO

DEEPTO

BONAYAN

AN AFFORESTATION PROJECT



We are getting money by selling fruits and wood which is helpful to continue our children's education. Trees are companions of the indigent.

FGD
Kushtia

Until the beginning of the '80s, a large number of trees were being cut down in this area. At that time, Bonayan motivated the farmers as well as other local people to plant more trees. As a result, this area became full of greenery by the middle of the '90s and the environment was beautiful again. I became interested in afforestation in the '90s through Bonayan. I have recently received the award for 'Best Farm' from the honourable Prime Minister through Islamic Foundation.

Kazi Mohammad Ilias
Age 45, Former Imam (Muslim faith leader), Lainziri Mosque

We did not understand the value of plantation before, but now we realize it by seeing the smiling faces of our family members.

FGD
Lalmonirhat

BONAYAN

British American Tobacco Bangladesh launched its flagship CSR program, Bonayan, in 1980 in collaboration with the forest department. The project was implemented to serve farming communities for sustainability across the operational territories of BATB by giving them a better environment. For over three decades, Bonayan has been creating an impact in the lives of its beneficiaries by giving them a better environment, better quality of life, and economic empowerment among other things. This section focuses on the diverse benefits that Bonayan continues to provide for its beneficiaries in the rural farming communities.

CONTENTS

01 Overview - 03

02 Methodology - 07

03 Socio–Demographic Background of Beneficiaries - 09

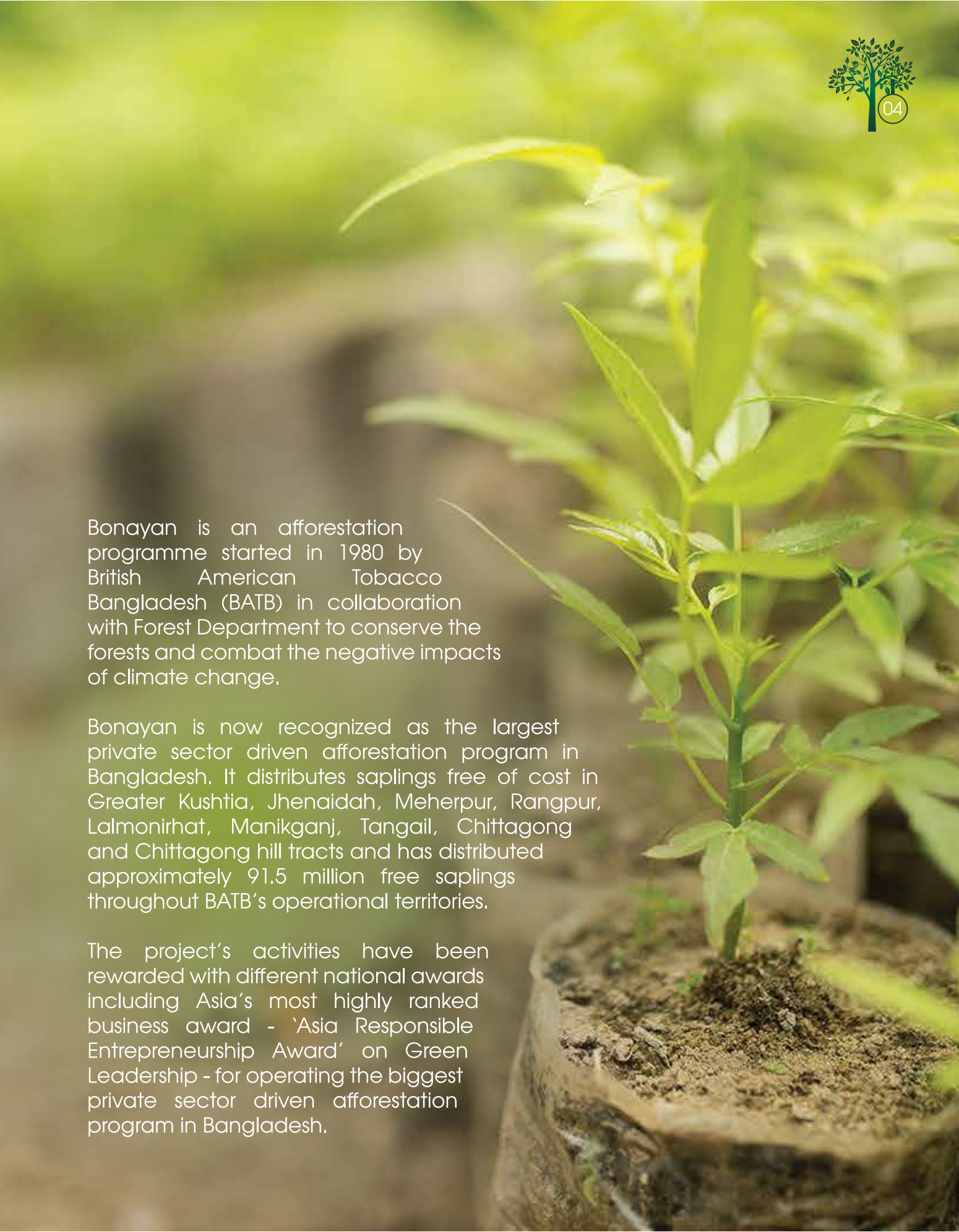
04 Scope of Bonayan - 11
Types of Implementation - 12
Purpose of Participation - 13

05 Impact Analysis - 14
Impact at A Glance - 15
Economic Impact - 17
Environmental Impact - 21
Improved Quality of Life - 22
Increased Awareness
and Knowledge Development - 25

06 Relevance to Sustainable Development Goals - 29

07 Future Prospects - 32
Expectations from Bonayan - 33
Community and Youth Involvement - 35

1.0 OVERVIEW: BONAYAN AT A GLANCE



Bonayan is an afforestation programme started in 1980 by British American Tobacco Bangladesh (BATB) in collaboration with Forest Department to conserve the forests and combat the negative impacts of climate change.

Bonayan is now recognized as the largest private sector driven afforestation program in Bangladesh. It distributes saplings free of cost in Greater Kushtia, Jhenaidah, Meherpur, Rangpur, Lalmonirhat, Manikganj, Tangail, Chittagong and Chittagong hill tracts and has distributed approximately 91.5 million free saplings throughout BATB's operational territories.

The project's activities have been rewarded with different national awards including Asia's most highly ranked business award - 'Asia Responsible Entrepreneurship Award' on Green Leadership - for operating the biggest private sector driven afforestation program in Bangladesh.

1.1 GEOGRAPHIC FOOTPRINT OF SAPLING DISTRIBUTION

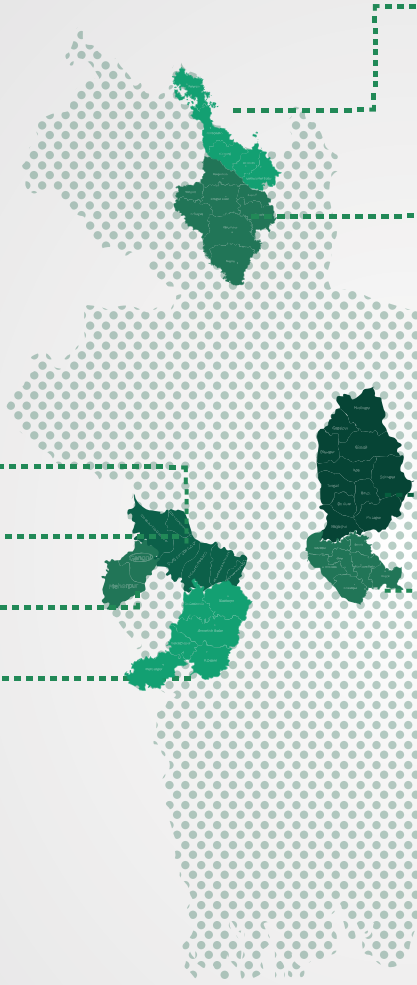
Kushtia Zone

Chechua

Allahrdarga

Meherpur

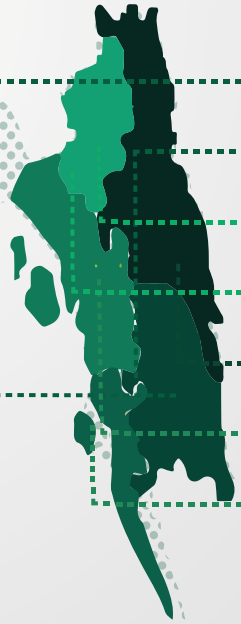
Jhenaidah



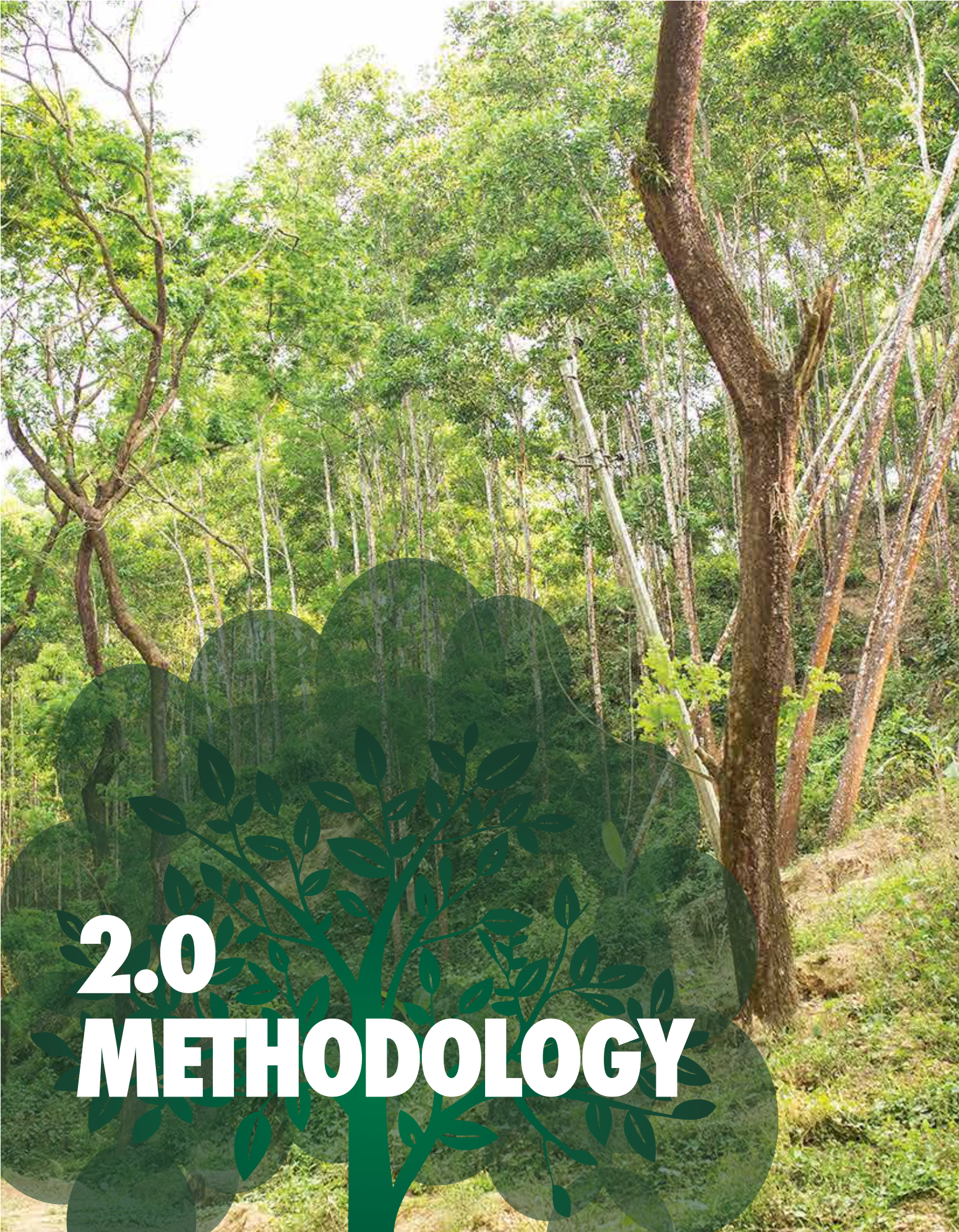
Rangpur & Manikganj Zone

- Lalmonirhat
- Rangpur
- Tangail
- Manikganj

Chittagong Zone



- Bandarbon
- Lama, Alikadam
- Naikhongchari
- Khagrachari
- Rangamati
- Chittagong City
- Chakaria

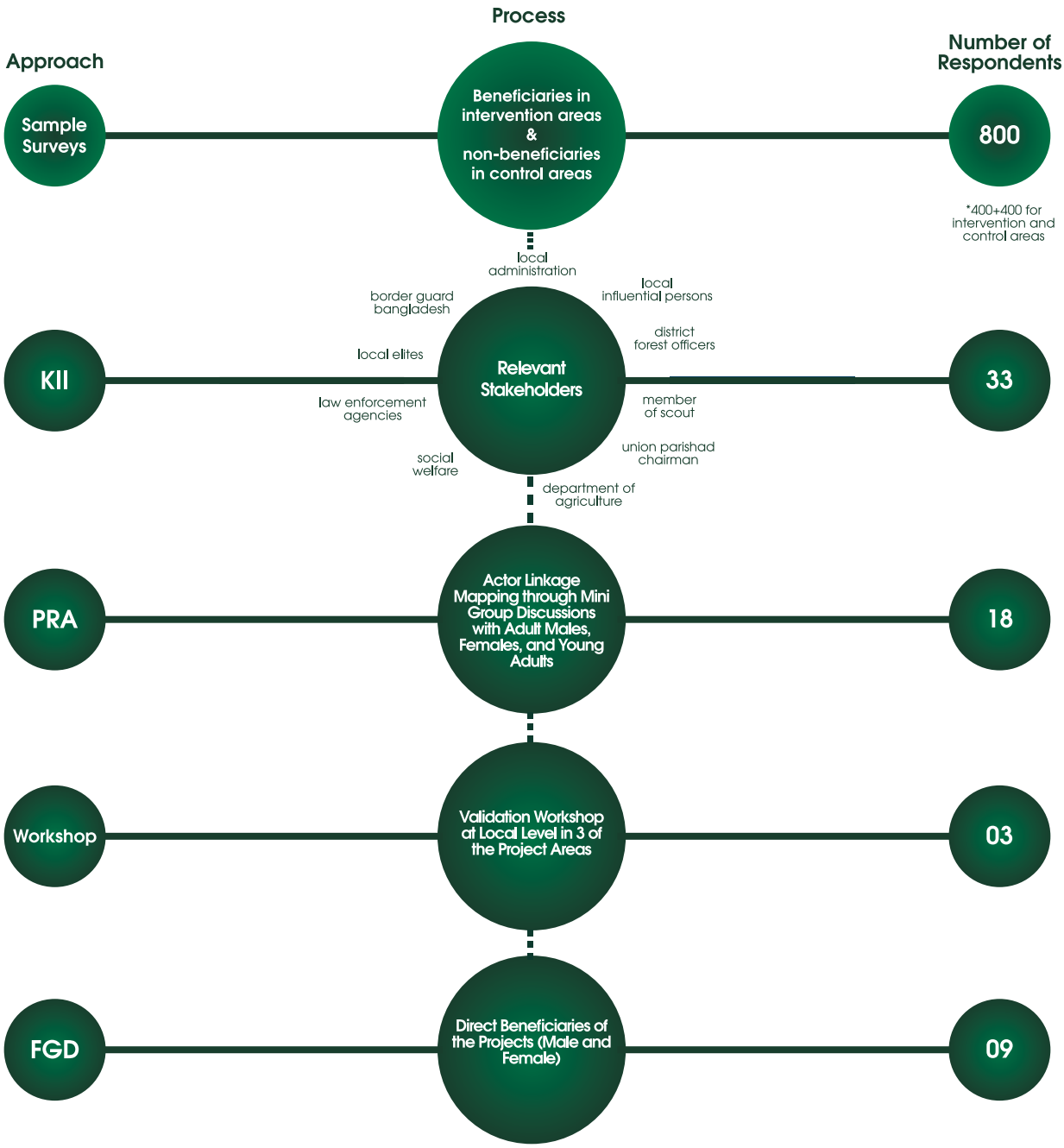


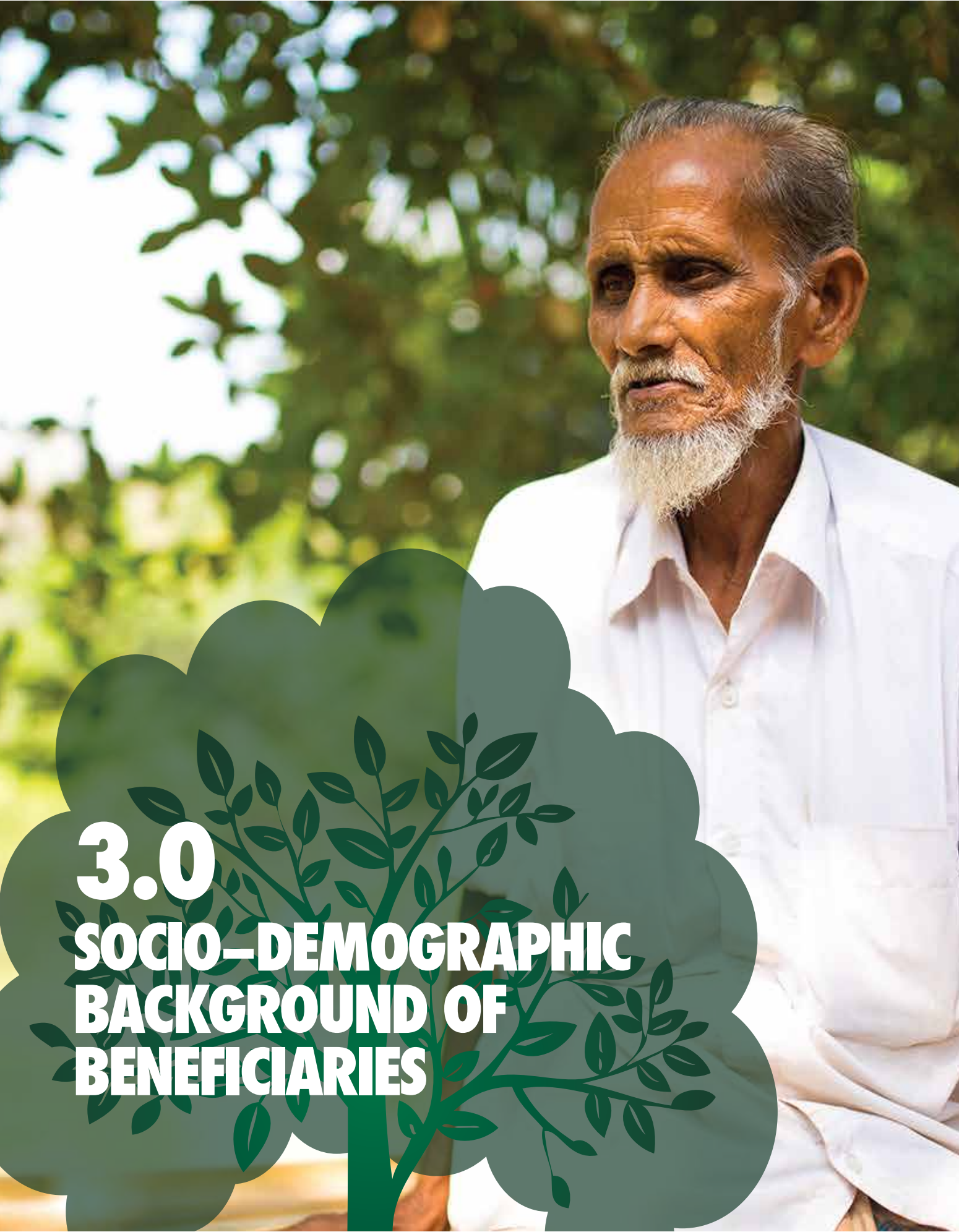
2.0 METHODOLOGY

The study areas of Bonayan were Kushtia, Bandarban and Lalmanirhat districts of Bangladesh. Structured and semi-structured questionnaires, pre-tested before implementation, were used to collect quantitative data and In Depth Interviews. Focus Group Discussions (FGDs), Key Informant Interviews (KIIs), Participatory Rapid Appraisal (PRA) (including Actor Linkage Mapping, Venn Diagram, Transect Walk, Time Trend) and validation workshops were used for qualitative data collection.

People who received saplings from the project comprised the target population in the intervention areas, while those who did not receive any saplings were considered as the population in the control areas.

Framework for Quantitative and Qualitative Sample Distribution



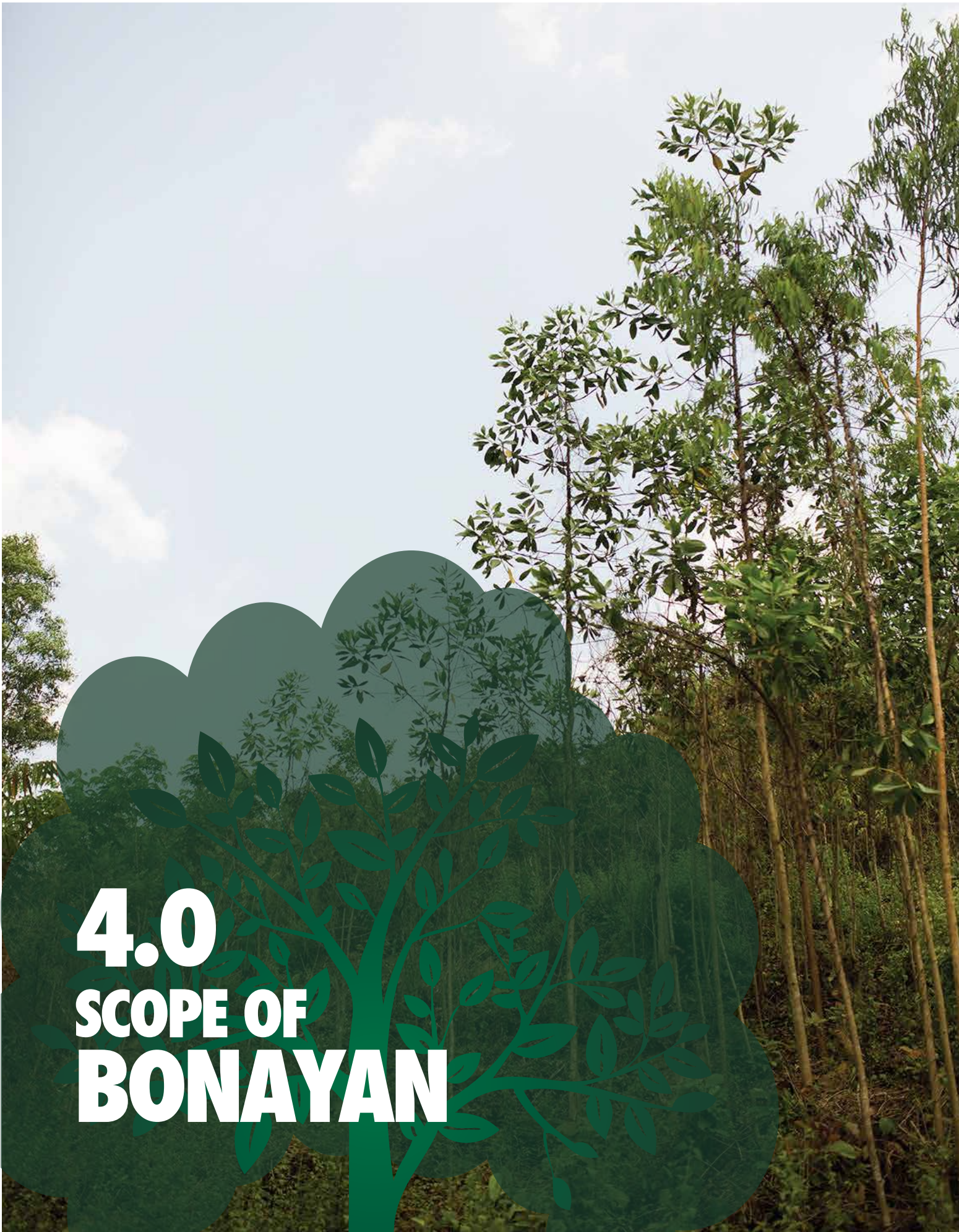


3.0 SOCIO–DEMOGRAPHIC BACKGROUND OF BENEFICIARIES

The majority of the earning members from the surveyed households in intervention areas are farmers. Qualitative findings indicate that most people in the intervention areas are engaged with agricultural work. In particular, many of them are earning a living through afforestation as they have tree plantation.

In addition, some of the people in the intervention areas are engaged in small business and are working as agricultural day labourers in other's land. Some are also earning a livelihood as non-agricultural day labourers, while a few are also working as skilled workers such as carpenter, blacksmith etc.

Survey reveals that,



4.0 SCOPE OF BONAYAN

4.1 TYPES OF IMPLEMENTATION

Beneficiaries of Bonayan are involved with three kinds of afforestation

10% of the respondents engage in Social Bonayan

Social Bonayan

involves planting trees considering social responsibilities and with a view to increasing the number of trees in a locality.

45% among them planted up to 500 trees

17% planted more than 5000 trees

68% of the respondents engage in Commercial Bonayan

Commercial Bonayan

refers to other ways of afforestation undertaken by respondents for economic or commercial purposes.

19% among them planted up to 300 trees

19% planted more than 5000 trees

31% of the respondents participated in Individual Bonayan

Individual Bonayan

involves planting saplings in the open spaces of beneficiaries' houses or in the courtyards or in places adjacent to their house. Usually this type of plantation is done for the benefit of household members.

