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# Indian Journal of Rural Education and Engagement

September 2021

Volume 9



**Mahatma Gandhi National Council of Rural Education**

Department of Higher Education

Ministry of Education, Government of India

UNESCO Chair on Experiential Learning, Work Education and Community Engagement



## **About the Journal**

Indian Journal of Rural Education and Engagement (IJREE) is a blind peer-reviewed half-yearly early Scholarly Journal published by Mahatma Gandhi National Council of Rural Education (MGNCRE), formerly National Council of Rural Institutes, Ministry of Education (formerly Ministry of Human Resource Development), Government of India. The journal intends to diffuse scholarly information on Academia Community Engagement, Rural Engagement and related areas such as Rural Education, University Community Engagement, Rural Tourism, Rural Management, Rural Entrepreneurship and Rural Communication. It publishes research and review papers, action research, case studies and notes on Community Engagement and Education. The Journal is intended to benefit academia, policymakers, government departments and others interested in Rural Community Engagement.

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**Publisher:** Mahatma Gandhi National Council of Rural Education (MGNCRE)

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**Edition:** Vol 9

**ISBN:** 978-93-93357-19-9

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Dept. of Higher Education, Ministry of Education, Government of India

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Print Subscription/Renewal (Annually)  
India:- Annual Subscription Rs. 1000/-  
For Individuals Rs. 600/- per annum  
Outside India:- US \$100  
To obtain a copy by airmail \$27 extra

# Indian Journal of Rural Education and Engagement (IJREE)

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## Foreword

Mahatma Gandhi National Council of Rural Education (MGNCRE), Department of Higher Education in the Ministry of Education, Government of India, brings out the Ninth issue of its Journal in the field of Rural Community Engagement and Rural Education. This is part of the Council's objectives to diffuse development research and scholarly information. Development of backward areas and their representative institutions, boosting the flagship social and rural development programs with a focus on education, skill development, employment, livelihoods, sustainability and Swachh Bharat. Developing a committed and competent cadre of rural development professionals is another major objective of the Council. These professionals are expected to streamline several grass-root level rural institutions and deliver effectively and efficiently with an emphasis on inclusion and regional prosperity. The Council seeks to empower the rural institutions and the development personnel manning them.

UNESCO Chair on Experiential Learning, Work Education and Community Engagement was established at MGNCRE which signifies the voluminous work done by MGNCRE in these areas. The Chair will promote an integrated system of research, training, information and documentation on four key elements – Rural engagement, hygienic practices in life, decent work and gender equality. The Chair will also facilitate collaboration between internationally recognized researchers and teaching staff from higher education and research institutions in India as well as the South Asia region and Africa.

The blind peer-reviewed Journal's scope has been identified broadly to cover the areas of Academia-Rural Community Engagement and Higher Education focusing on Rural Concerns. Areas covered include Rural Education, University-Community Engagement, Rural Tourism, Rural Entrepreneurship, Rural Management and Rural Communication among other aspects of rural concerns. The Journal publishes research papers, review papers, action research, case studies, including Notes on current issues of concern to the Rural Community Engagement and Rural Education sectors. Efforts have been made to identify potential authors and scholars who have been working in rural community engagement and rural education through the journal databases and the literature scan in the field. Request letters have been sent to the research institutes and universities in India and to the individual scholars and academics to contribute their research manuscripts for publishing in the journal.

This is the Ninth issue of the Journal based on recommendations by peers. This edition of the Journal includes Action Research Projects by interns of XIM University, Bhubaneswar, Odisha. MGNCRE is keen on promoting Rural Management and Rural Engagement education in all Universities and Higher Educational Institutions of India. The action research projects right from vision, strategy, execution and final output and outcome are fully monitored. All the manuscripts received have been put for anti-plagiarism verification and those articles which have more than 25% of similarity have been sent back to the authors concerned to minimize and edit their papers. Further, those articles which were well within the limits of plagiarism have been sent to the identified Reviewers and Peer Reviewers to review and to offer their remarks on the papers about their worthiness and to suggest any corrections needed in the paper before they are accepted for publishing.

MGNCRE has made great strides in Rural Management through curricular and academic interventions. Several collaborative MoUs have been signed for exploring, extending and strengthening mutual relationships for the promotion of professional education in Rural Management by sharing the facilities and expertise.

The Journal is intended primarily for the academia, policymakers, departments in the government and for all