47% among them planted up to 300 trees

15% planted up to 500 trees

4.2 PURPOSE OF PARTICIPATION

92%
of respondents participate in Bonayan for economic emancipation

82%
of respondents participate in Bonayan to save the environment

62%
of respondents participate in Bonayan to get fruit

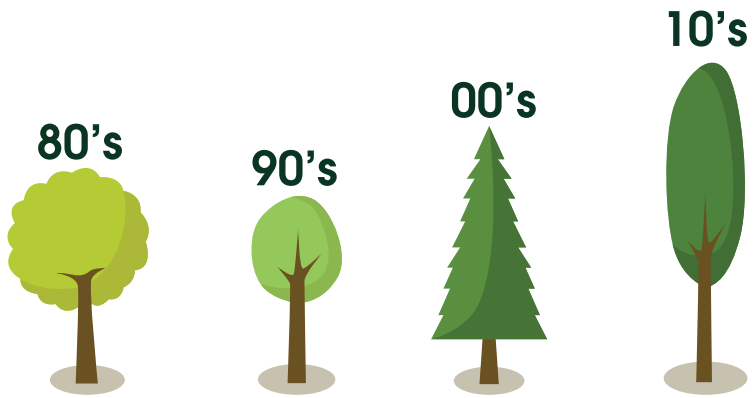
53%
of respondents participate in Bonayan to increase the number of trees in the area

The general awareness level of respondents about afforestation was very low in the past. People had a tendency to cut down trees as per need. They did not consider the negative impact of this action on the environment. After the introduction of Bonayan in the area, awareness about the importance of planting trees has increased. Beneficiaries started to become more conscious of their responsibility to participate in afforestation. Gradually, strong opinions were formed in the community about the necessity of taking part in Bonayan.

5.0 IMPACT ANALYSIS

5.1 IMPACT AT A GLANCE

The impact of afforestation over the years has been assessed using time trend technique. The gradual changes that have taken place over time can be seen as follows:



	80's	90's	00's	10's
Total Forest Area Covered by Bonayan Plants	20%	12%	30%	50%
Variety of Tree Species	09	05	10	21
Average Annual Income of the Families from Afforestation	-	-	10,000	25,000
Contribution of Afforestation to Reduce Risk of Natural Calamities	20%	15%	40%	60%

On tracing the impact of the project in this manner, it becomes evident that Bonayan has successfully implemented the required steps to increase the total percentage of forest area covered by Bonayan trees and diversify the types of trees available in these areas. Along with these environmental benefits, the project has reached out to its beneficiaries directly by giving them a means to boost their income.

Bonayan engages beneficiaries in such a way that they make the environment around them better along with receiving direct gains from the project. Under such a model, beneficiaries themselves participate in their own betterment. At the same time, they play responsible roles as members of the society in creating sustainable benefits for the community as a whole.

In areas where the project has been implemented, beneficiaries have received diversified benefits. A few key benefits are highlighted below.

People are getting fruit and medicinal benefits from the plants

People are earning money by selling fruit and wood or wooden furniture

People are becoming inspired by their neighbours who plant trees to become involved with plantation

People are better aware of the advantages of afforestation

People are using leaves gathered from the trees as animal feed

In contrast, people in areas where the project has not been implemented are facing several issues. Some of these issues are listed below.

People in these areas are not getting assistance or training for plantation

People are less interested in plantation and hence less economically benefited

People are not getting saplings and other material at a cheap price within their communities

People are not aware of any afforestation program in their communities

People are not aware of any program on afforestation issues

5.2 ECONOMIC IMPACT

77% of beneficiaries are earning money by tree plantation. Majority of these respondents (26%) earn BDT 5,000-10,000 per year; some (22%) earn BDT 10,000-20,000 per year and a smaller number (14%) have an annual income of BDT 20,000-30,000.

49% of the people stated that they have increased income as a result of tree plantation. Maintenance and security requirements for tree plantations have resulted in increased revenue growth (71%) and creation of more job opportunities (55%).

33% of the respondents stated that they invest the money earned from Bonayan in another business. It was found that majority (68%) of them invested in medium business, such as agriculture, agro-business, fish farming, restaurants, shops etc. Some of them also invested in small business (30%), such as fish, fruit, vegetable, drink, grocery store, tea shop etc.

Beneficiaries sell the trees at the nearby market and earn an average annual income of 10-15 thousand Taka. They use this income to meet the daily expenses in their family. Some of them also invest this money in their business or other income generating activities. 76% of the respondents responded positively when asked if they get financial benefits from Bonayan.

The money also helps beneficiaries to

- arrange various celebrations including marriage ceremony of their family members
- buy domestic animals
- save for the future

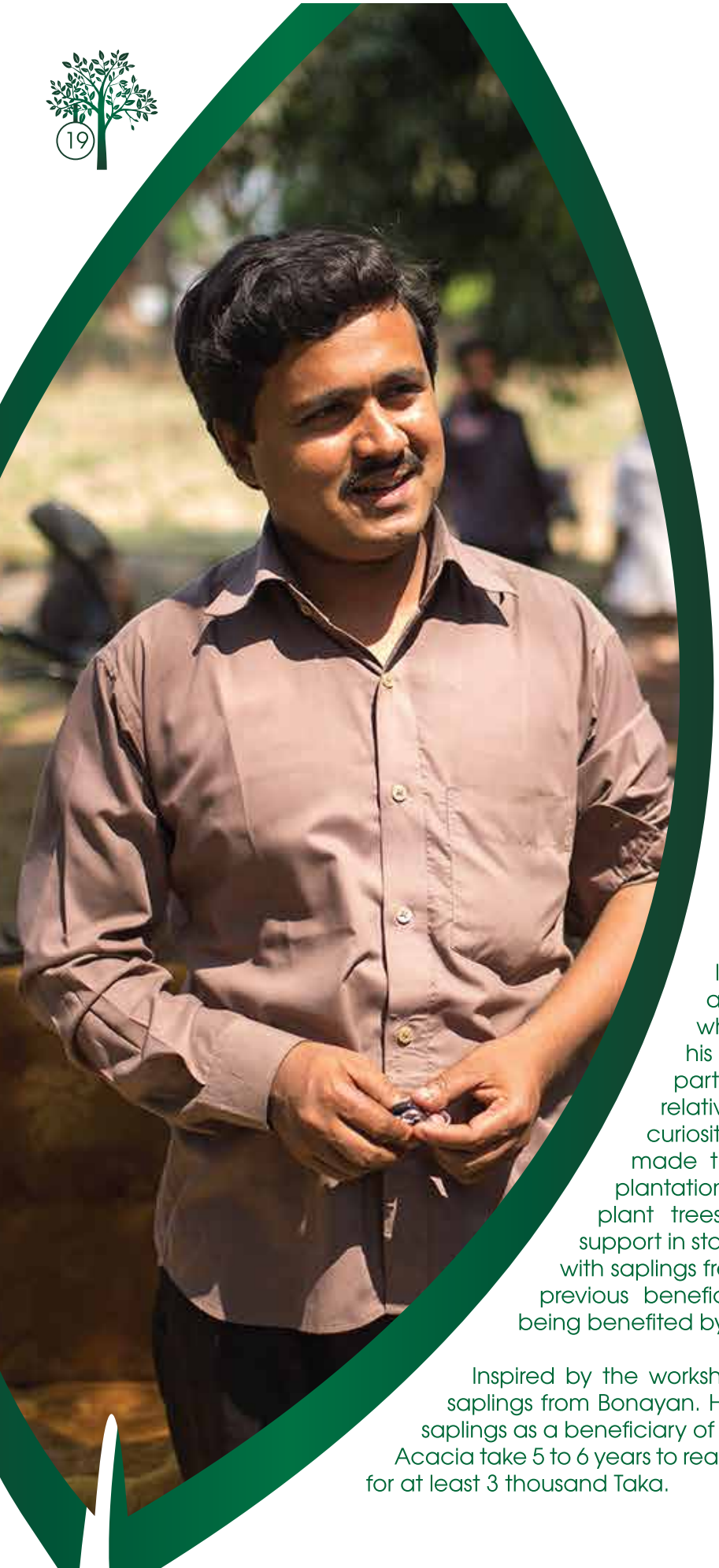
Beneficiaries get wood and fruit from the trees. The wood is used to make furniture. People sell this furniture in the market to earn money and many people are making a living through this type of business. Sometimes they make their own furniture with this wood, so they do not have to buy from the market.

61% of beneficiaries mentioned that they are getting fruit from the trees. According to the respondents, they get fruit two to three times each year and can sell wood at least once a year with proper growth of their tree. The community people can save a lot of money by eating the fruit from their own trees as they don't have to buy those fruits from the market.

"After I started working in this area, I discovered how people have been economically benefited by planting trees with the saplings provided by Bonayan. I think even if this did not have any economic gains, an initiative like this must be appreciated for its positive impact on the environment alone.

- Shahab Uddin,
Age 33, Teacher,
Lainziri Islamia Dakhil Madrasa

case study



MD. NURUZZAMAN

(Age 35)
Local Businessman

Mr. Nuruzzaman is a businessman and agriculture enthusiast living in Lama, Bandarban. He owns 3 ponds for pisciculture, farms for rearing cows and his own rice processing mill. He has been a beneficiary of Bonayan for the last 16 years and he attributes this prosperity largely to the benefits received from Bonayan's initiative.

In the year 2000, BATB held training and awareness building workshops for the area where Mr. Nuruzzaman has been living since his youth. Mr. Nuruzzaman was invited to participate, and he as well as a few of his relatives decided to join the workshop out of curiosity. At the workshop, BATB project officials made them aware of the advantages of tree plantation. They encouraged the participants to plant trees, assuring them that they would get support in starting the gardens and would be provided with saplings free of cost. A few of the participants were previous beneficiaries who shared their experience of being benefited by this initiative.

Inspired by the workshop, Mr. Nuruzzaman decided to collect saplings from Bonayan. He has received about 20 to 30 thousand saplings as a beneficiary of the project. He discovered that plants like Acacia take 5 to 6 years to reach full growth and each plant can be sold for at least 3 thousand Taka.

Seeing the economic potential of the saplings, Mr. Nuruzzaman became a regular beneficiary of Bonayan.

Bonayan has given Mr. Nuruzzaman financial stability and helped him receive substantial gains. From the workshop, he developed an understanding of the fact that planning is important for successful plantation. In his garden, he planted trees in an organized manner, ensuring each sapling was placed at a spot conducive to its growth.

Selling the fruit and wood from his trees and with the profit from his farm, Mr. Nuruzzaman gradually emerged as a successful businessman. He says that he could not have imagined owning even 10,00,000 Taka at a time before Bonayan introduced him to the potential of afforestation. Now, his tree garden alone is valued at about 1,00,00,000 Taka. As Mr. Nuruzzaman put it, he and the people in his area did not understand the true value of their land and how fertile the soil of their hills could be until Bonayan gave them the training and support to start utilizing these resources.

In order to save on expenses for fertilizer, he set up a cow rearing farm in the same area as his garden. This farm not only yields separate profit of its own, but also provides manure which Mr. Nuruzzaman uses to nurture the land in his tree garden.

Mr. Nuruzzaman has managed to diversify his business and establish himself as a successful agricultural businessman over the last 16 years. He believes that this success has been possible only because of Bonayan and BATB's continuous support in the form of saplings, fertilizer, and regularly conducted visits to ensure the gardens are well-maintained. He is planning to start a layer farm in the coming year and is optimistic about its prospects seeing the

5.3 ENVIRONMENTAL IMPACT

81%
of respondents are enjoying a better environment due to afforestation.

97%
of respondents cited that the ecology has improved in their habitat.

91%
of respondents signified the increased number of trees as the change in the ecological system.

51%
of the community people also stated that now the environmental balance has been maintained in proportion to population.

43%
of respondents believe use of abandoned land has been ensured.

50%
of respondents note that the number of trees has increased.

45%
of respondents think they are getting tree shade.

71%
of respondents believe better environment is being ensured.

35%
of respondents have expressed happiness at the gradually increasing green environment.

58%
noticed more forestry as another element of changing ecology.

> There aren't a lot of big roads and highways to plant trees around in this area. Despite that, Bonayan has built individual tree plantations in a lot of places. An initiative like this is certainly praiseworthy. Because of this, on one hand the environment is conserved and on the other hand people are benefited economically from the gardens.

- Sheikh Shahidul Islam,
Age 43, Range Offiicer, Forest Ranger,
Lama Range of Lama Forest Department

5.4 IMPROVED QUALITY OF LIFE

As a result of Bonayan, beneficiaries have become solvent and people are now more self-reliant. Consequently, a balance in living standard has been created in the society. The impact of afforestation can only be understood through the little changes or advancements that happened in the life of these people or in the environment of their areas. For instance, according to the respondents, more green areas in their locality are now visible than in the past. This change can only be perceived, but not quantified by individually counting existing trees or by any other method.

Many children from beneficiary families are getting the opportunity of education as a result of increased family income through afforestation. They are also being benefited in terms of their improved health condition.

As beautiful tree plantations were made at the roadsides of beneficiary localities, the areas gradually developed and more roads and highways were built.

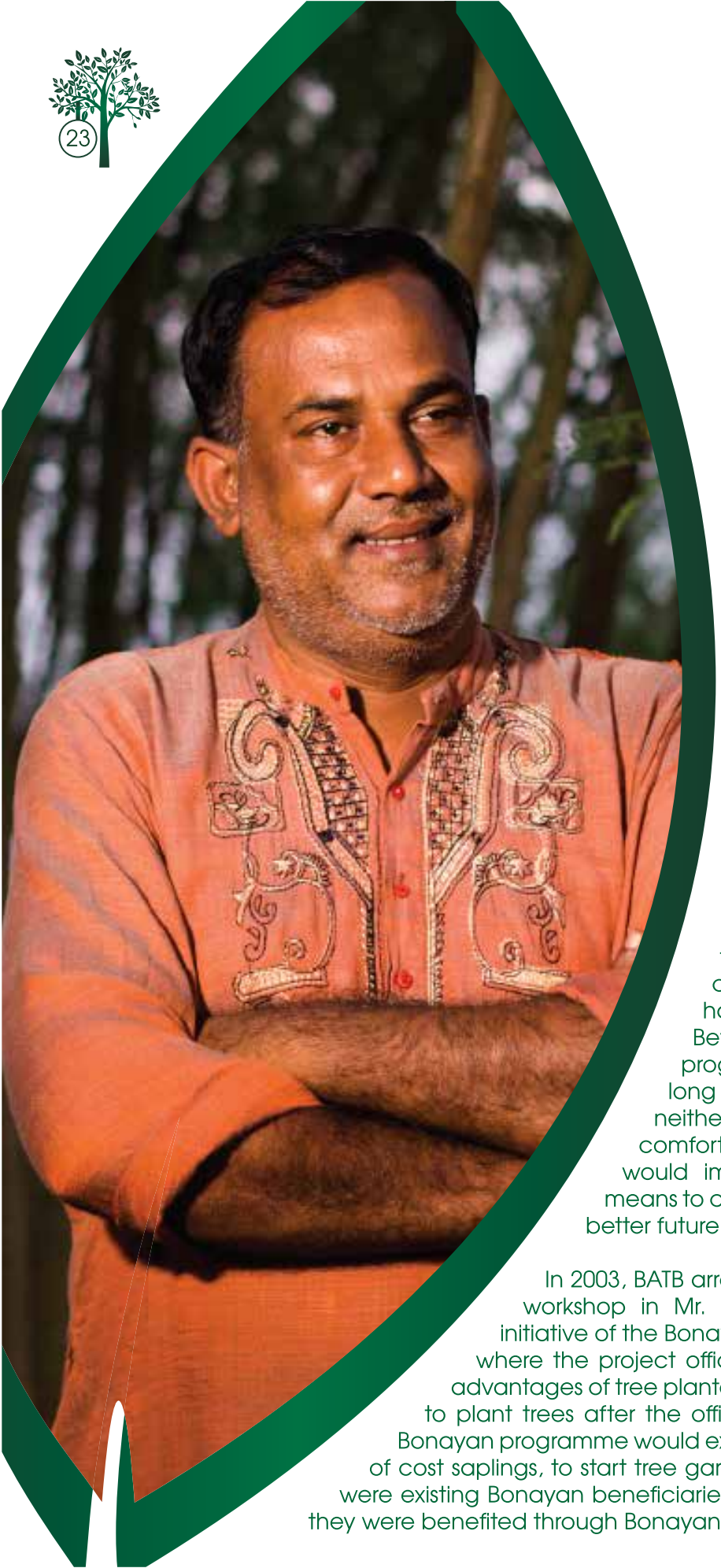
Respondents previously lived in rickety huts, but now they live in concrete houses.

literacy rate has increased.

14% of respondents are getting medicine from these plants.

5% of respondents feel that Bonayan has helped in beauification.

> We are getting money by selling fruits and wood which is helpful to continue our children's education. Tree is the companion of indigent.
>
> - **FGD, Kushtia**



MD. JOYNAL ABEDIN

(Age 47)
Local Businessman

Md. Joynal Abedin is a local farmer and a businessman. He was born and raised in Shimulia, Mirpur, Kushtia. He has been a beneficiary of Bonayan for the last 15 years.

Mr. Abedin owns a pond as well as a commercial nursery for business. He earns a modest amount of money through his business and leads a comfortable life. However, circumstances have not always been this kind to him. Before he discovered the Bonayan programme, he had been unemployed for a long time. During that time, Mr. Abedin had neither a stable source of income, nor the comfort of knowing if his financial condition would improve. Bonayan helped him with the means to change his financial condition and make a better future for his family and himself.

In 2003, BATB arranged a training and awareness building workshop in Mr. Abedin's locality, as part of a regular initiative of the Bonayan program. He attended the workshop, where the project officer made the participants aware of the advantages of tree plantation. Mr. Abedin was further encouraged to plant trees after the officer assured all the participants that the Bonayan programme would extend all necessary support, including free of cost saplings, to start tree gardens. Some of the workshop participants were existing Bonayan beneficiaries and they shared inspiring stories of how they were benefited through Bonayan.

Mr. Abedin initially collected 6,000 Mahogany saplings from the Bonayan programme. As a result of his dedicated work and full support from the project officer, he nurtured these saplings into trees and sold them after 5 years for 600,000 (six lakh) Taka. This amount helped him to overcome his financial crises and to bear the educational expenses of his children at the same time, Mr. Abedin also started a commercial nursery for business purposes. Upon realizing the economic potential of the plantation programme, he became a regular beneficiary of Bonayan.

Mr. Abedin had the sole support of Bonayan when he was unemployed. He initially received saplings free of cost from the programme, which allowed him to create value from his own work and generate revenue to overcome his financial crises. The profits from his participation in Bonayan grew by significant percentages, leading to greater solvency and financial safety for him and his family. Bonayan has truly changed Mr. Abedin's condition by empowering him through self-employment.

He has planted saplings of fruit, and of medicinal and wood producing plants. These help him to fulfill his family's fruit demands as well as that of his relatives. He also gets 10,000 Taka annually from his lemon garden. Many other people have been inspired by his success to collect saplings free of cost from Bonayan. Md. Joynal Abedin has already sold trees worth 700,000 Taka. He says that at present his garden is valued at about 20,00,000 Taka, with a large number of saplings planted recently. After five years, the value is estimated to reach around 1,00,00,000 Taka. Md. Joynal Abedin wishes to see the younger generation develop their future and be self-dependent through proper guidance from Bonayan.

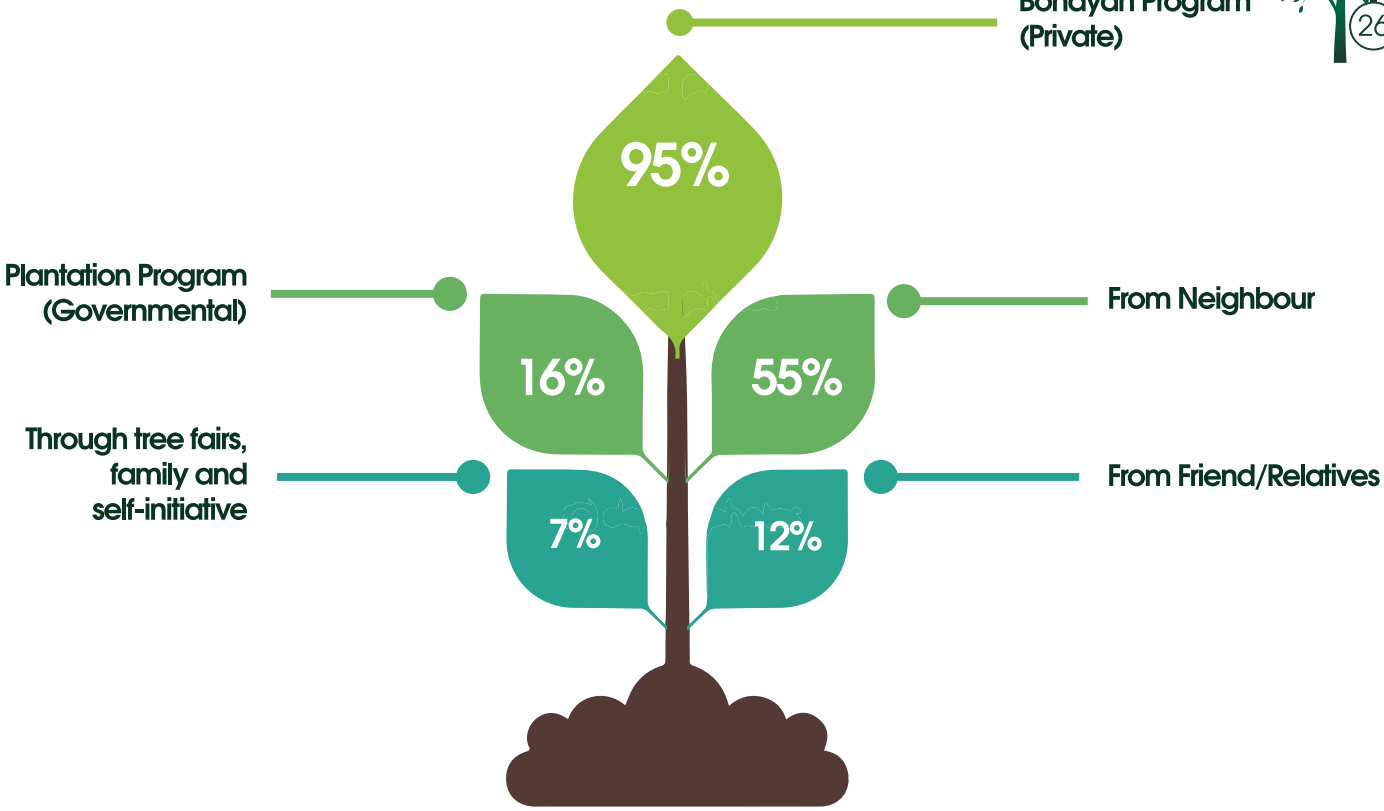
5.5 INCREASED AWARENESS AND KNOWLEDGE DEVELOPMENT

BATB project official explaining to a beneficiary of Bonayan how to take care of the saplings distributed by the project.

Increase in awareness regarding tree plantation (85%) was found to be the most significant change brought about by Bonayan as per the studies conducted. The Bonayan project emerged as the key factor contributing to increased plantation practices among the community people.

Significant contribution of BAT (60%) was noticed In regardby the community people with regards to direct involvement with plantation and, thereby, the afforestation movement. In the very first year, maintenance cost was provided by Bonayan along with the saplings.

- BATB project officials played a significant role in disseminating relevant information for plantation and people became more interested to plant trees.
- In terms of plantation, scientific methods are now being used. Previously, local people used their indigenous knowledge for plantation. They planted trees based on their own ideas, need and availability. (e.g. mango or jackfruit tree). Very few took the initiative to plant trees like Mahogany (*Swietenia mahagoni*) or Albizia (*Albizia lebbeck*) for economic support.
- After Bonayan's intervention, farmers and planters have proper knowledge on how to grow the saplings well.



Percentage distribution of the respondents according to their inspiration to plant trees

> There was a time when the people of this area only had a habit of cutting trees down but not of planting any. As a result, forest land began decreasing, and the number of trees reduced. During this period, British American Tobacco Bangladesh organised tree fairs and distributed free saplings. This inspired people of all classes to plant trees.

- Md. Yousuf Ali,
Age 30, Ward Councillor, Lama Municipality

case study

REHANA BEGUM

Local Resident

Born in the '70s, Rehana Begum is an elderly beneficiary of Bonayan living in the hills of Lama. Rehana is originally from Chakaria. Her parents and her siblings still live there. Rehana moved to the hills in Lama in the nineties with her husband. He was a local farmer who passed away about 10 to 12 years back.

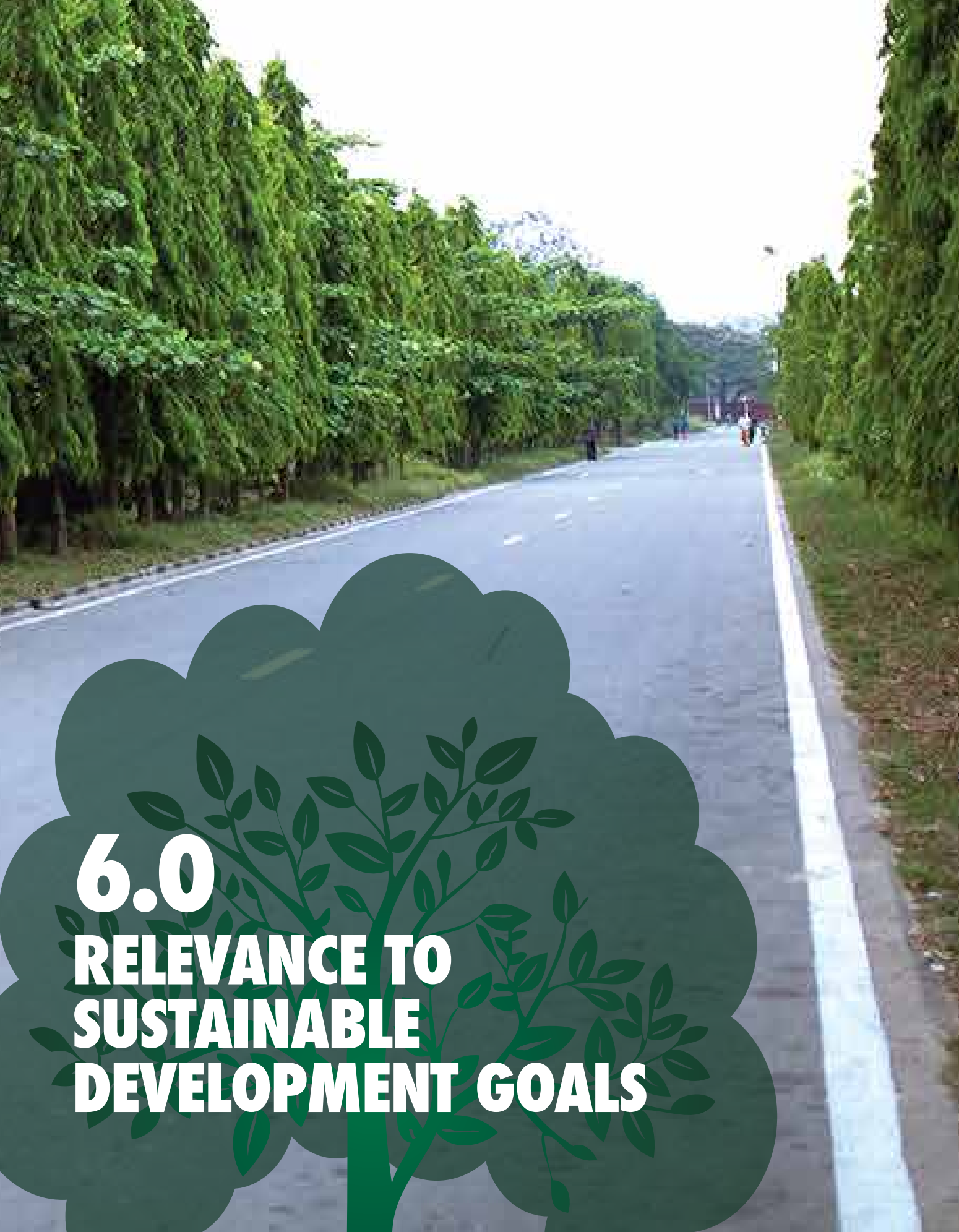
Rehana is the mother of four children – a son and three daughters. Married in her twenties, she was very young when her husband died leaving her to struggle alone with their family. They had been poor even while her husband was alive, and his death meant that the only earning member of the family was no longer with them. Rehana had dreamt of getting all her children educated. However, financial troubles made it impossible for her eldest daughter to go to school. Not knowing how to read and write herself, Rehana's future was clouded with uncertainty and distress.

Life in the hills did not give Rehana the scope to earn a lot of money. She earned a meager amount for the survival of her children by working on other people's land. The work was difficult, but the remuneration was barely enough. Rehana had completely given up hope on ever having a bright future. It was around this time that she heard about the Bonayan project. Eager to create a better future for her family, Rehana became a beneficiary of Bonayan and began to collect saplings from the project through her neighbours who were beneficiaries as well.

Rehana has been collecting saplings from Bonayan for over a decade now. The money from selling the wood, fruit and trees is her only source of income. She has managed to sustain her family and single-handedly raise all four of her children with this money as her support. Her three younger children can all read and write and have had the chance to go to school. Rehana's daughters are all married now and they have moved into their own houses.

Rehana collected saplings of Neem, Mango, Acacia etc. plants from Bonayan. She planted them on some land she owned on the hills. The land had not come to any particular use in the past, but after collecting the saplings, she could nurture them on this land until they grew sufficiently. After the trees were fully grown, she could sell both fruit and whole trees for money.

Fighting for survival entirely on her own, Rehana had no support other than Bonayan. She had no partner, no education and no stable source of income. Had Bonayan not saved her from her dire situation, it would have been impossible for her to provide for her children. Bonayan gave her a chance to hope for a better future. She is now content with her children's happiness. Even as they grow up, Rehana has the monetary support she needs to live independently.



6.0 RELEVANCE TO SUSTAINABLE DEVELOPMENT GOALS

Sustainable Development Goals (SDGs): the 2030 Agenda for Sustainable Development by United Nations

Economic Emancipation

Bonayan distributes saplings free of cost to its beneficiaries. These beneficiaries are mostly poor and do not have ample scope to improve their condition economically. The saplings they receive grow into trees, which are valuable assets that can be used to generate income. In this way, Bonayan gives the poor a tool for economic empowerment and reduces poverty in their lives.

Target 1.4

By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

Reduction of Poverty

A large number of Bonayan beneficiaries did not have the capital to invest in new ventures or resources. Bonayan gave them the opportunity to reduce the impact of poverty in their lives by participating in afforestation free of cost.

Target 1.1

By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day

Target 1.2

By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

Agricultural Productivity

As a part of the project, even those who did not understand the importance of trees in the past are now engaged in planting saplings and taking care of them. Bonayan project officials have made sure beneficiaries take part in productive agriculture with adequate knowledge about nurturing, fertilizers etc. to support their activities.

Target 2.1

By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round

Target 2.3

By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment

Access to a Healthy Environment

A perceptible change that beneficiaries reported after Bonayan was implemented in their areas, was the gradual increase in greenery around them. The environment in areas where the initiative has been taken is greener, more balanced and healthier.

Target 11.7

By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

Conservation of Trees and Forests

In the past, trees were cut down in large numbers and no initiative was taken to combat the negative impact of deforestation. Bonayan has actively engaged people in planting trees, which ensures that some of the balance in the environment is restored and the damage caused by deforestation is mitigated.

Target 15.1

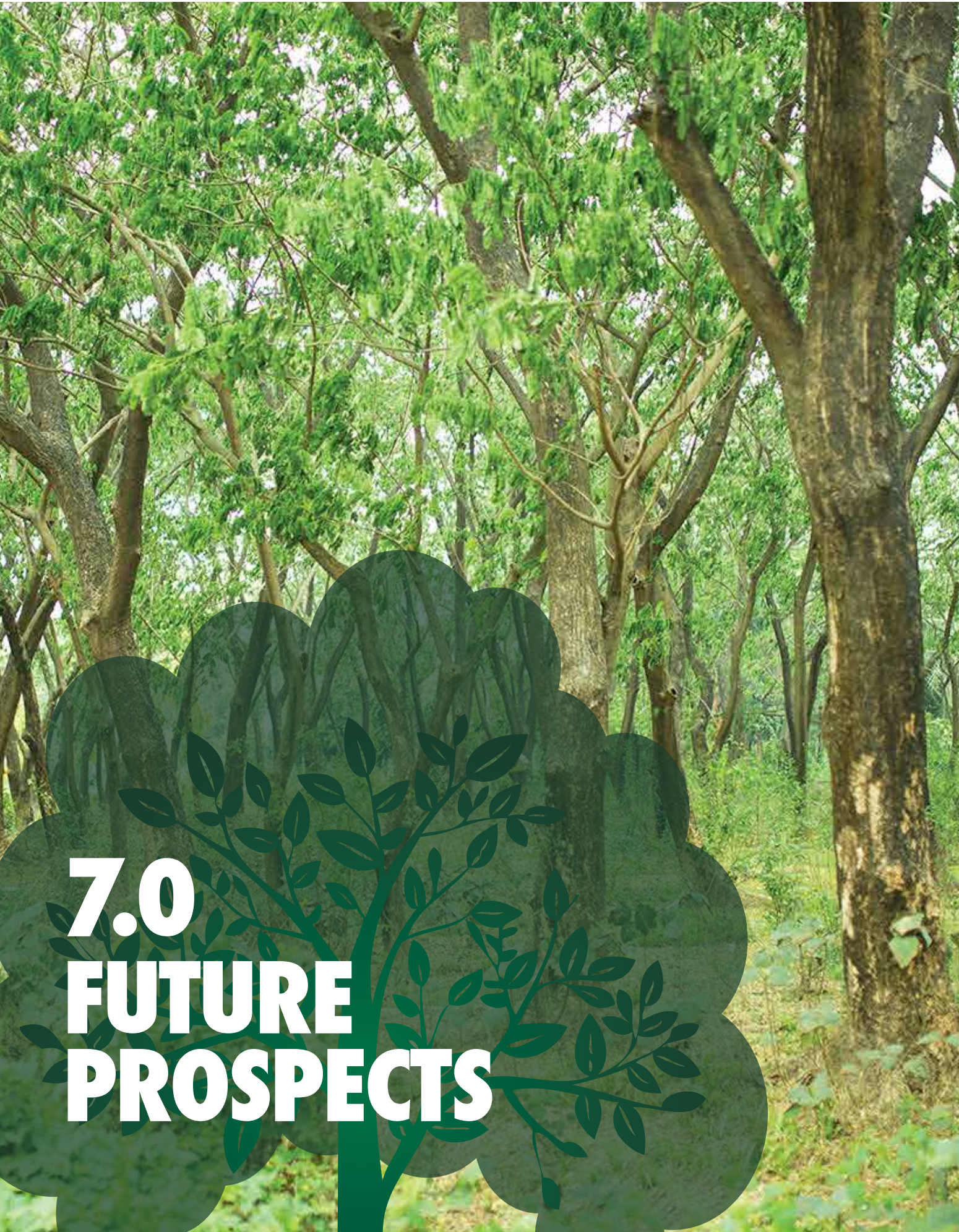
By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

Target 15.2

By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

Target 15.4

By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.



7.0 FUTURE PROSPECTS

7.1 EXPECTATIONS FROM BONAYAN

Percentage distribution of the respondents according to the expectations from Bonayan

The participants of the workshop recommended assigning a guard every 2-3 kms in the Banayan areas for the maintenance of the saplings or trees. They also suggested building a fence which will protect the saplings from stray animals and passers-by. Formation of a local committee to take care of the saplings or trees was proposed as well.

Besides taking care of trees and saplings, this committee could also afford to pay the fixed term guard recruited for maintenance. According to the participants of the workshop, Bonayan has been successful so far but it is necessary to increase focus on social plantation as it is essential to create a sustainable and green environment.

Participants believe that people want to plant fruit saplings more than other type of saplings as they are more profitable. Therefore, they suggested providing more fruit saplings through this initiative. They also felt it would be more effective if the saplings were provided by Bonayan after they had grown a little taller, since smaller saplings require more care.

7.2 COMMUNITY AND YOUTH INVOLVEMENT

Inspired by the positive changes that Bonayan has brought about in the society and the environment, the young generation has grown an interest in afforestation. They take active interest in initiatives that promote afforestation. In response to questions regarding the availability of land, 40% of respondents mentioned having abandoned land for plantation in their area.

96%
of respondents have seen growing interest for plantation among the community people.

91%
of them said that the community people have already planted trees in those abandoned land.

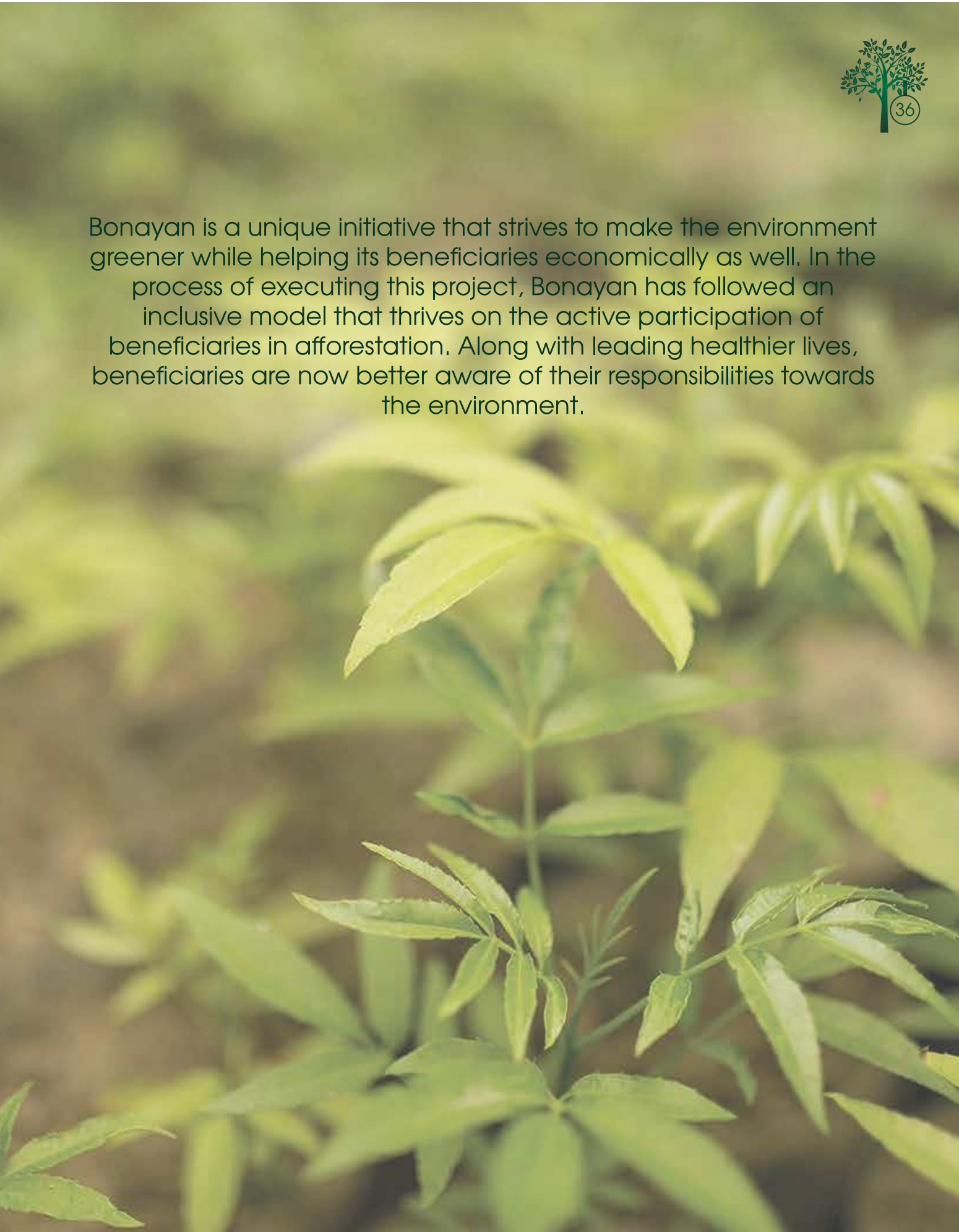
Indicators of growing interest for plantation among people

As a part of their initiatives for afforestation, some of the activities of the youth are as follows

- Self-motivated collection, plantation and nurturing of saplings
- Ensuring proper utilization of open spaces through planting trees in those spaces
- Creating seedbed and selling saplings from these seedbeds with a view to continuing the chain of sustainability

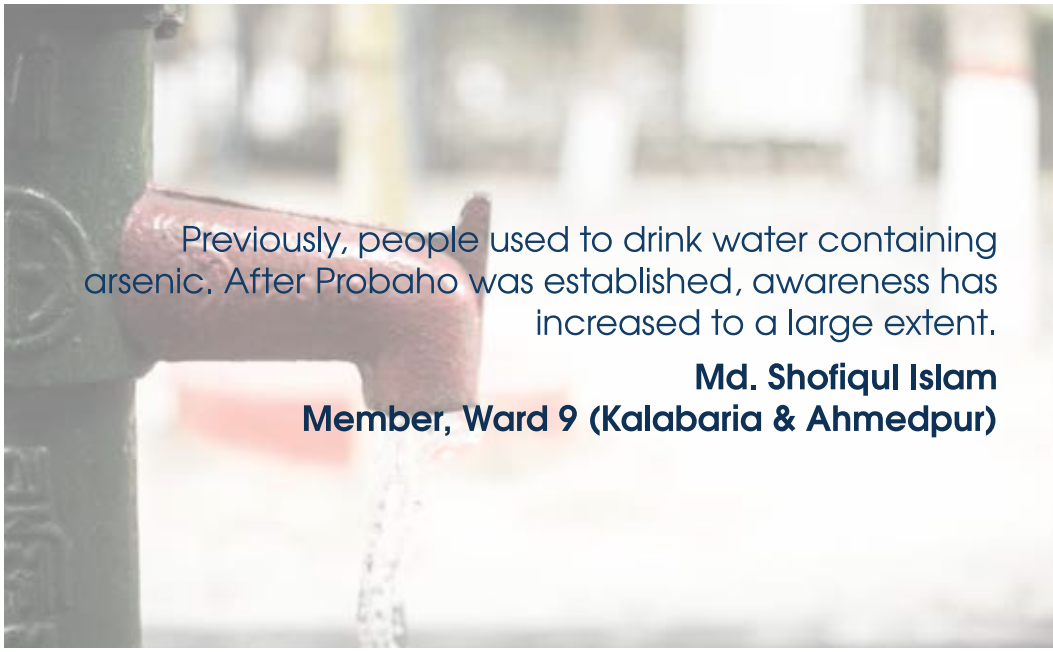
In most cases these saplings were found to have rapid growth and to have a long life. The plants reach full growth quickly, too. Taking care of these saplings does not require any cost and the community people look after the trees themselves. The owners of the trees and their family members also take care of their trees.

Bonayan is a unique initiative that strives to make the environment greener while helping its beneficiaries economically as well. In the process of executing this project, Bonayan has followed an inclusive model that thrives on the active participation of beneficiaries in afforestation. Along with leading healthier lives, beneficiaries are now better aware of their responsibilities towards the environment.



IMPACT OF PROBAHO

A Safe Drinking Water Project

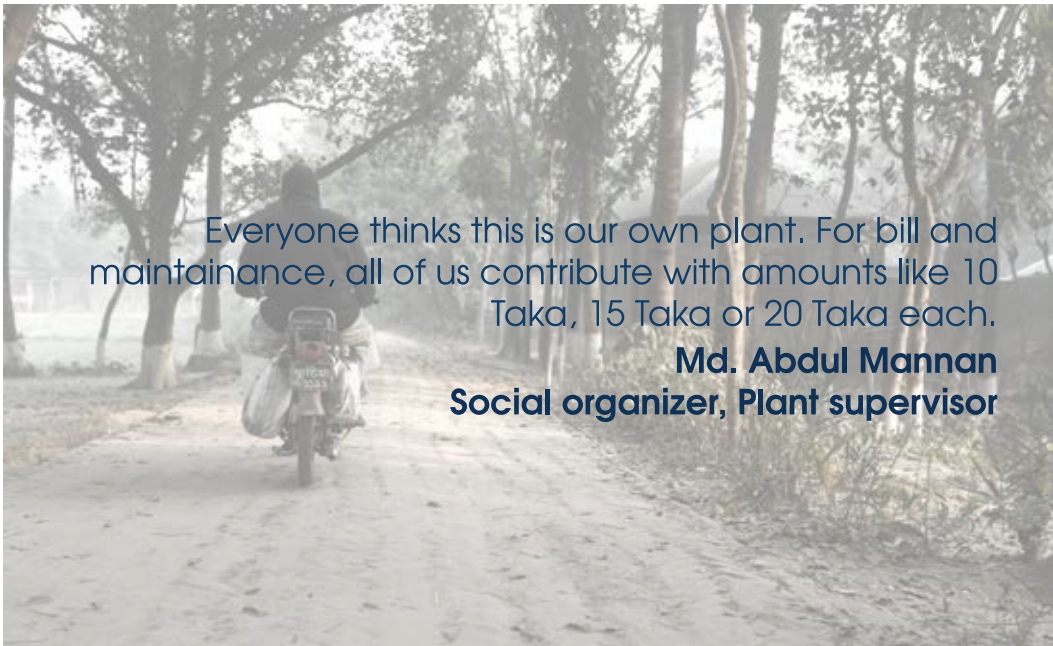


Previously, people used to drink water containing arsenic. After Probaho was established, awareness has increased to a large extent.

Md. Shofiqul Islam
Member, Ward 9 (Kalabaria & Ahmedpur)

We bring Probaho water to drink at the school as well. The quality of this water is much better than that of tube-well water. The water is light and completely iron-free. Stomach problems that we had before have stopped occurring after we started drinking Probaho water. I have seen water in bottles and pitchers at a lot of children's houses. When asked if this was rainwater, they told me it was water from Probaho. Diseases like diarrhoea and dysentery were seen a lot among students in the rainy season, which has decreased a lot after drinking water from Probaho.

Shahana Kakoli
Headmaster, Ahmedpur Government Primary School

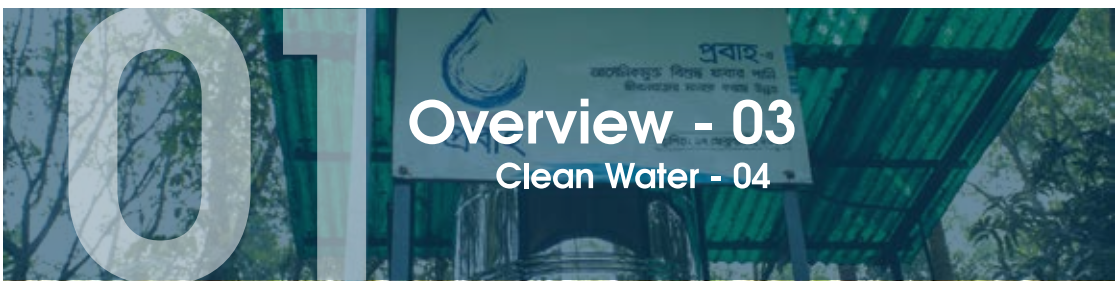


Everyone thinks this is our own plant. For bill and maintainance, all of us contribute with amounts like 10 Taka, 15 Taka or 20 Taka each.

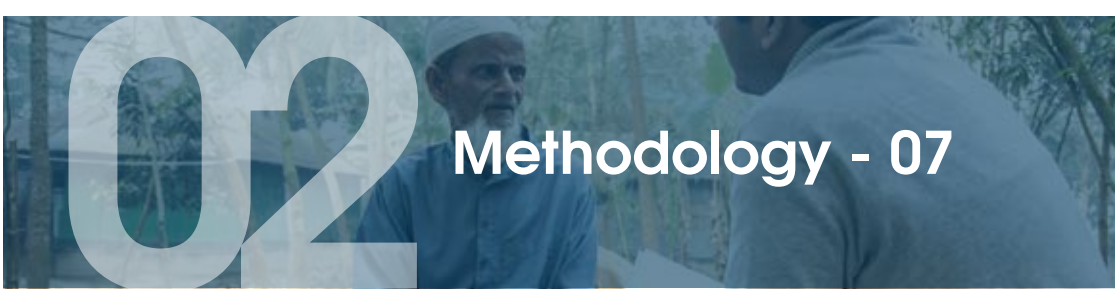
Md. Abdul Mannan
Social organizer, Plant supervisor

British American Tobacco Bangladesh launched Probaho as a CSR initiative in 2009. The aim of this project is to provide rural communities in Bangladesh with safe drinking water. Over a span of eight years, Probaho has been bringing pure drinking water to people in need of it. This report seeks to highlight the positive impact that the project has created in the lives of the beneficiaries it serves across rural communities and those at the bottom of the income pyramid.

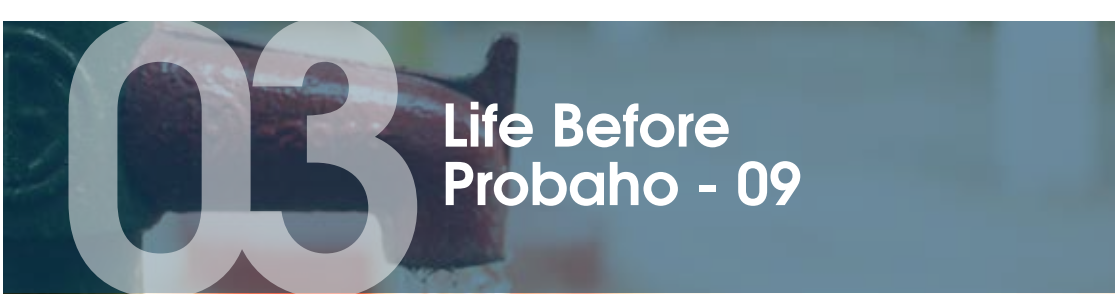
CONTENTS



01 Overview - 03
Clean Water - 04



02 Methodology - 07



03 Life Before Probaho - 09

04 Impact Analysis - 13
Value Creation and Image of Probaho - 14
Footprint of the Project - 16
Community Involvement - 25

05 Relevance to Sustainable Development Goals - 26

06 Sustainability Outlook - 29
Community Ownership Prospects - 30
Key Sustainability Components - 31

প্রবাহ-র
আর্সেনিকমুক্ত বিশুদ্ধ খাবার পানি
জীবনযাত্রার মানকে করছে উন্নত
প্রবাহ
স্থাপিত: ০৩ জুন, ২০০৯

1.0 OVERVIEW:

65
water filtration plants

170,000
people served everyday

350,000
litres of water per day

64
communities reached

8
years of pure water supply

SIDKO water filtration unit is the only government approved technology for purification of water. Therefore, this unit is used in Probaho that operates in arsenic prone areas of the country.

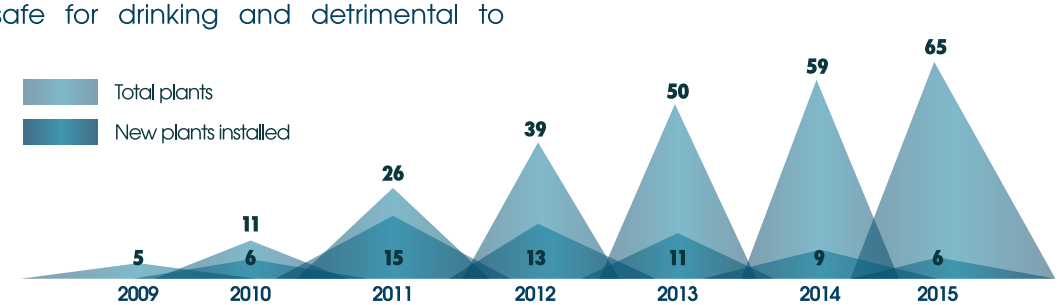
Probaho filters the water in several steps eliminating arsenic, iron, manganese, phosphate and other harmful elements.

1.1 CLEAN WATER: WHERE PROBAHO BEGAN

The 2012 Millennium Development Goals report sheds light on one of the most deadly issues across the globe – lack of safe drinking water. According to the report, 783 million people worldwide do not have access to supply of healthy clean water.

In Bangladesh, the reflection of this problem is perhaps most perceptible in rural areas, where the majority of people use groundwater as their primary drinking source. The presence of mud, dirt, excessive iron and arsenic etc. make the water unsafe for drinking and detrimental to health.

Probaho was first launched by British American Tobacco Bangladesh (BATB) with the aim of providing safe drinking water to the millions of people in rural Bangladesh who suffer due to lack of clean drinking water. As the project has scaled up, its beneficiary size has grown and so have the number of plants, enabling Probaho to reach out to more and more people from underserved communities.



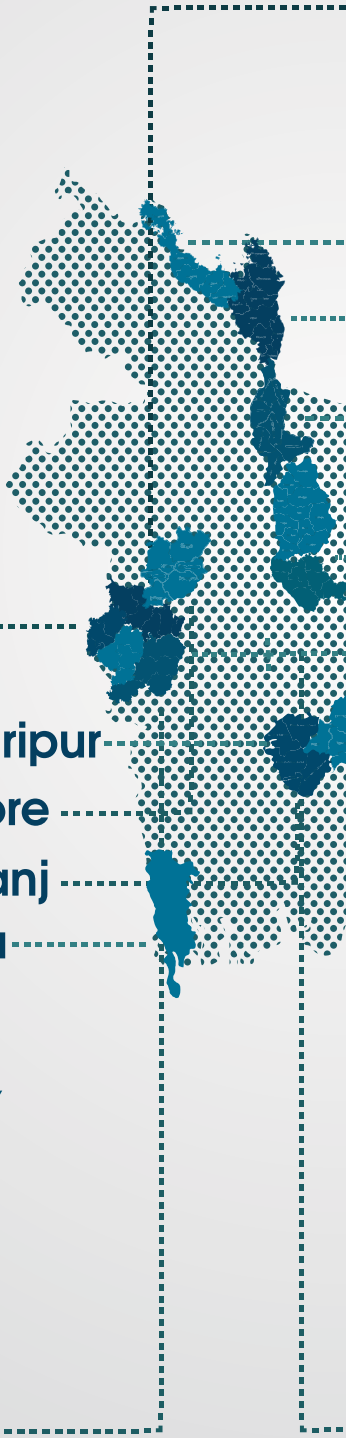
Year-wise installation of Probaho plants

Geographic Distribution
of Probaho filtration plants

Meherpur Zone

9 filtration plants

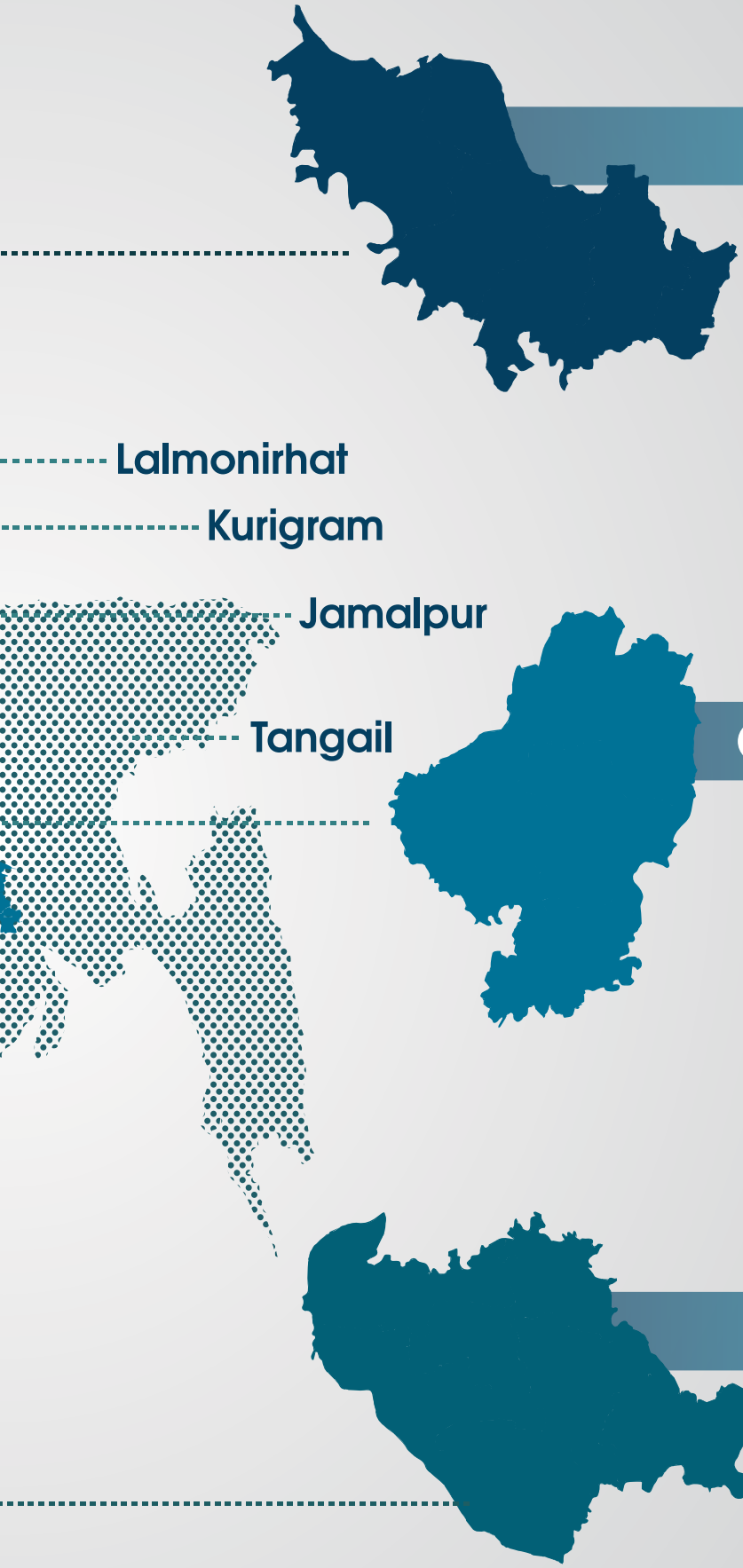
9 communities reached



Jhenaidah Zone

7 filtration plants

7 communities reached



Kushtia Zone

27 filtration plants

26 communites reached

Chuadanga Zone

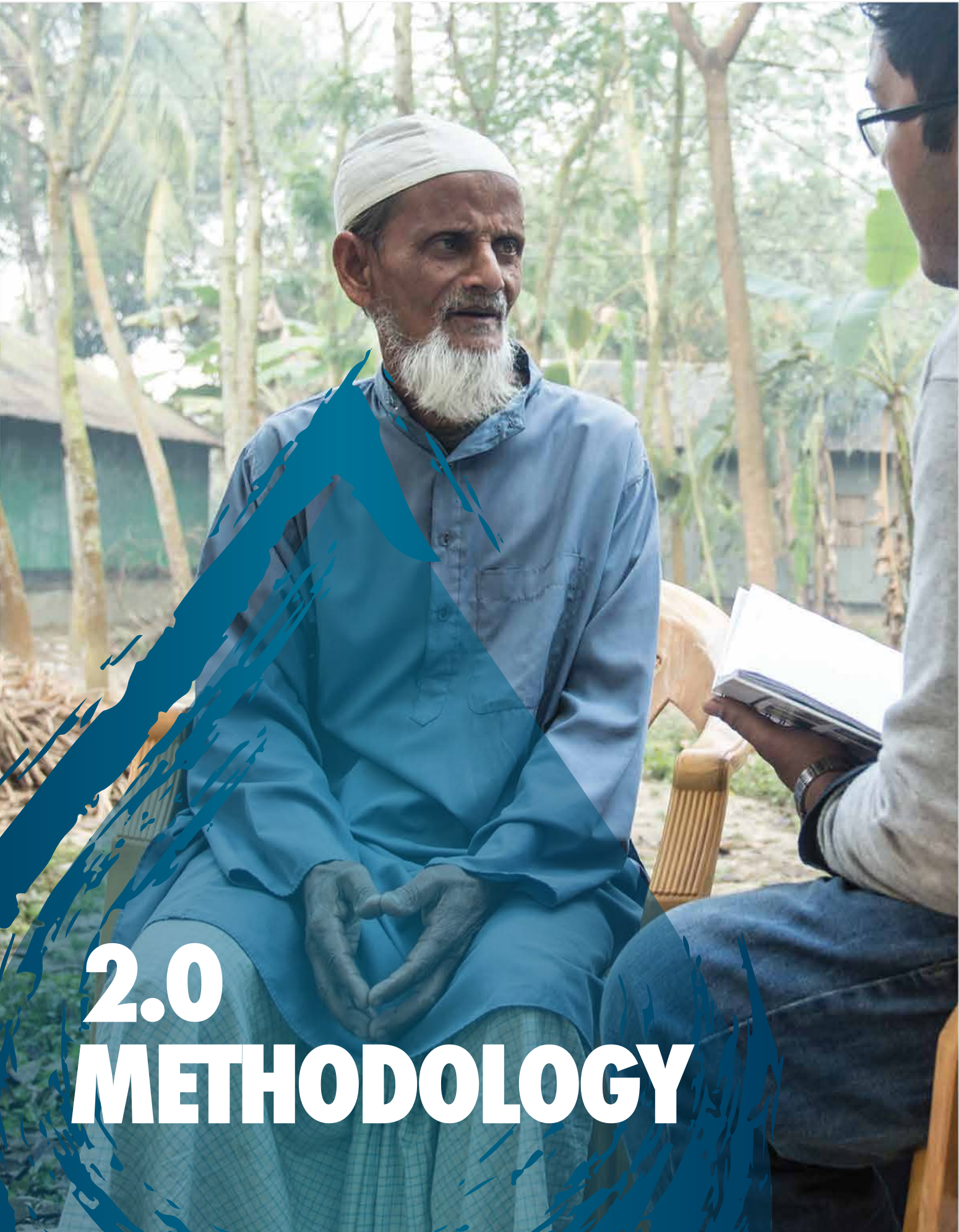
5 filtration plants

5 communities reached

Manikganj Zone

6 filtration plants

6 communites reached

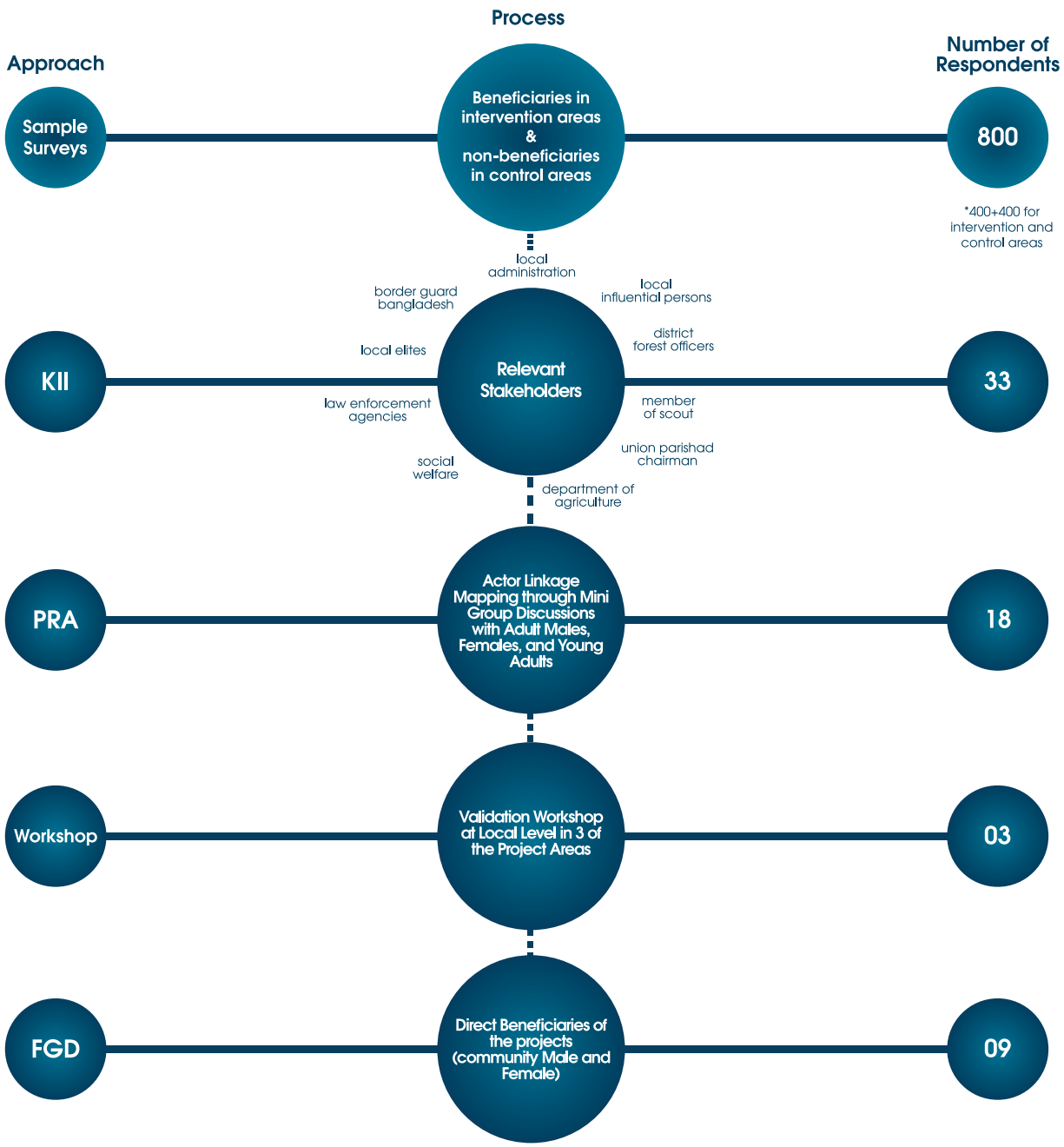


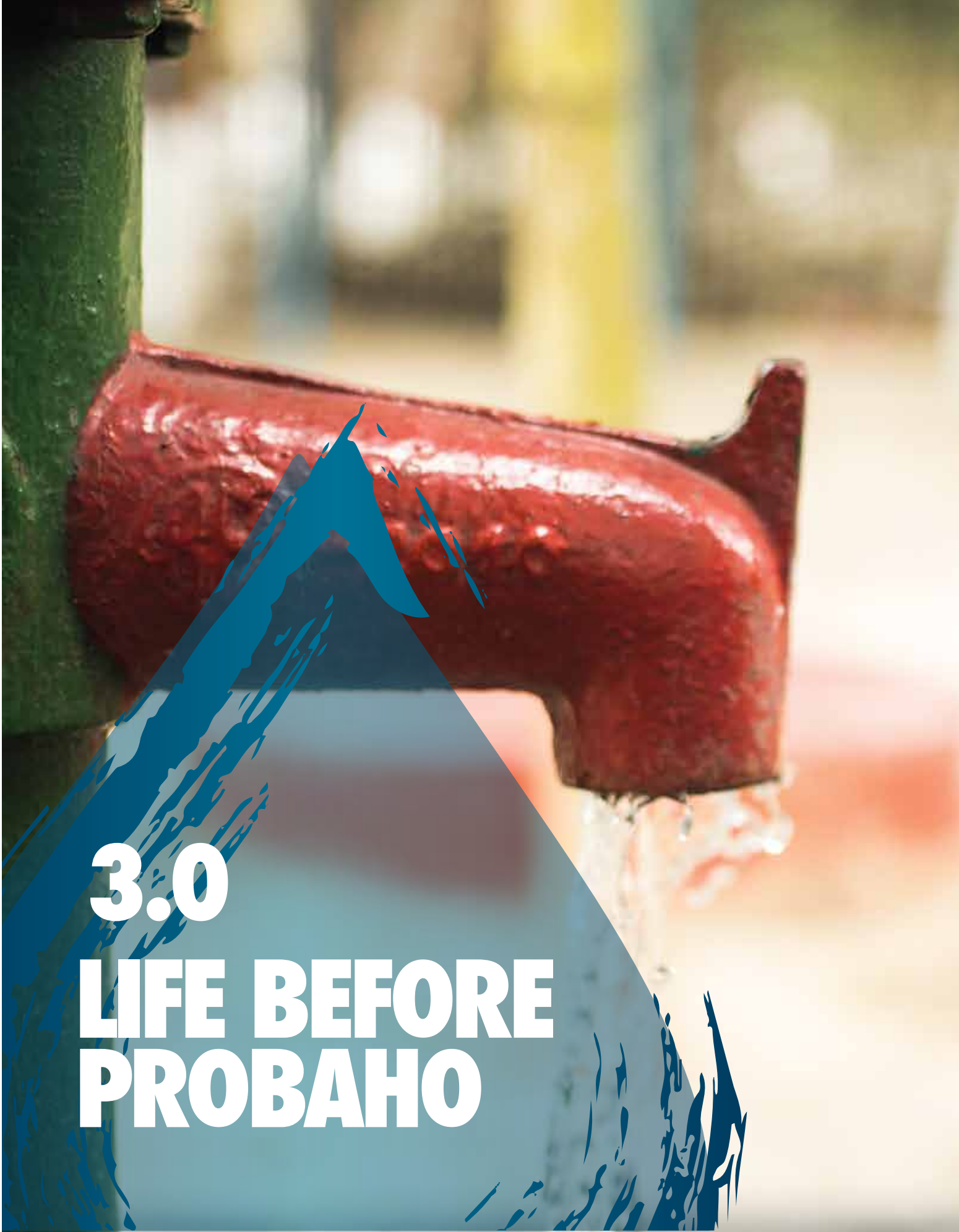
2.0 METHODOLOGY

The study was a cross sectional study using robust, multifarious analytical tools (both advanced quantitative and qualitative techniques). For quantitative data, face to face interviews were taken using structured and semi-structured questionnaires. The questionnaires were pre-tested before final implementation. Qualitative data was captured through Focus Group Discussions (FGDs), Key Informant Interviews (KIIs), Participatory Rapid Appraisal (PRA) (including Actor Linkage Mapping, Venn Diagram, Transect Walk, Time Trend) and Validation Workshops.

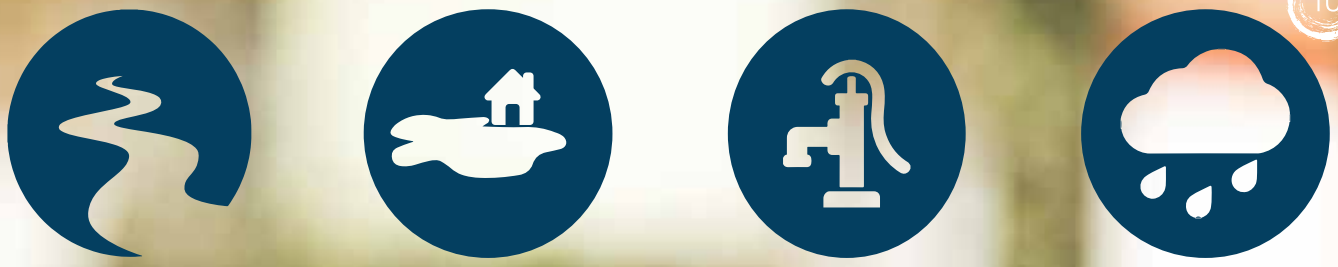
Intervention area refers to program/ project location and the respondents are the beneficiaries. The "control area" refers to the area without program intervention and where there are no direct program beneficiaries. Thus the respondents in the control area are non-beneficiaries.

Framework for Quantitative and Qualitative Sample Distribution





3.0 LIFE BEFORE PROBAHO



Previous sources of drinking water

Before Probaho plants were set up, people in the intervention areas had to collect water either from river, pond, tube well etc. or preserve rain water. This water generally contained mud, dirt and other impurities and was not purified or healthy.

The collected water used to be kept still in different types of bowls for hours so that the impurities in the water could settle down as precipitants. People would then take the clear water from the upper section of the bowls.

Tube well water contained excessive iron and arsenic and thus Government representatives started to mark the arsenic free tube wells.

But after 2004-05, the tube wells were not tested. Over the years the red and green marks faded away.

People used to collect water from the polluted tube wells knowingly as they had no safe alternatives. Unsafe water was used for drinking and cooking. The rice they ate would turn red after cooking due to the excessive iron in the tube well water.

"People suffered from cholera in every Kartik (a month of the Bengali year). We could survive another year if we could survive Kartik.

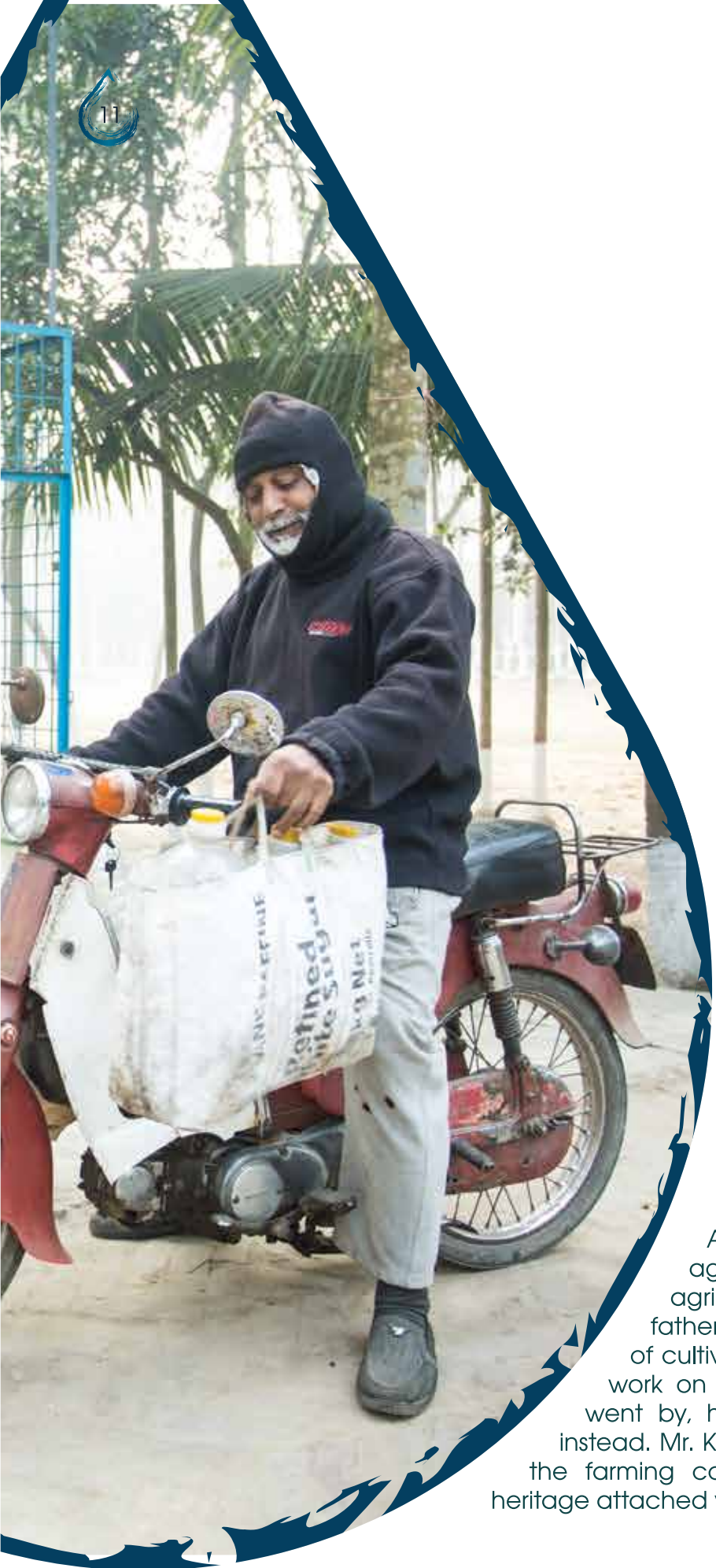
- FGD, Gala, Manikgonj

54.8 percent people of their community suffered from waterborne diseases before they started collecting water from Probaho.

48 percent people interviewed in areas with Probaho plants had to collect water from unsafe sources in the past.

43 percent collected it from neighbors' houses before Probaho plants were established.

case study



ABU TALEB KHAN

(Age 67)
Former Sugar Mill Employee

Abu Taleb Khan was born decades ago into a family dependent on agriculture. Back in the days when his father was alive, he first learnt the process of cultivation. In his youth, Mr. Khan had to work on other people's land. As the years went by, he chose to work at a sugar mill instead. Mr. Khan's opinions are still valued within the farming community because of his family's heritage attached with cultivation.

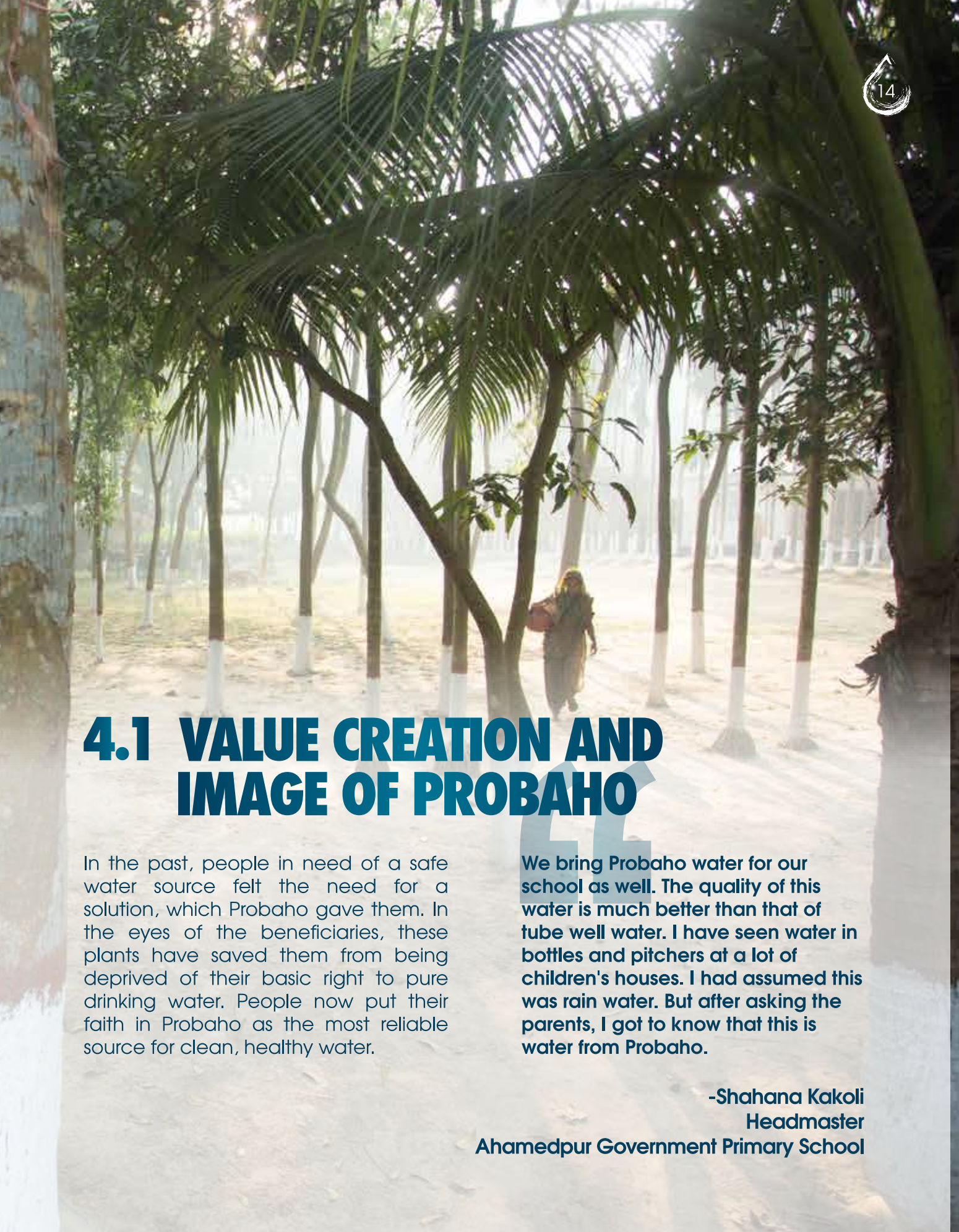
Mr. Khan is seen every other day at the Kanchonnagar Probaho plant, five to six empty bottles tied to two sides of his motorbike. His house is two kilometers away. He has been regularly collecting Probaho water for his family since the plant was set up, and arriving at the plant right after his Fajr prayers has become a ritual for him.

Years ago when the tube wells in their area were tested arsenic positive, Mr. Khan's family did not have alternative sources of water. People also frequently suffered diseases like cholera and diarrhea owing to the presence of iron and other impurities in the water. The Probaho plant set up in Kanchonnagar brought great relief to the family and others in the locality. After switching to Probaho water as their primary drinking source, Mr. Khan's family has not had to deal with any water-borne diseases.

Mr. Khan gets about 30 to 35 litres of water from the plant every alternate day for his 6-member family. The water is used only for drinking and the supply usually lasts them about 2 days.

Having lived in the area for over two decades, Mr. Khan has witnessed firsthand the way Probaho has transformed people's living condition over the years. According to Mr. Khan, the people's confidence in the purity of Probaho water is so strong throughout the community that the local primary school, mosque and even the community clinic collect this water.

4.0 IMPACT ANALYSIS



4.1 VALUE CREATION AND IMAGE OF PROBAHO

In the past, people in need of a safe water source felt the need for a solution, which Probaho gave them. In the eyes of the beneficiaries, these plants have saved them from being deprived of their basic right to pure drinking water. People now put their faith in Probaho as the most reliable source for clean, healthy water.

We bring Probaho water for our school as well. The quality of this water is much better than that of tube well water. I have seen water in bottles and pitchers at a lot of children's houses. I had assumed this was rain water. But after asking the parents, I got to know that this is water from Probaho.

-Shahana Kakoli
Headmaster
Ahamedpur Government Primary School

REASONS BEHIND COLLECTING WATER FROM PROBAHO

66.0% of the respondents believe that waterborne diseases have decreased in their community after introducing Probaho.

Good for Health

99.8% of the people in areas with Probaho plants get safe water from the plants all year round.

Availability

88.0% of the people can get water from Probaho in not more than ten minutes.

Accessibility

82.8% of the people in areas with Probhao plants have collected water from the plants whenever they needed it.

Sufficiency

92.0% of the respondents from the intervention area stated that they do not need to stand in line to collect water from the plant.

Convenience

98.7% of people directly drink this purified water. This implies that the people collecting water from Probaho trust their source of water as a safe source.

Faith in Quality

4.2 FOOTPRINT OF THE PROJECT

100%
people have access to safe drinking water whereas 80% of the people had access to safe drinking water in the past before Probaho.

83.5%
of people told that they can collect water from the plant whenever they want during a day.

100%
respondents from intervention areas collect their drinking water from Probaho.

Around 1000 families live in the two villages (Kalabaria and Ahamedpur, Purada Union). In the past, about 90% of people drank water with arsenic in it. Now, everyone collects water from Probaho. After establishing Probaho, health awareness has increased among people.

- Md. Shofiqul Islam, Member, Ward 9 (Kalabaria & Ahamedpur), Kushtia

case study

JASHIM UDDIN BISWAS

Chairman
No. 8 Shatian
Union Parishad
Mirpur, Kushtia

Years ago, all 22 tube wells in Shatian were marked red after testing positive for arsenic poisoning. Mr. Jashim Uddin Biswas, the local chairman, has experienced the adverse impact of this more as a public representative than as an individual victim. Complete absence of clean drinking water meant continuous water-related health issues for the people of Shatian. At that time, there was no other outlet nearby that could act as an alternative source of pure drinking water.

Mr. Biswas was so weary of the frequent attacks of dysentery that he consulted physicians in Kushtia, Dhaka and even India. In his distress he even turned to other methods such as planting Thankuni leaves (Centella asiatica) in his own yard. He intended to use the extract from the leaves as an herbal remedy for dysentery, yet was not able to escape his troubles.

Probaho has been nothing short of a blessing for Mr. Biswas and the people in his locality. A plant was established right next to his house a few years back. Since then, he has been drinking water only from this plant and has been amazed seeing his chronic dysentery cured completely.

As a leader, Mr. Biswas serves people from all around the community. People from as far as 12 kilometers away regularly collect large volumes of water from the Probaho plant beside Mr. Biswas's house. He has developed a habit of collecting and stocking up on empty bottles for the people who come to get water from this plant every day. This has earned him the nickname 'Tokai' (a scrap collector) from his peers. In fact, this plant and his efforts to help run it successfully have helped Mr. Biswas's image grow both within and beyond his locality.

In his opinion, the Government should take the initiative to scale up this project and expand the outreach of Probaho through collaborative steps.

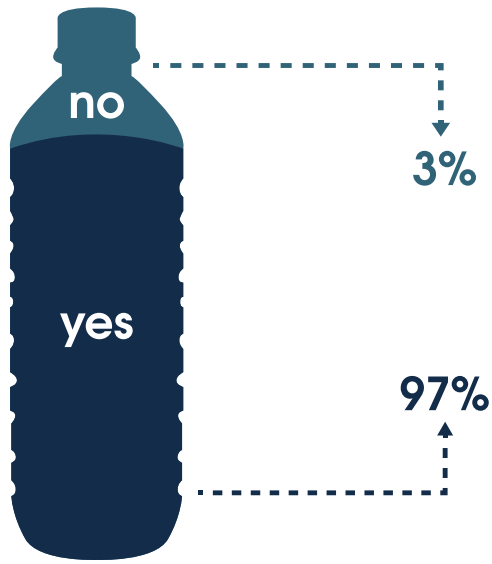
4.2.1 OVERALL SOCIAL IMPACT AND LIVING STANDARDS

Access to clean water is not solely a health concern, rather, it is a social concern. Water is integral to good health, productivity, community awareness, economy and lifestyle as a whole. Probaho manages to leave a positive influence on all these aspects, which in turn collectively bring about positive social impact.

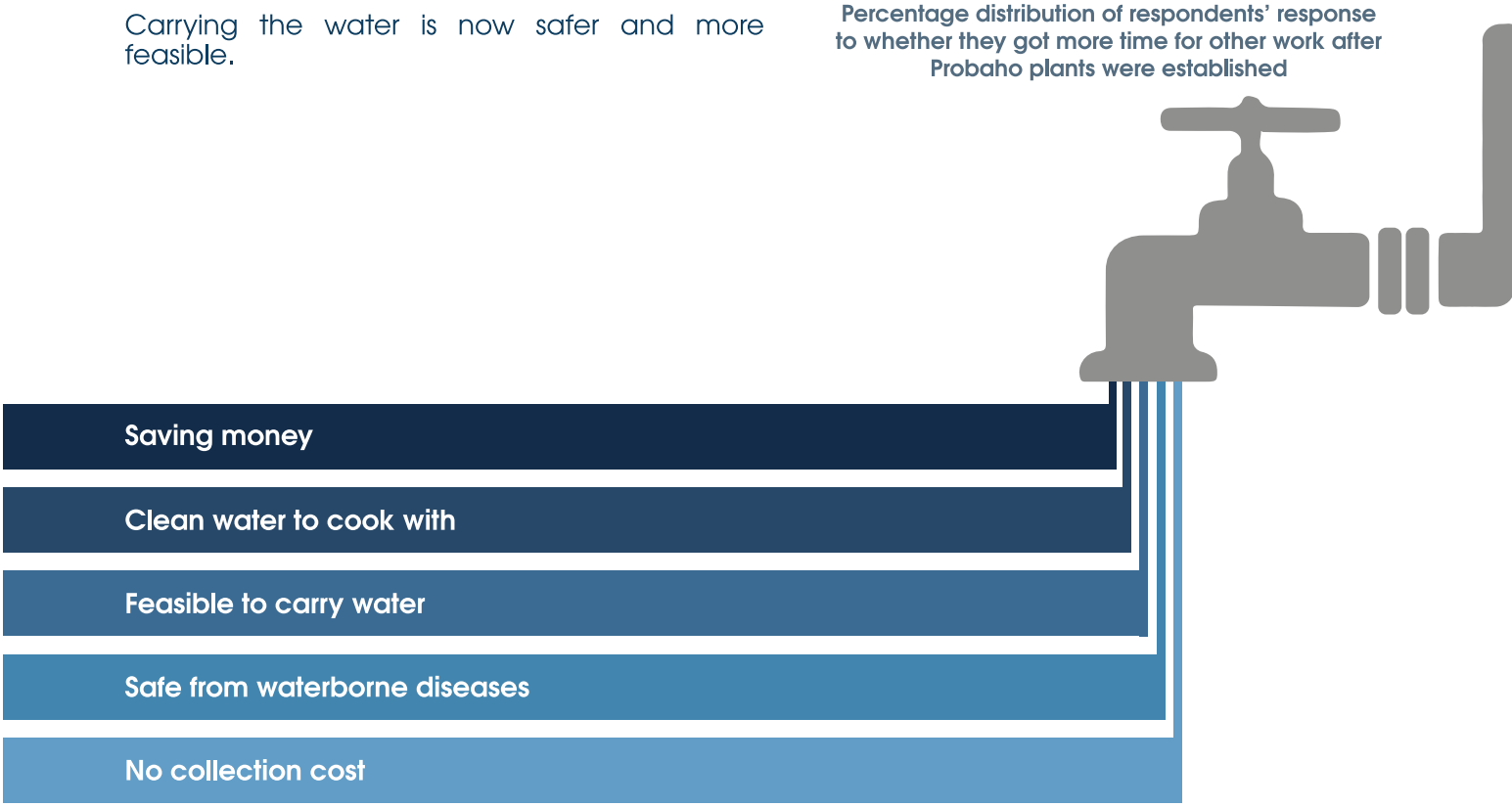
When people from the intervention area were asked whether or not having water from the nearby plant has afforded them more time for other work, 97.3% responded positively.

All types of people collect water from Probaho, including the rich, poor, literate, illiterate etc. When the respondents were asked about how they defined the rich and poor, it was found that they differentiated the social classes based on the household income.

Carrying the water is now safer and more feasible.



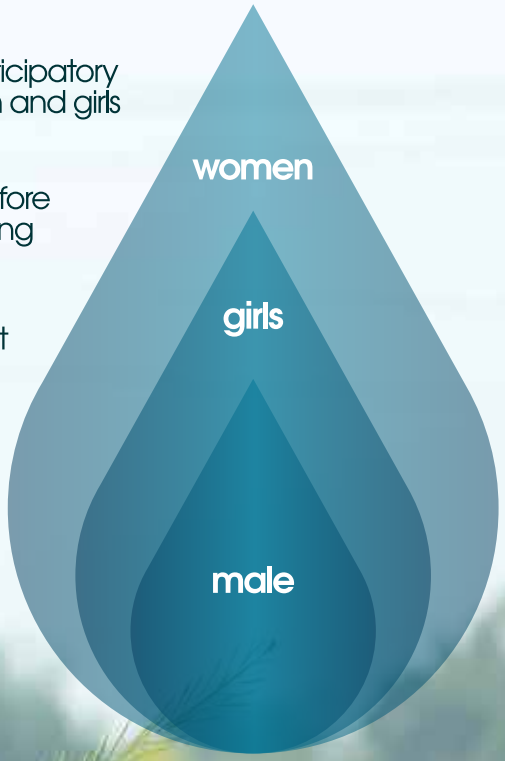
Percentage distribution of respondents' response to whether they got more time for other work after Probaho plants were established



Effects of Probaho on community people's lives

4.2.2 IMPACT ON VULNERABLE GROUPS AND FEMALES

- From both the Focus Group Discussion (FGD) and Participatory Rural Appraisal (PRA), it was found that mostly women and girls of the community were involved in collecting water.
- They had to walk to distant places to collect water before Probaho was established. Now they can collect drinking water from nearby Probaho plants.
- Women no longer have to pump tube wells to collect water.



Household members involved in water collection

> Previously women had to cross a long distance to carry the pitchers full of water to their house but now they can collect safe drinking water from the nearby Probaho plant very easily.
>
> - FGD, Manikganj

case study

MAHMUDA SULTANA

(Age 35)
Homemaker
Wife of
Md. Abdul Mannan, Farmer

Mahmuda Sultana is a homemaker living not more than 5 minutes away from the Probaho plant at Piarpur, Daulatpur. On approaching her house, peals of a child's laughter were heard. Inside the premises, we met the source of this delight – a little girl running about the small yard. The child, on seeing people, rushed inside to call her mother.

The mother, Mrs. Sultana, is in her mid-thirties. She sat down with us to share the story of her family and her neighbours. They had to endure much hardship and misery in the absence of pure water. Probaho has changed their lives for the better.

About 5 to 6 years ago, most of the tube wells in Mrs. Sultana's area were marked red for presence of arsenic in their water. Being helpless, people continued to collect water from the unsafe, arsenic-poisoned tube wells as they had no other alternative. Mrs. Sultana's daughter, now eleven, had been fighting with water-borne diseases since early childhood.

In Mahmuda's eyes, Probaho has rescued them from this hardship. After the establishment of the Probaho plant in her area, people finally had a choice and they opted to collect drinking water from the plant. Mrs. Sultana notes that the frequency of water-borne diseases like diarrhoea and typhoid fever has decreased significantly ever since. The people who had been affected by these diseases began recovering after they switched to Probaho for drinking water.

Now she has enough time to focus on helping her daughter with studies. Besides this, she is a seamstress in the neighbourhood and can now deliver orders on time. She does not have to worry about frequent illness or spend time finding other sources of water for drinking and cooking. She believes this change would not have been possible if Probaho had not been an integral part of her life.

Mahmuda's family now drinks Probaho water only. She goes to the plant every day a little after 8.30 am and again at 5 pm to collect the two pitchers of water that suffice for her small family. In her opinion, the water from Probaho is safer than that from any other source. It tastes much better as well and is easy to access since the plant is nearby and there are no queues.

4.2.3 ECONOMIC IMPACT

Before Probaho plants were established, people had to spend money for regular medical treatment and medicines due to water related health issues.

People in the intervention areas had to buy bottled water for their guests before water from Probaho was available. Now, they can offer their guests Probaho water as it is safe to drink and can save the expense of bottled water.

No cost is associated with collecting water from Probaho. Negligible cost is involved in plant maintenance.

Average Expense on General Health Hazard

৳৳		৳৳		৳৳
7956	-	6334	=	1622
Before Probaho		After Probaho		Saving

4.2.4 HEALTH IMPACT

Before 13% used to suffer from arsenic related diseases

Now only 1% suffer from arsenic related diseases

Before Probaho was established in the intervention areas, 13% of the respondents suffered from arsenic related diseases. The percentage reduced to only 1% after Probaho started providing safe water.

Before 32% used to suffer from waterborne diseases

Now only 0.3% suffer from waterborne diseases

32.3% of the respondents from the intervention areas informed that their family members suffered from waterborne diseases before the water filtration plant was established. The percentage reduced to 0.3% after people started collecting water from Probaho.

Before, 47% suffered from water borne diseases 1-2 times per year

Now only 0.3% suffer from such diseases 1-2 times each year.

46.5% of the people suffered at least 1 to 2 afflictions of waterborne diseases per year in the past. After Probaho started providing safe water, only 0.3% of people suffer from such diseases 1-2 times each year.

4.3 COMMUNITY INVOLVEMENT

People from the intervention areas handle the responsibility of cleaning and maintaining the plants. They have formed committees for this and these committees have small deposits to bear the expense of small scale maintenance of the plant.

The local communities treat the plants as community assets. They take initiative to collect funds when required and often get involved in plant maintenance even in the absence of funds. 62% of people in the intervention area don't have to pay any monthly amount for the water they get from the plant.

96%

of respondents think that the amount they pay for plant maintenance is right.

5.0

RELEVANCE TO SUSTAINABLE DEVELOPMENT GOALS

Sustainable Development Goals (SDGs): the 2030 Agenda for Sustainable Development by United Nations

Increased Productivity and Better Economic Standing

Before the establishment of Probaho plants, it took a substantial amount of time to collect water from alternative sources. Females were mostly engaged in collecting water, and did not have the time or scope to participate in earning for the family.

Beneficiaries now save a significantly large portion of time which they can invest in income generating activities. Less time spent collecting water means the females can also participate in earning. In addition, fewer days spent sick means the beneficiaries get more time to improve their economic situation. This contributes to the reduction of poverty.

Target 1.1

By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day

Target 1.2

By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.

Equitable Access to an Essential Resource

Probaho, with greater focus on serving the rural community, is constantly trying to improve access to an essential resource, i.e. clean water for people. Beneficiaries collect safe drinking water only from Probaho plants. The water is accessible to everyone at all times and in sufficient quantity.

Target 6.4

By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

Target 6.1

By 2030, achieve universal and equitable access to safe and affordable drinking water for all

Health and Safety

Arsenicosis, caused by regular consumption of arsenic contaminated water, is deadly in the long term. Both quantitative data and qualitative findings indicate that the occurrence of arsenicosis and other water-borne diseases became scarce ever since Probaho took the initiative to provide clean water.

Target 3.9

By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

Strengthened Community Participation

People in the intervention areas are quite concerned about the sustainability of Probaho water filtration plants. The plants are maintained by local communities who raise funds for repair and maintenance when needed. The beneficiaries willingly contribute as they see the plants as community assets.

Target 6b

Support and strengthen the participation of local communities in improving water and sanitation management

6.0 SUSTAINABILITY OUTLOOK

6.1 COMMUNITY OWNERSHIP PROSPECTS

People in the intervention area are quite concerned about the sustainability of Probaho water filtration plants. The caretaking committees work actively for the maintenance and repairing of the plant.

Beneficiaries have already started depositing small amounts in their fund for the plant so that they can use the money for repair and maintenance in the future.

Everyone thinks, this is our own plant. For bill and maintainance all of us contribute with tk 10, tk 15 and 20 each

- Md. Abdul Mannan
Social Organizer
Plant Superviser

According to
81.8%
people of the intervention area, local committees take responsibility of repairing and maintaining the source of water.

33.3%
people contribute to plant maintenance fund by paying BDT 20 or less per month.

6.2 KEY SUSTAINABILITY COMPONENTS

99.7%
have expectations from Probaho and hope to see further progress of the project.

49%
expect more Probaho plants to be installed in their areas.

22%
expect more water from Probaho indicating preference to collect water from the plant.

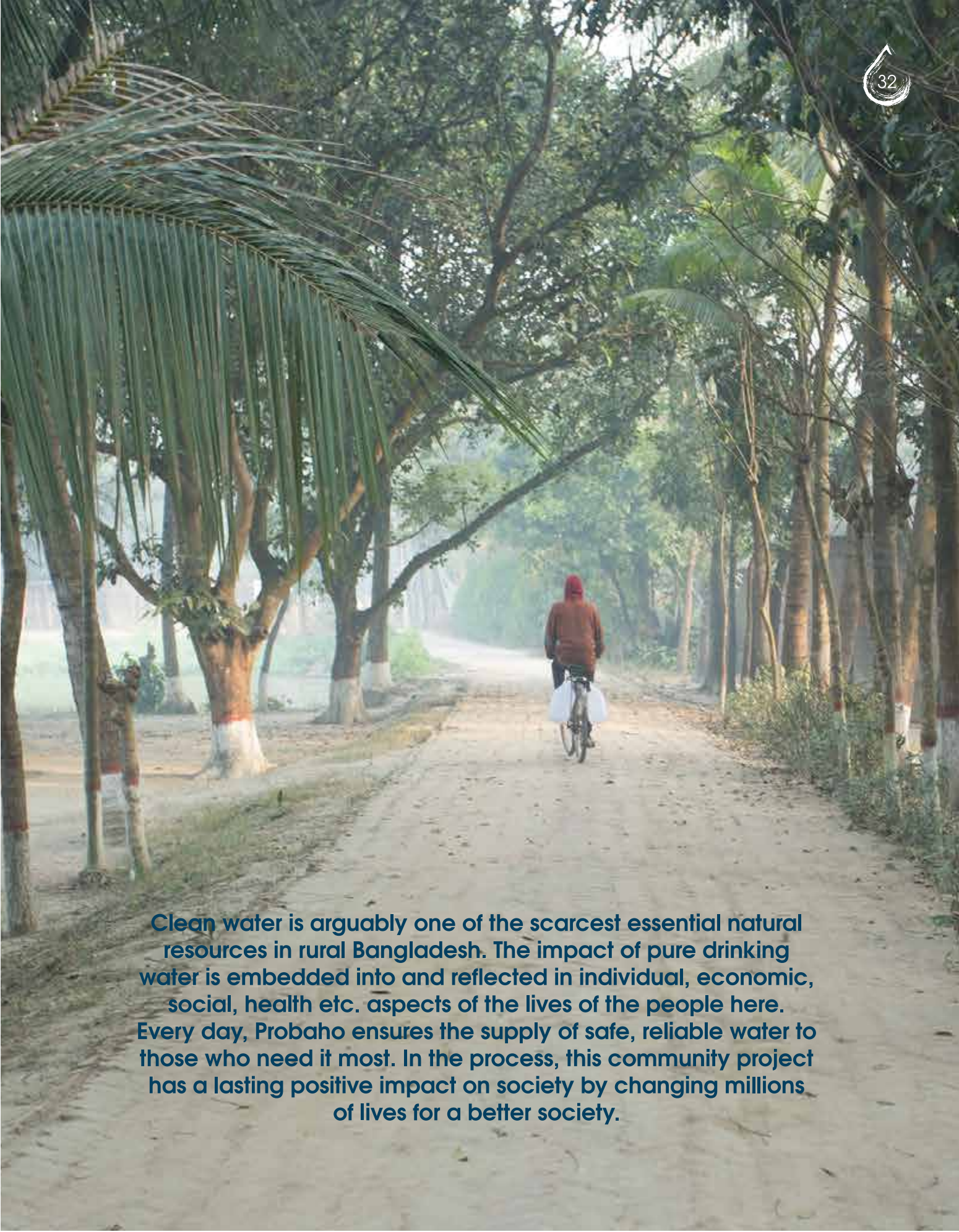
22.3%
expect better collection system.

2.3%
expect water supply to households through pipe.

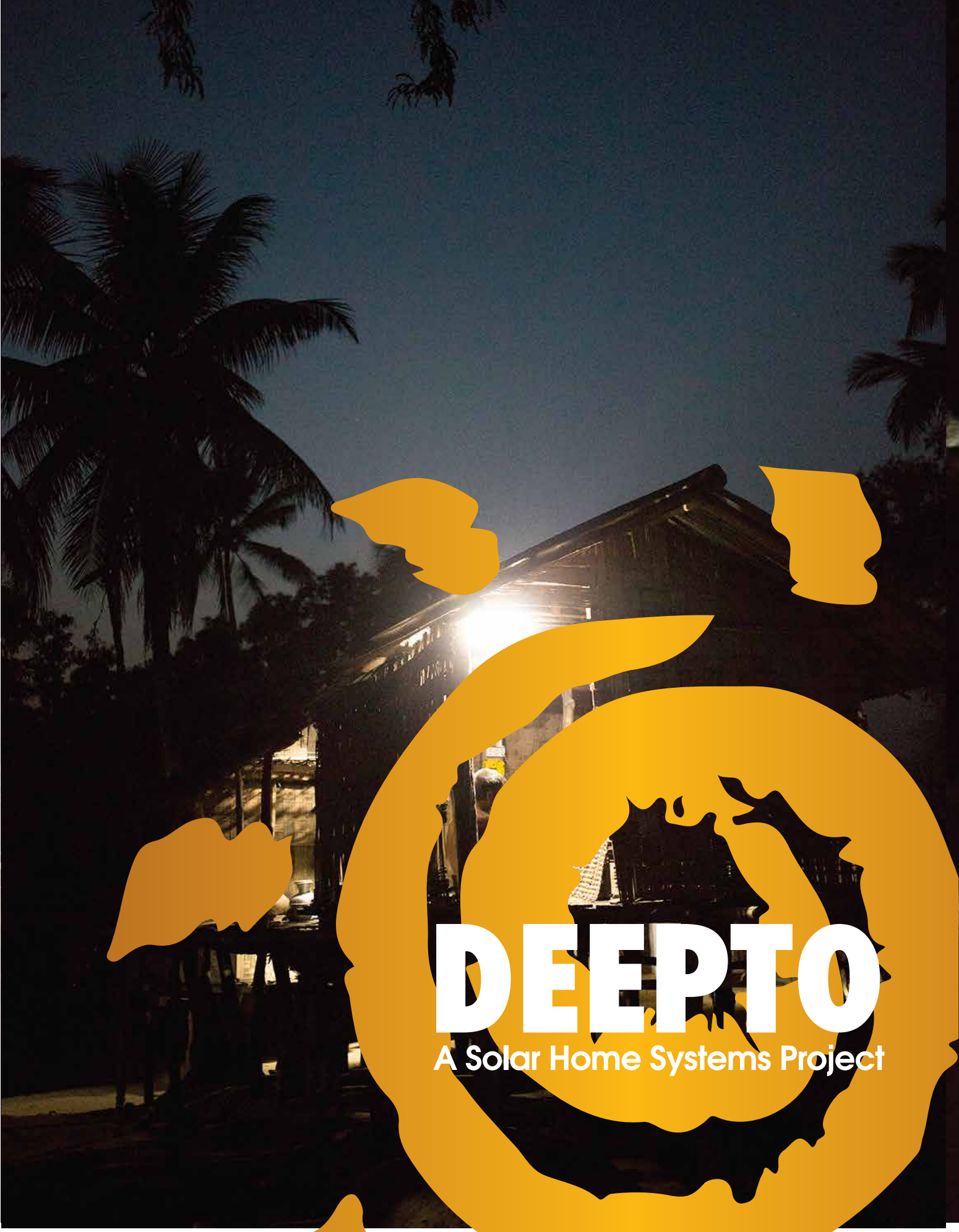
Participants of the validation workshop suggested supplying water to distant places by van. They also mentioned that more Probaho plants can be installed in the "Char" areas as there is scarcity of safe drinking water there.

The control areas were found to have scarcity of safe drinking water as well.

In many cases, people of the control areas were found to be aware of the benefits that the people in the intervention areas are getting from Probaho.
The coverage of Probaho can therefore be increased.

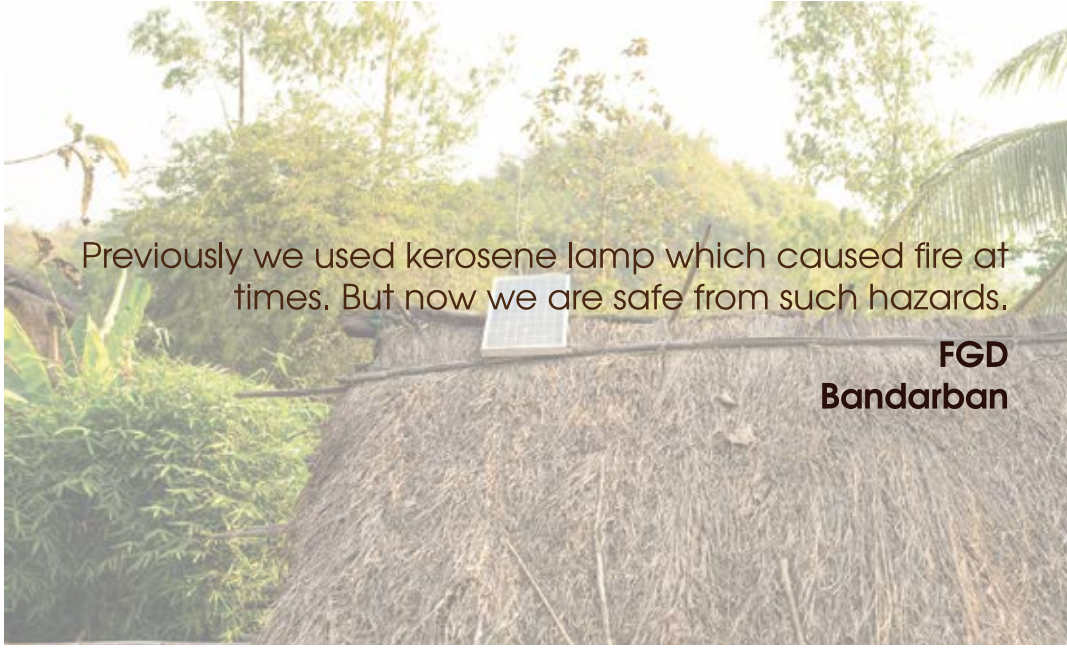


Clean water is arguably one of the scarcest essential natural resources in rural Bangladesh. The impact of pure drinking water is embedded into and reflected in individual, economic, social, health etc. aspects of the lives of the people here. Every day, Probaho ensures the supply of safe, reliable water to those who need it most. In the process, this community project has a lasting positive impact on society by changing millions of lives for a better society.



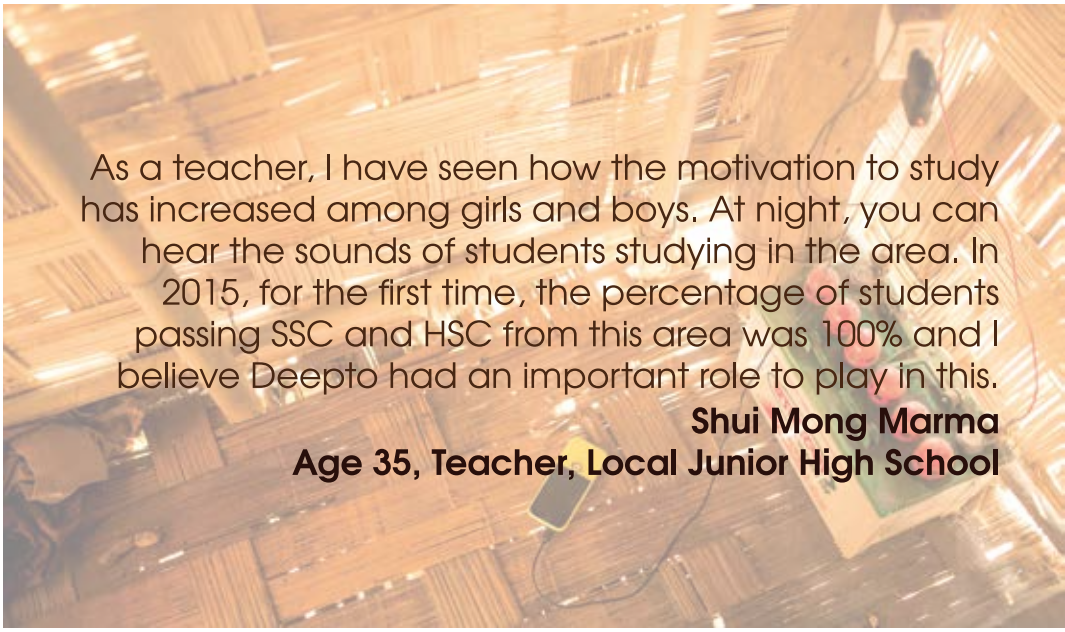
DEEPTO

A Solar Home Systems Project



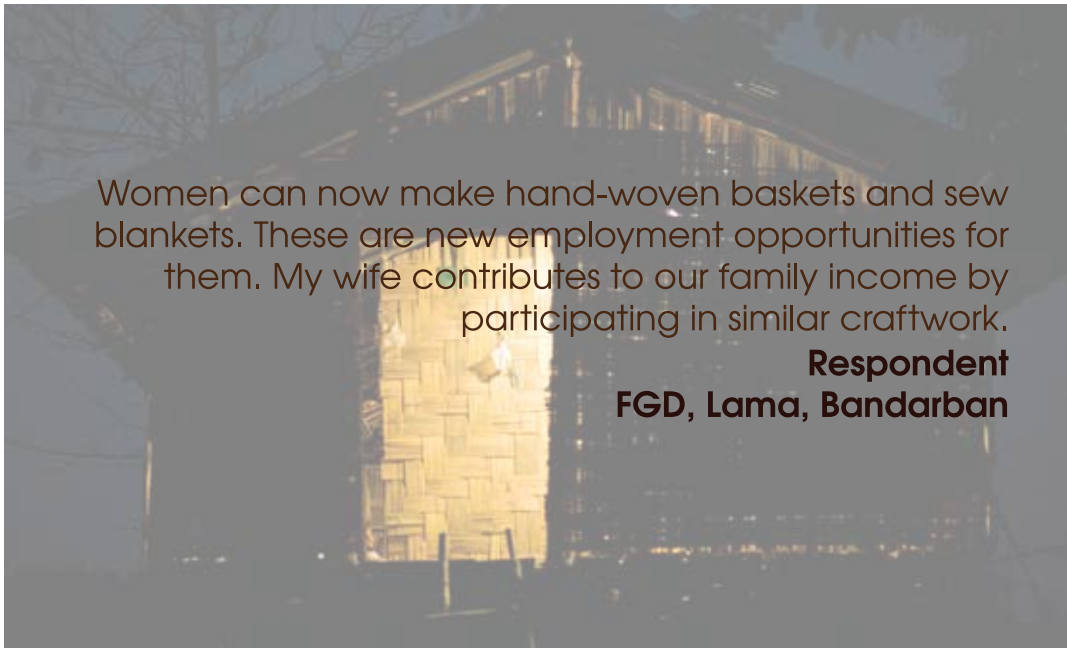
Previously we used kerosene lamp which caused fire at times. But now we are safe from such hazards.

FGD
Bandarban



As a teacher, I have seen how the motivation to study has increased among girls and boys. At night, you can hear the sounds of students studying in the area. In 2015, for the first time, the percentage of students passing SSC and HSC from this area was 100% and I believe Deepto had an important role to play in this.

Shui Mong Marma
Age 35, Teacher, Local Junior High School



Women can now make hand-woven baskets and sew blankets. These are new employment opportunities for them. My wife contributes to our family income by participating in similar craftwork.

Respondent
FGD, Lama, Bandarban

DEEPTO

Deepto is a solar home system project launched by BATB for the inhabitants of villages in hill tracts of Bangladesh. Launched in 2011, it has been successfully operating in Bandarban and Khagrachhari districts. Beneficiaries in the project implementation areas did not have any alternative power source in the past. They lived a life without electricity; a life which seemed to pause entirely after the hours of daylight. Deepto has illuminated their lives by leaving an impact on the things they do every day through the project's initiative of providing solar power free of cost.

CONTENTS

01 Overview - 03

02 Methodology - 05

03 Life Without Electricity: A Tale of Gloom - 07

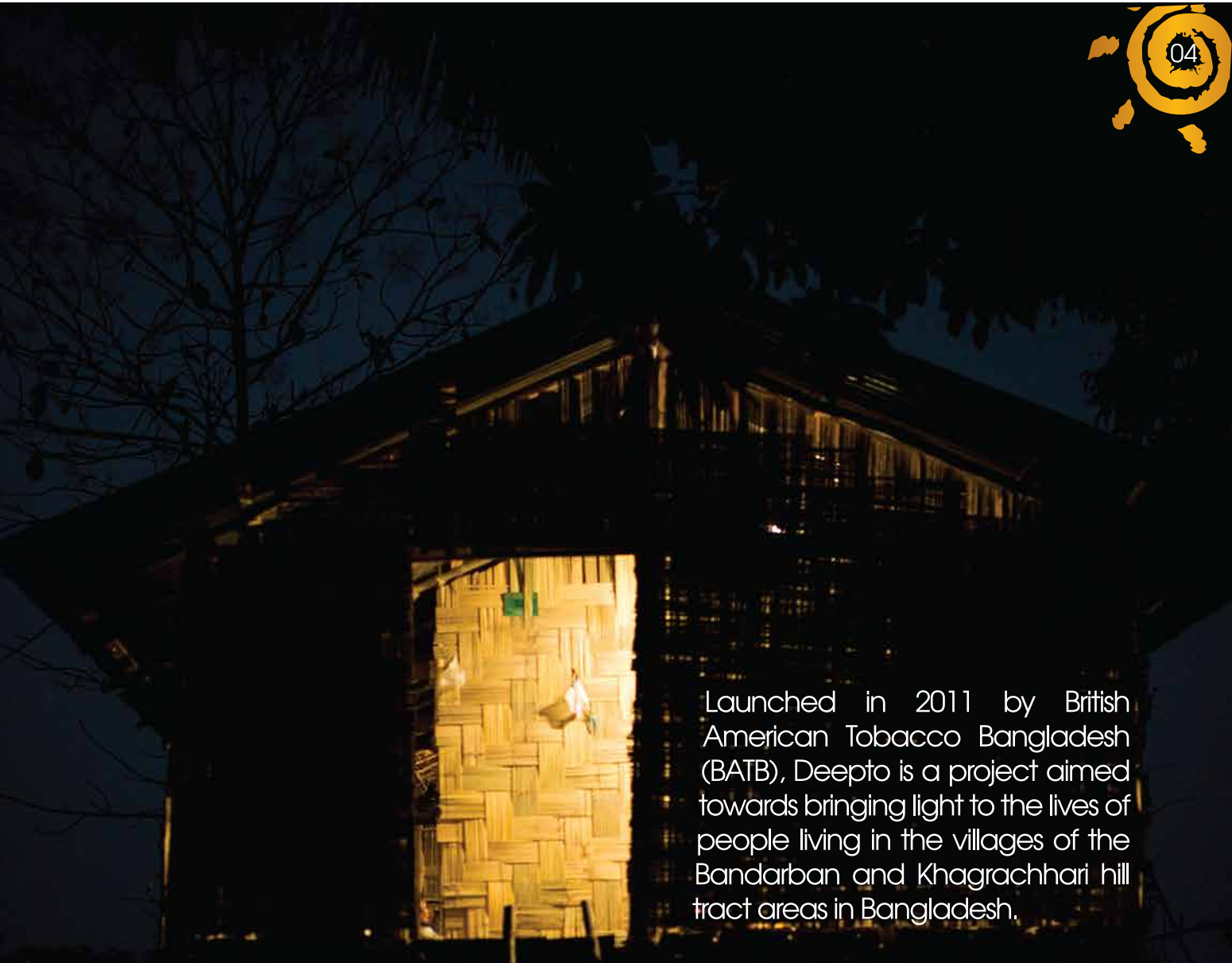
04 Deepto In The Community - 09

05 Impact Analysis - 11
Uses of Provided Electricity - 12
Increase In Productivity and Efficiency - 13
Economic Impact - 14
Impact on Females - 19
Impact on Education - 23
Orientation Towards Technology - 25

06 Relevance to Sustainable Development Goals - 27

07 Future Prospects - 32
Expectations from Deepto - 33
Community Funds - 35
Maintenance of Solar Power Provided - 36
Support Needed from BATB - 37

1.0 OVERVIEW



Launched in 2011 by British American Tobacco Bangladesh (BATB), Deepto is a project aimed towards bringing light to the lives of people living in the villages of the Bandarban and Khagrachhari hill tract areas in Bangladesh.

The absence of electricity in these areas means that the lives of people living there almost halts at night. To improve the standard of living of the tribal people in these areas, initiatives regarding electricity became imperative and Deepto stepped forward with Solar Home System committed to enlighten the lives of the people.

- 1,801 units of solar home systems installed
- 16 remote villages reached
- Free of cost electricity provided successfully

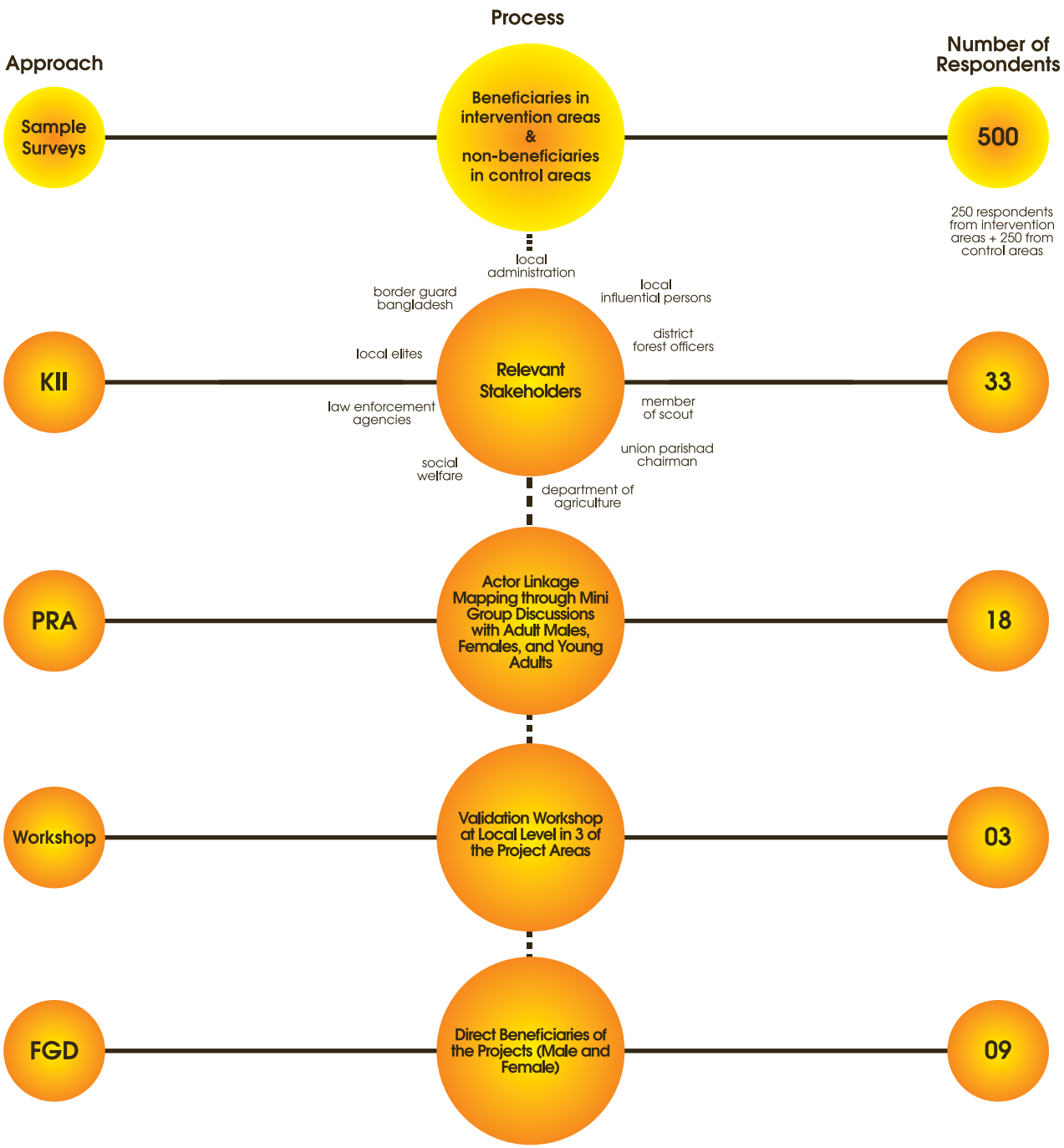
Before solar power came into their lives, the respondents of the intervention area used alternatives sources of light like lanterns, torch lights, kerosene lamps, candles etc.

2.0 METHODOLOGY

This study tried to determine impact of electricity on the project beneficiaries. 41.2% of the households studied are in Bandarban and 58.8% are in Khagrachhari. Quantitative data was collected using structured and semi-structured questionnaires which were pre-tested before implementation. Besides face to face interview for quantitative data, - in-depth interviews, Focus Group Discussions (FGDs), Key Informant Interviews (KIIs), Participatory Rapid Appraisal (PRA) (including Actor Linkage Mapping, Venn Diagram, Transect Walk, Time Trend) and validation workshops for qualitative data was conducted.

Intervention area refers to the the program/project location and the respondents are the beneficiaries. The control area refers to the area without program intervention and where there are no direct beneficiaries of the program. Thus, the respondents in the control area are non-beneficiaries.

Framework for Quantitative and Qualitative Sample Distribution



3.0

LIFE WITHOUT ELECTRICITY:

A TALE OF GLOOM

In areas where there is no light, 92% people do not work at night. However, 99% of the people stated that they would have worked if there was light.

In areas where the project has not been implemented and respondents were asked how electricity by solar home system could help them,

35.2% of respondents said they could do income generating activities at night

50% of respondents said that they could charge their phones with the solar power

90.8% of respondents felt that they could work faster

72.3% of respondents said that they could work any time

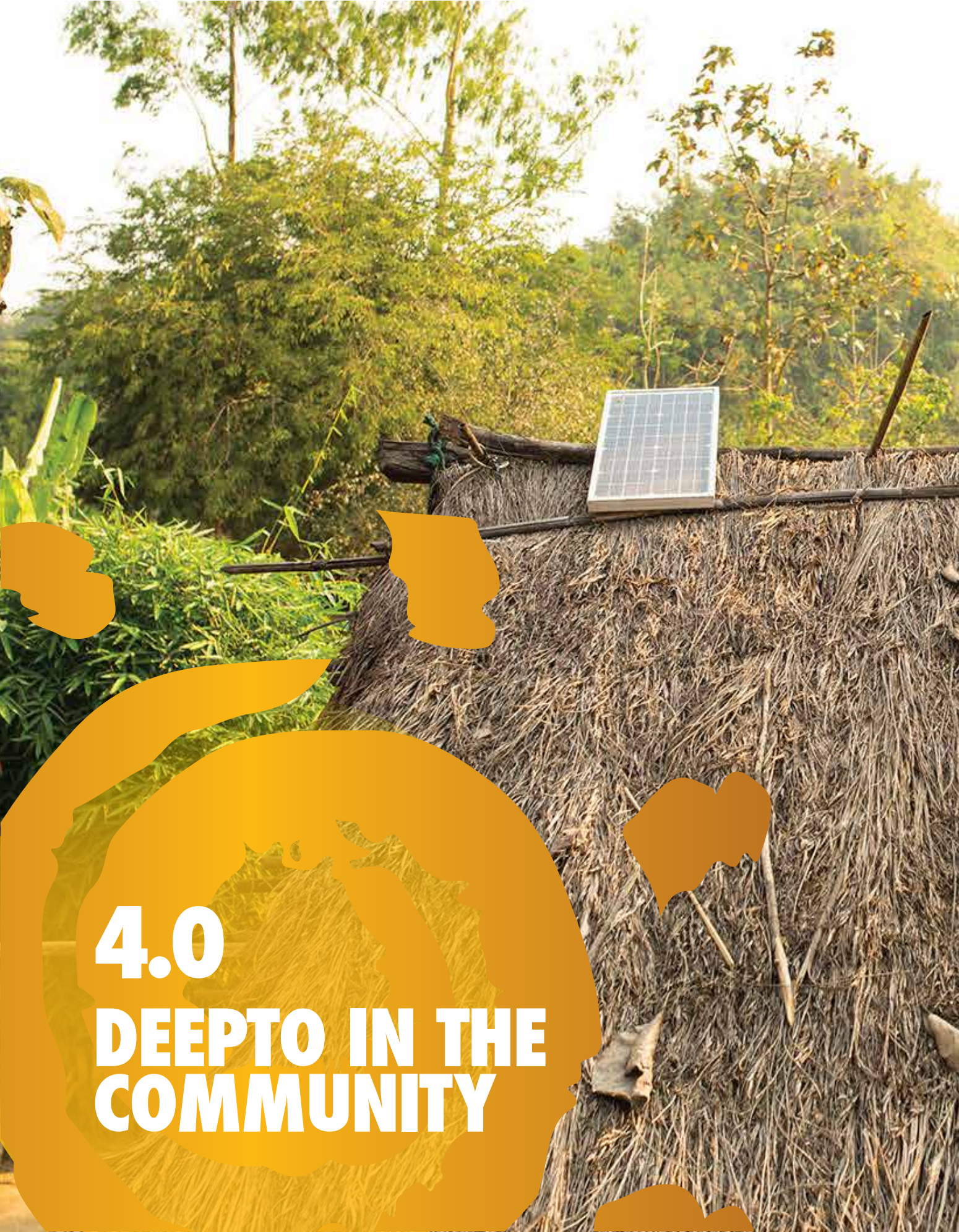
73% of respondents in the control area feel that they could have studied better

99% of respondents said that they could have started a new Income Generating Activity (IGA)

96.4% of respondents felt that they could do household works at night

There are many problems associated with using alternative light sources.

- Use of kerosene lamps or similar lamps is costly as people have to buy kerosene to light them. At least 2-3 litres and upto 6 litres of kerosene might be required at times to use these appliances.
- Kerosene or oil bought is often wasted by spilling.
- Additionally, these alternative sources are not always safe, and smoke from kerosene lamps is unhygienic.



4.0 DEEPTO IN THE COMMUNITY

In the intervention area, many of the people have been able to enjoy solar power facility for the first time because of Deepto.

- 100 percent of the beneficiaries feel more secure after having Deepto
- 100 percent of the beneficiaries believe that Deepto has become an inseparable part of their lives

More and more people are getting encouraged to take Deepto Solar Power. 97% of the people are encouraged by seeing others having Deepto and enjoying solar power.

When the beneficiaries were asked how important Deepto is in their life, they responded:

Deepto is as important as my life - 8.4%
Deepto is as important as our eyes - 30%
Deepto is as important as our house - 2.8%
Deepto is as important as land - 3.6%
It is as important as money - 3.6%
Deepto is as important as education - 8%
It is as important as food - 1.2%
It is as important as employment - 4.4%
Deepto means safety to us - 2.4%
It feels like a blind man without Deepto - 2.4%

7.6% - Deepto is as important as mobile phone for comunication
2.4% - We couldn't increase our income without Deepto
4% - It helps like a friend
0.8% - It helps like a mother
1.2% - It is as important as the daylight
1.6% - Deepto can be compared with knowledge
0.8% - It is as important as water
0.8% - It is as important as oxygen
12% - Deepto is as important as my children because you need to take care of both of them
3.2% - Others

"Four solar lights of Deepto have been set up at my Buddhist temple and on the occasion of the last full moon almost 150 people were present at night for the Puja. This would not have been possible at night without solar light from Deepto. Bringing electricity connection to this area would have been a time intensive task, and using these solar powered lights instead has significantly improved life in this area.

- Auvik Chara Vikkhu,
Age 49, Local religious leader,
Director of Matamuhori Shishukola Orphanage
And Matamuhori High School

5.0 IMPACT ANALYSIS

5.1 USES OF PROVIDED ELECTRICITY

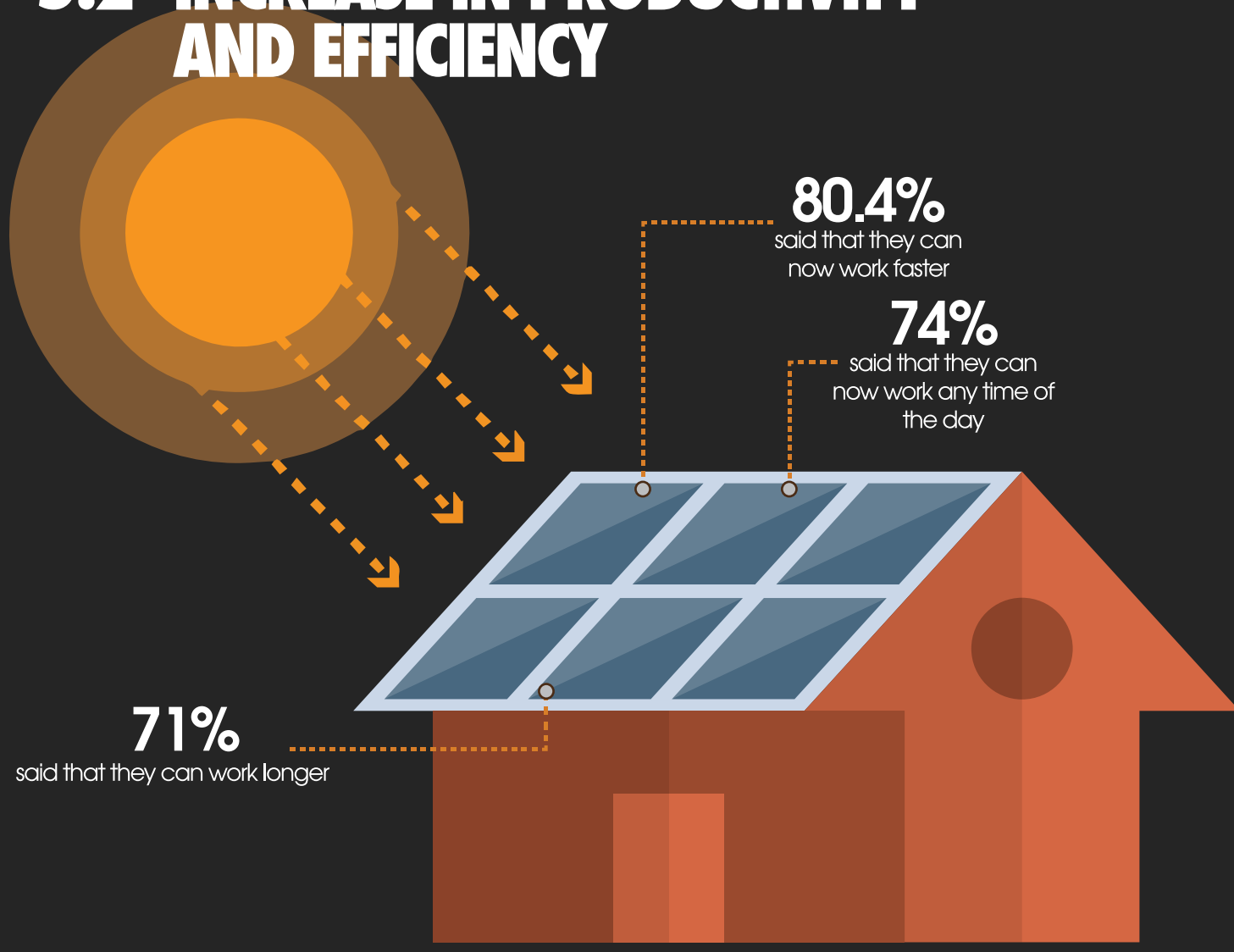
In the study intervention area, 100% of the respondents are enjoying solar power free of cost provided by Deepto in their house.

Uses of solar power for the beneficiaries

Benefits received by beneficiaries for household activities

During the validation workshop, the participants mentioned the use of 'fans' with the solar power they are now receiving. The beneficiaries seemed very happy about this considering the hot and humid summers in Bangladesh. In addition, people were found to work more, study more, and get more entertainment by watching television or listening to radio as a result of solar power.

5.2 INCREASE IN PRODUCTIVITY AND EFFICIENCY



Beneficiaries interviewed in intervention areas

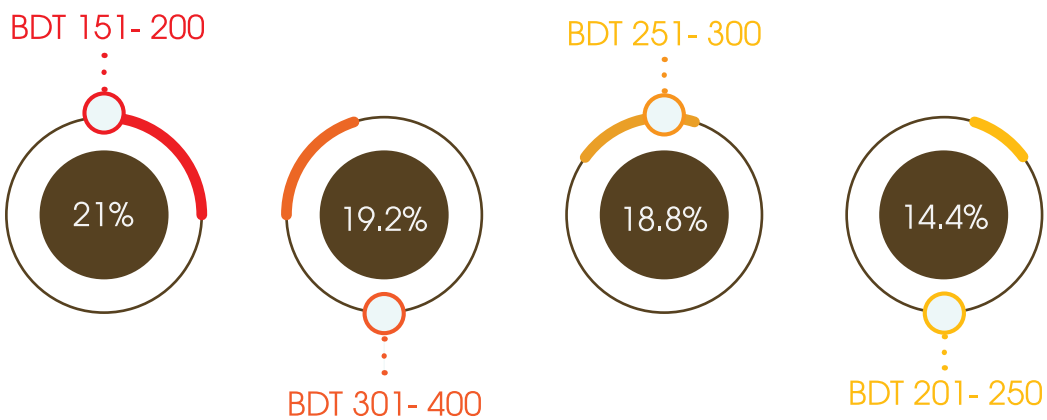
After electricity was provided by Deepto, it was found that 73% of the people are actually working at night and they are working an average of 3 hours. Thus, Deepto has enabled 73% of the people to be more effiicient as they can now work at night time as well.

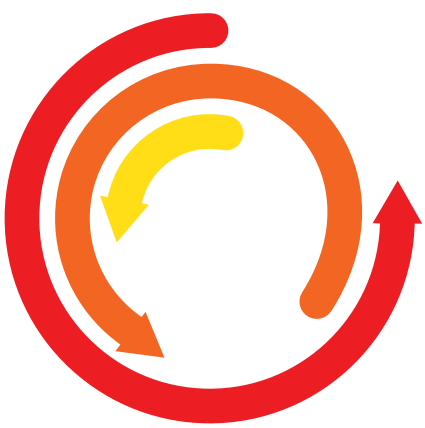
5.3 ECONOMIC IMPACT

5.3.1 SAVINGS

In the presence of electricity, people can save the amount they were using for alternative sources of light. Among the beneficiaries of Deepto, 98% of the people interviewed reported that their expenses have reduced as a result of having solar power in their homes compared to the previous expenses of traditional lamp. The respondents in the workshop mentioned that they did not have to bear any expenses after receiving solar home systems.

Monthly savings of Deepto beneficiaries as a result of solar panels:





98% Lower expenses for light

68% Reduced expenses for charging cell phone

2.8% Lower expenses for treatment

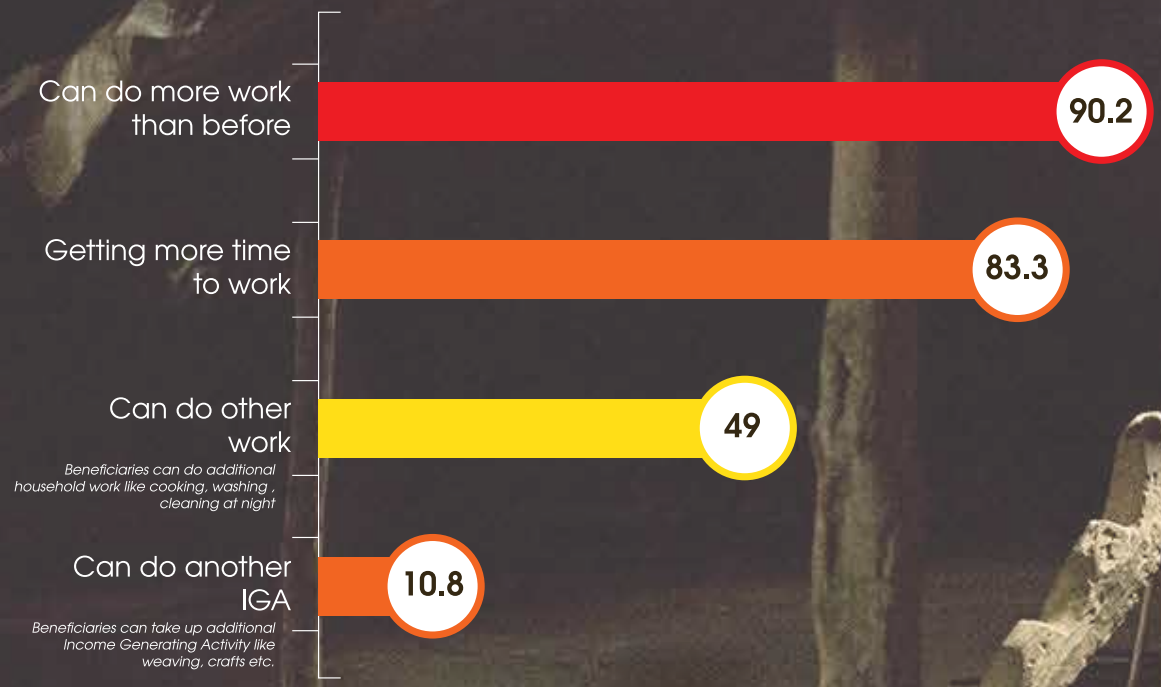
Traditional fuel (kerosene) based lamps used to cause problems such as indoor air pollution leading to respiratory difficulty, insufficient light causing visual strain etc. After getting access to Deepto, household health hazards are gradually decreasing and health expenses are reducing as a result.

Percentage distribution of the respondents according to the types of expenses decreased (Intervention Area)

5.3.2 INCOME GENERATING ACTIVITIES (IGA)

"As there was no permanent solution for light in the past, the people used to fall asleep by eight or nine. I could not keep my shop open for long either. But after free solar-powered light became available, my business has been yielding more profit now as the people of Mongla Para now buy their essential needs from my shop even at night.

- Maamma Marma
Age 38, Local Businessman



Percentage distribution of the respondents according to their opinion on how solar power helps with IGA at night (Intervention Area)

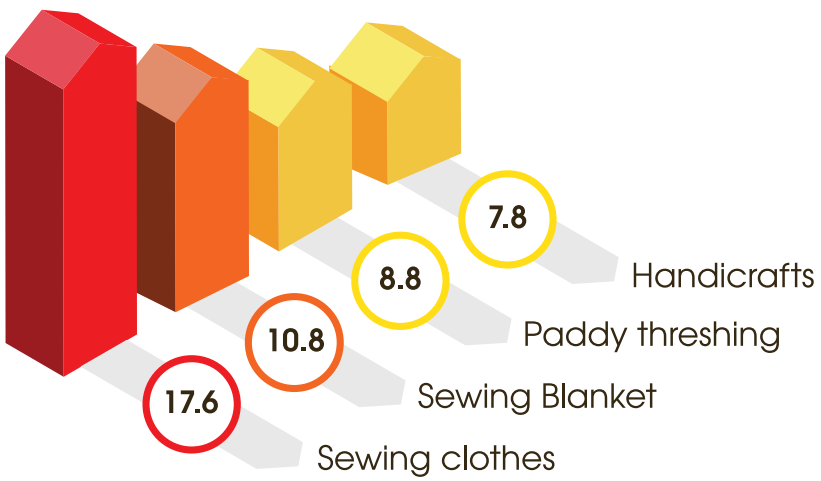
Those involved in different IGAs have reported that their monthly income has increased by at least 500 Taka after solar power came into their lives.

65.7% people have started new IGA after getting solar power. These IGA activities include:

- **Sewing clothes**
- **Weaving works**
- **Crafts**
- **Turmeric Processing**
- **Paddy threshing**
- **Sewing Katha**

In the intervention area, 65.7% of the respondents said that they have started new IGAs after getting solar power at their homes.

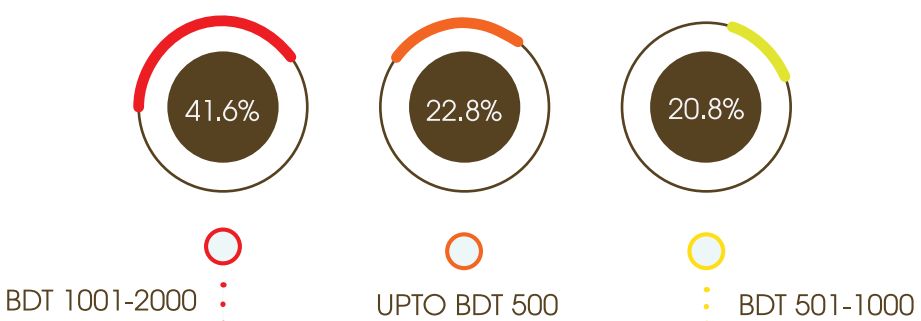
Started new IGA



Percentage distribution of the respondents according to the types of work they were doing after having electricity (Intervention Area)

The income of the people in the interventions area has increased as they can work more at night.

Additional income of Deepto beneficiaries per month from IGAs



case study

DUMMONG MARMA

(Age 51)
Farmer

The grandson of a farmer who moved to Monglapara with his family decades ago, Dummong Marma's earliest memories are attached to this area. Now 51, Dummong narrates the story of how he has seen the transformation for development that his beloved Monglapara has gone through since the days when there was no electricity and no light here.

Dummong vaguely remembers how Monglapara was during his childhood, describing it as a beautiful place with a lot of greenery and tranquility. As a child, he did not have the opportunity to go to school. His livelihood has been dependent on farming since the days of his youth. As Dummong was growing up, the young adult noticed what the child had not – the inconveniencies of life without electricity.

Dummong did not have access to electricity, and neither did the people in his area. Although he was not familiar with the benefits of electricity, he noticed how life seemed to come to a halt after the sun went down every day. People had to wake up very early in the morning and go to work. After working for a few hours, they came back to their homes at about 3 or 4 in the afternoon. As the light began to dim from 5 and eventually disappeared at 6, household members were done with their cooking before sunset.

After sunset, homes in Monglapara would not have the vibrant buzz of the day. Lamps lit at the cost of 80 to 90 Taka worth of kerosene every day would provide a few feeble rays of essential light to the families inside their houses.

Life was first breathed into this community when BATB started setting up solar panels in their area. Gradually, the pattern that people had been forced to follow for so long in their daily lives began to change. Instead of having to spend 350 to 400 Taka per month behind kerosene for lamps, people now have access to safer, better light. Porches that used to be deserted, now have people sitting and talking with their families after staying out the entire day. People get to work longer, children study in the light of electric bulbs, and older residents make handicrafts at night.

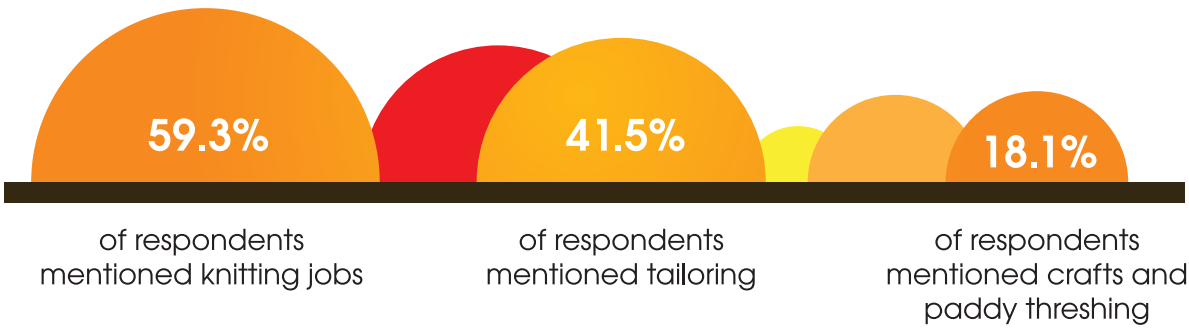
Nightfall was not safe in the dark village that was meant to be home to its residents.

According to Dummong, the baskets made by these local artisans sell for Taka 250 to Taka 300 each. In addition to reduction on the cost incurred for kerosene, people are now earning additional money through these jobs. Dummong believes Deepto has impacted the lives around him positively by making everyday activities easier.

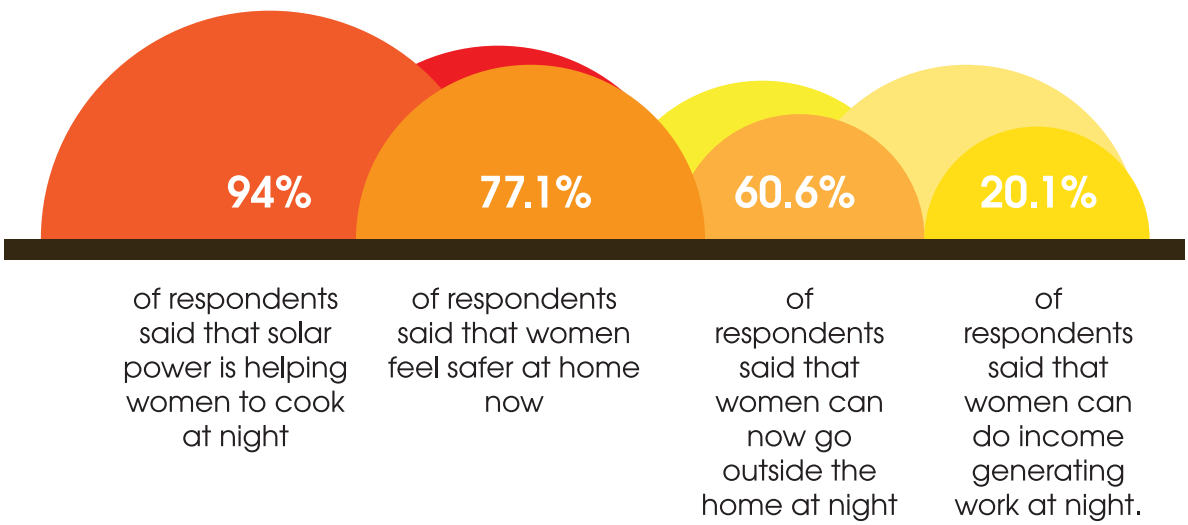
5.4 IMPACT ON FEMALES

Deepto has enlightened the lives of many women lives in the intervention area by empowering them. Now that they can work at night and work more, they earn more. Almost all the respondents in these areas agreed to the fact that women have become more productive with the presence of light.

Across intervention areas, when asked about tasks that can be done in



The above mentioned tasks are mostly female-oriented in nature. This essentially reflects the fact that women in intervention areas are gradually becoming self-reliant from a financial perspective, with the blessings of the solar power. In addition to catalyzing income generation, Deepto has also facilitated local women to expand their regular activity horizon. They can now conveniently participate in household chores and out-of-home work even at night, as reflected in the respondents' feedback below:



After starting new IGA, the female members of the family are now contributing extra money to the family income. Every month,

are contributing around BDT 1,001-2,000

are contributing BDT 501-1,000

are contributing up to BDT 500

"Now I can see if there are any snakes or insects on my way when I go outside at night. This makes me feel safe!

- Mema Marma, Bouddho Vita Village, Bandarban

"Women can now make hand baskets and sew blankets. Aren't these new employment opportunities for them?

- Respondent, FGD, Lama, Bandarban

"As there is light now, theft has reduced. Previously, doing poultry was not possible due to theft.

- - Respondent, FGD Alikadam, Bandarban

case study

NOUMECHENG MARMA

(Age 27)
Wife of Local Farmer

Noumecheng Marma has been living in Mongla Para for 10 years now. A teacher by profession, she had first come to this area for work and later got married to a local farmer and store owner. Having lived here for a decade, Noumecheng has had firsthand experience of the difficulties people faced in absence of electricity and how Deepto has made life easier.

In the past, Noumecheng and her husband used to wake up early in the morning and go to work. They were both home by 3 pm every day and had to start cooking at 4 pm for the night, as they would not have any light after dusk. Time for activities was limited to daylight. Sunset marked the end of the day and everyone would fall asleep by 8 pm or 9 pm.

Back in those days, if someone wanted to stay awake or complete household chores at night, they would have to use kerosene lamps (kupi bati). Noumecheng and her husband owned 2 such kupi batis, and they had to spend over 300 Taka per month for kerosene in addition to their household expenses. These lamps were unsafe and put the family at risk of fire. Noumecheng herself experienced a traumatizing incident, when one night while her 5 year old son was sleeping, the mosquito net caught fire from a kerosene lamp. Thankfully her husband noticed the fire at the onset and rushed to the bed and pulled the child out before any harm came to him. While Noumecheng is grateful to the Almighty for saving her son's life she can never forget the that horrific incident.

Noumecheng felt safer after Deepto set up solar panels in the area. She no longer had to worry about her children being harmed from the smoke and fire of kerosene lamps. Expenditure for kerosene reduced as well, helping her save more money. To add to these benefits, Noumecheng began tutoring students at her house after sunset. With light provided by Deepto, parents feel safer sending their children outside to study and Noumecheng can pay more attention to her students. Her own son and daughter also get to study in the light facilitated by Deepto, and Noumecheng thinks this is one of the many good things that have come to their lives as an impact of Deepto.

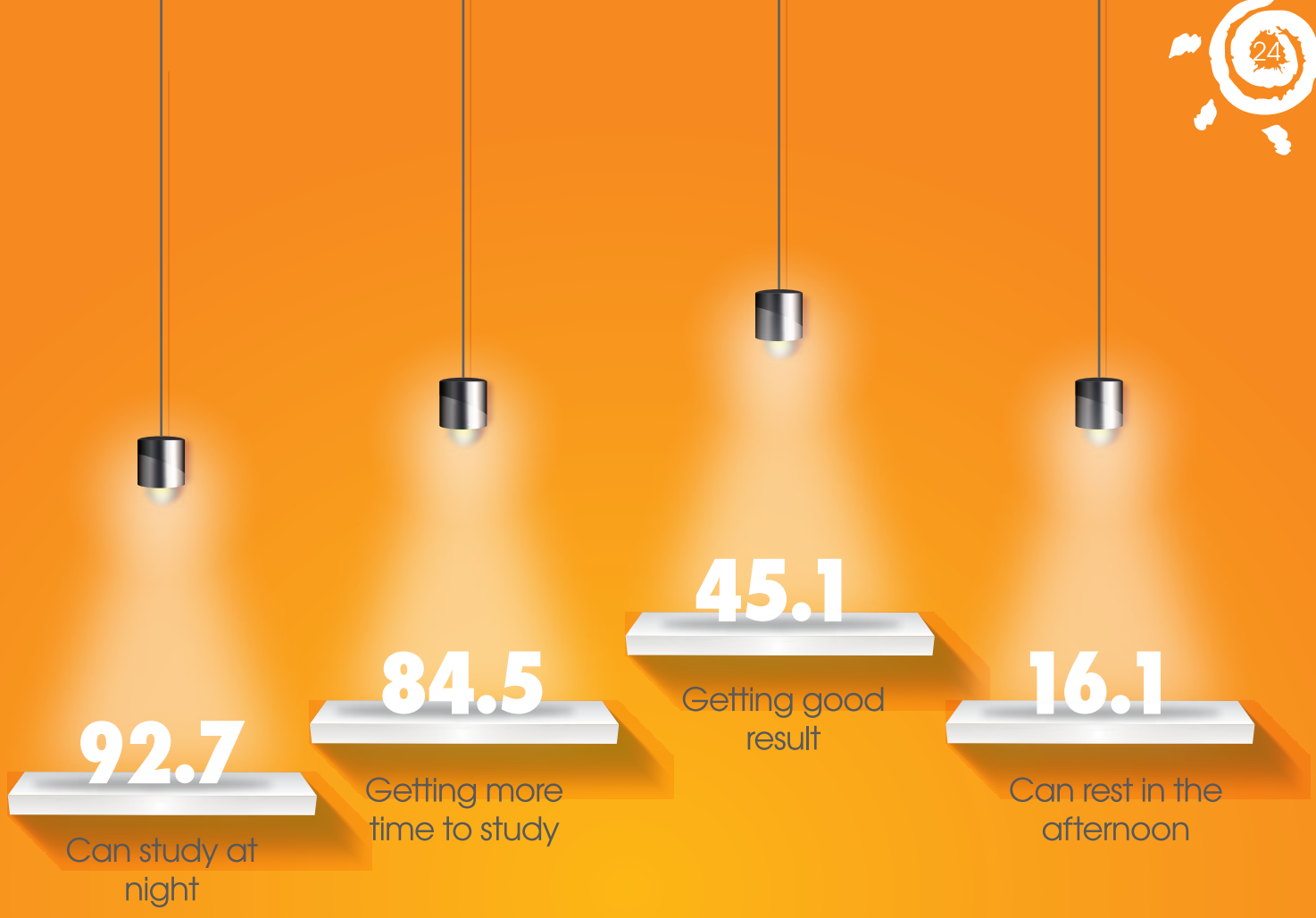
Like Noumecheng, the other women in her area are also participating in income generating activities now that they have Deepto. Women are seen weaving traditional attire and winter clothes in their homes after dusk. All of Mongla Para seems to have reawakened in the light provided by Deepto, and beneficiaries like Noumecheng and her husband are leading better lives because of this initiative.

5.5 IMPACT ON EDUCATION

Before Deepto, more than 70% of the school going children faced many problems such as getting less time to study, not getting any rest in the afternoon, poor school performance etc.

Before the arrival of electricity, children had to study using lanterns or kerosene lamps which are not good for the eyes or for health.

Now that they have electricity, they are more attentive and are interested to study. According to respondents at the validation workshop, children can now study till 9 or10'o clock at night.



Percentage distribution of the respondents according to the impact of electricity on Children's study (Intervention Area)

With electricity in their homes, children are studying more and on an average, 64.2% students are studying 2-3 hours more than usual.

25.4% respondents said that children are studying 3-4 extra hours.

9.3% respondents said that children are studying 1-2 extra hours.

"As a teacher, I have seen how the motivation to study has increased among girls and boys. At night, you can hear the sound of students studying in the area. In 2015, for the first time, the percentage of students passing SSC and HSC from this area was 100% and I believe Deepto had an important role to play in this.

- Shui Mong Marma,
Age 35, Teacher, Local Junior High School

5.6 FACILITATING TECHNOLOGY ADOPTION

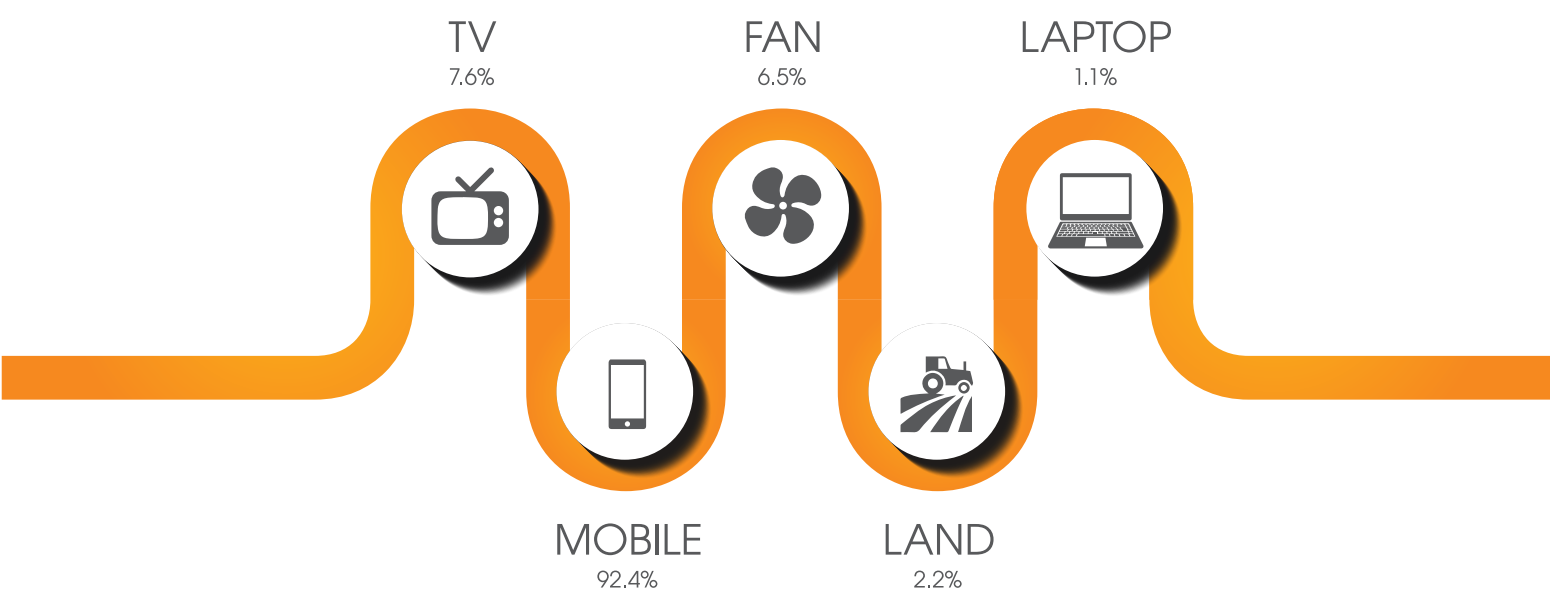
The solar power from Deepto has brought about a paradigm shift in the household technology usage landscape. Previously diffusion of technological devices across these remote study areas was beyond imagination. With the boon of solar power, people are rapidly adopting such tools for communication, entertainment and comfort. Analysis of the household assets bought after having access to electricity reflects that diverse technological devices constitute the majority share of the asset types. Beneficiaries are subscribing to Television, Mobile, Fan, Laptops etc. in a rapidly increasing number.

Now that people have electricity, they can charge their mobile phones at home. Mobile phone purchases have increased substantially after people got electricity in their villages or houses.

In areas where the project has been implemented,

90% of the respondents have cell phones
100% of respondents charge their phones at their home with the electricity provided by Deepto.

Before they had electricity, people used to charge their phones at the local markets or neighbour's house.



Percentage distribution of the respondents according to the assets bought after having electricity

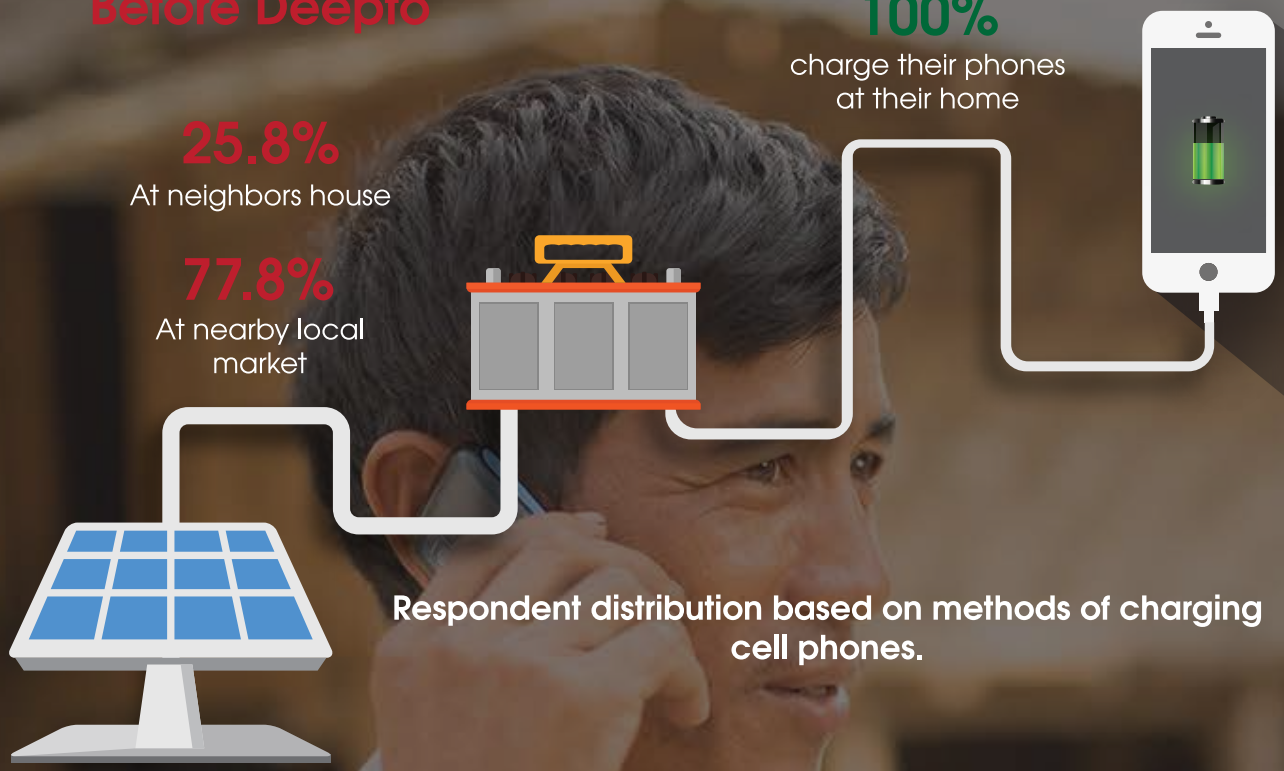
Before Deepto

25.8%
At neighbors house

77.8%
At nearby local market

After Deepto

100%
charge their phones at their home



Respondent distribution based on methods of charging cell phones.

Since beneficiaries can use their solar home system to charge mobile phones, time, cost and efforts can be saved now - leading to effective usage of mobile handsets. People in the intervention areas have added valuable dimensions to their lives by utilizing the power of mobile handsets, a much needed transformation that was sparked with the presence of Deepto's solar power solutions. Communication between friends and families is now easy and convenient because they can call up any one at any time without fearing that the mobile will turn off in the absence of back-up power. Before Deepto, most of them did not buy any handset as the handset needed to be kept outside eventually, may be at a market far away from their home where electricity would be available. Naturally, they avoided buying mobile phones and thus had no option for quick interpersonal communication, business conversations, emergency calls etc. In many cases, they had to go outside in the darkness of the night through unsecured surroundings for emergency calls. Deepto has arrived as a great blessing for the community, enabling beneficiaries to connect with anyone whenever they want, within the comfort of their safe and secure homes as they have backup power generated via Deepto to charge their phones.

80.9%
quick communication

19.6%
Business communication

16%
Greater mobility

93.8%
easy communication

23.1%
More security

0.9%
Daily Contact

Percentage distribution of the respondents according to their opinion on benefits received through mobile phone

case study

ATUSHI MARMA

(Age 42)
Farmer

Atushi Marma is the father of three children and a local farmer living in the small village of Monglapara. His family has been living here for years, as his grandfather and his father both worked and eventually settled down here. Atushi, too, followed the same footsteps and settled here with his family while working as a farmer.

Life here has always been simple, but Atushi feels that the quality of living has significantly improved since Deepto has become a part of their lives. As a farmer, his daily life included waking up at about 5 or 6 in the morning, going to work, and coming back home by afternoon. His routine was such as he knew he could not work beyond the hours of daylight.

Having no electricity meant that he did not have the privilege of spending his time productively once it was dark. It was not safe to be out after sunset either. The only light in the area was inside houses, where small kerosene lamps were used to keep homes from being completely enveloped in darkness.

Ever since Deepto introduced solar panels in Monglapara, the situation became better bit by bit. From the perspective of an individual who had a very limited window of time to work before, Deepto gave him the chance to participate in income generating activities even after sunset. In addition, Atushi noted how he could now save almost 250 to 300 Taka per month, an amount previously spent buying kerosene for the lamps whose light was the only way to ensure his children had a way to study at night.

Another impact Atushi truly appreciates is how Deepto has made it easier for him to communicate using his mobile phone. Even though he has owned the device for years, he was unable to use it in need because there was no way to charge it at home. He had to get his phone charged from the local market, and then go through the same process again each time the battery needed a recharge. Now he does not have to go through this hassle and can use his phone whenever he needs to because he does not need to worry about charging it. The presence of electricity means that he can charge his phone at home and save himself both the time and expense of having to charge it from the market.

Starting from the simple pleasures in life, such as being able to call his relatives and talk to them without fearing his phone would run out of charge, to the more practical benefits like saving for the future of his children and his wife, Deepto has left a definite imprint on Atushi's mind. He speaks for both himself and the people of the community around him when stating that this initiative is, indeed, one of the best things that have touched their lives.

6.0 RELEVANCE TO SUSTAINABLE DEVELOPMENT GOALS

Sustainable Development Goals (SDGs): the 2030 Agenda for Sustainable Development by United Nations

Opportunities for Poverty Reduction

Deepto beneficiaries use solar home systems as their main source of power. This means they do not have to spend a large portion of their limited income on alternative power sources. In addition, they can do income generating activities at night. This supplements their basic income, which was very low in the past. Combining their savings and additional income, poor beneficiaries now have a modest amount of money which helps their condition.

Target 1.1

By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day

Target 1.2

By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

Target 1.4

By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

Access to Sustainable Energy

The areas that Deepto operates in are remote, and previously shrouded in darkness in the absence of any electricity. The energy sources used by the people in these areas such as kerosene lamps, were neither sustainable nor healthy. Deepto gave them a solution that is both energy efficient and sustainable. The project installed solar home systems at low or no cost in these remote villages. As a result, beneficiary localities now run entirely on sustainable energy.

Target 7.1

By 2030, ensure universal access to affordable, reliable and modern energy services

Target 7b

By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support.

Contribution to Education

In the past, students had to choose between studying, playing and resting. This trade-off between essentials hampered the scope of proper education. Deepto has given beneficiary households access to electricity for the first time. This has relieved students of the pressure they faced in the past, when they could not study properly in the limited hours of daylight after school. Students are now performing better and focusing on education has become easier for them.

Target 4.2

By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education

Expansion of Scope for Self-Employment

As work hours were limited in the past, people could not maximize the use of their productive potential. Solar home systems installed by Deepto ensure that people have electricity even at night. This lets beneficiaries work after sunset and diversify their income generating activities. Many of them engage in crafts work, tutoring, paddy husking and other independent initiatives for income at night. People are thus expanding their work horizon and partaking in independent earning ventures.

Target 8.2

Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

Target 8.5

By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

7.0 LOOKING INTO THE LIGHT: FUTURE PROSPECTS OF DEEPTO

7.1 EXPECTATIONS FROM DEEPTO

Deepto has been able to bring about positive changes in the socio-economic fabric of the beneficiary communities. With the program's substantial contribution in uplifting beneficiary lives, Deepto has inflated their hope and increased their future expectation from this project. The following are some of the expectations that people now have from Deepto:

Free solar home system for poor people

Arrangement of meetings to increase maintenance capacity of the users

Initiatives to increase public awareness

Increased adoption of Deepto in the overall community

> I got 152 solar home systems for my area, If I could get another 37, then the whole area will be covered with light.
>
> **- Participant, Validation Workshop, Lama**

Respondents have some expectations of electricity from the Government as well. First and foremost, they expect the Government to provide electricity in every village in the hill tract area. This thought is reflected among respondents in both the control and intervention areas.

99% of people in the control area want the Government to provide electricity

89% of people in the intervention area want the same

The solar panels provided by Deepto are provided free of cost. Beneficiaries who believe things given for free are not sustainable feel that BATB should receive at least some charges or fees for the panels.

Concerned that the quality of service from these panels might eventually fall if they are completely free, beneficiaries suggested forming a local committee where financial contributions will be made. This fund could catalyze the arrangement of more solar home systems for the people in these areas. They think this model would work as people would be inspired to contribute following the example of their neighbours, friends and family.

From the workshop conducted with the respondents in Lama, it was found that people in the study area feel more solar home systems should be provided.

Percentage distribution of the respondents according to their expectation from Deepto (Intervention Area)

63.6% **Better connection of Solar Power**

In most of the cases, when beneficiaries experience the positive impact of one technological/electrical device in life, they immediately start adopting few other devices. However, solar power has its limitations as well. The experience of a number of beneficiaries reveal that they try to power their light bulbs, fans, televisions and charge their mobile phones at the same time. Sudden pressure of a number of appliances on a single solar panel sometimes create glitches if regular maintenance is not done thoroughly. Thus, the beneficiaries have to go through the inconvenient process of fixing their solar home systems. In spite of these inconveniences, 93% of the beneficiaries said that Deepto has positively impacted their lives a great deal by providing electricity support. However, to experience the potential of solar panel to the fullest, they expect better and stronger connection of Deepto so that they can afford using all the household appliances in a seamless manner.

75.2% **Strong connection**

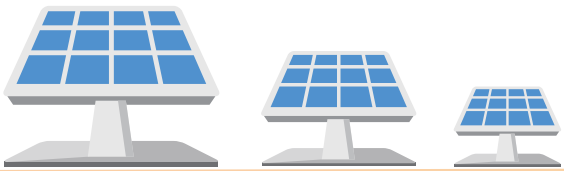
42.4% **More Deepto connections in the area**

> Families are being economically benefited as the women can make different crafts and household items at night with the light. Deepto has also changed mobile communication. About 20% of people here used mobile phones before. As charging facility is available now, the percentage has reached almost 100%.

- Pruthai O Marma, Age 49, Former Chairman of Monglapara, Current Senior Trader

7.2 MAINTENANCE OF SOLAR POWER PROVIDED

According to 97.6% of the beneficiaries, solar power provided by Deepto is functioning properly. Maintenance requirements are also taken care of by BATB, and 100% of the respondents stated that the maintenance of their solar home system is done on a regular basis.



Maintenance Fees:

Only 4.4% of respondents pay fees for the maintenance of the solar home system. They do so through a locally formed committee named 'Shonchoi' and contribute 150 – 200 Taka per year on average.

63% of the users who availed maintenance services from Deepto did not have to pay any fee. Around 64% of the payers are satisfied with the amount they pay each month.

System Repairs:

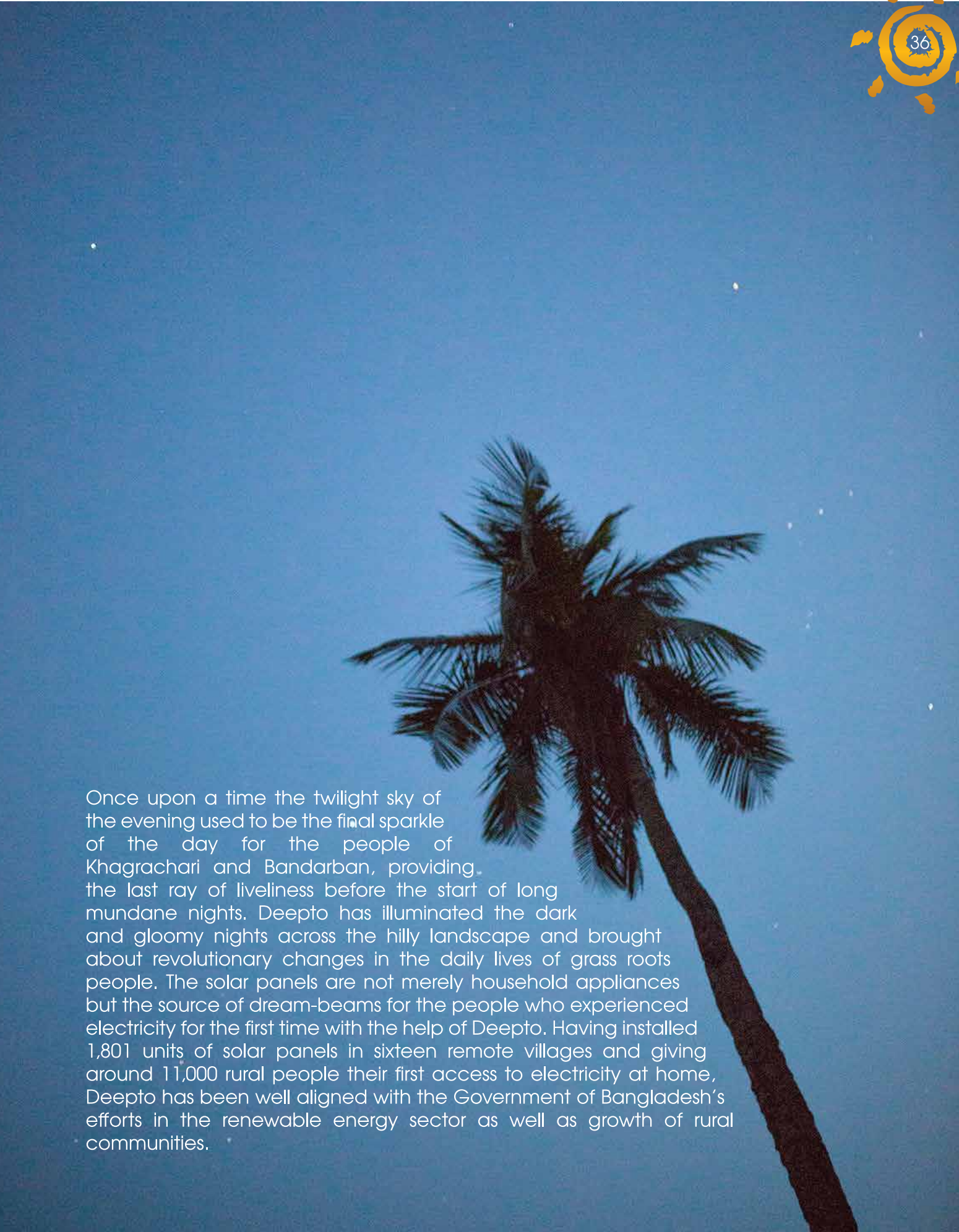
If the solar home system needs repair, Deepto personnel usually fix the problems. There are designated personnel assigned for taking care of any maintenance issues and beneficiaries do not need to pay them any fee.

User Training:

Deepto provides basic training to the users of solar panels on how to fix minor problems and maintain the panels.

Problem Management Model for Deepto Maintenance

- 73.2% of respondents solve problems with help from Deepto
- 5.2% of respondents solve problems by themselves
- 22.8% of respondents have not faced any problem yet



Once upon a time the twilight sky of the evening used to be the final sparkle of the day for the people of Khagrachari and Bandarban, providing the last ray of liveliness before the start of long mundane nights. Deepto has illuminated the dark and gloomy nights across the hilly landscape and brought about revolutionary changes in the daily lives of grass roots people. The solar panels are not merely household appliances but the source of dream-beams for the people who experienced electricity for the first time with the help of Deepto. Having installed 1,801 units of solar panels in sixteen remote villages and giving around 11,000 rural people their first access to electricity at home, Deepto has been well aligned with the Government of Bangladesh's efforts in the renewable energy sector as well as growth of rural communities.

About This Report

This report is based on a research conducted by The Nielsen Company (Bangladesh) Ltd., inspired by British American Tobacco Bangladesh. References to 'BAT Bangladesh', 'BATB', 'we' us, 'our' when denoting opinion refer to British American Tobacco Bangladesh (the Company). Extensive field studies had been conducted to document the impact of CSR programmes: Bonayan, Probaho and Deepto on the communities, initiated and sustained by BAT Bangladesh as part of its sustainability agenda. Impact description and representation in this report have been recorded by Inspira Advisory and Consulting Limited, from the research findings and beneficiary perspectives obtained by The Nielsen Company (Bangladesh) Ltd.

Get In Touch

batb.sustainability@gmail.com

Also find this report on:

www.batbangladesh.com
www.inspira-bd.com

The manufacturing mill is FSC certified and the printer is registered with the ISO.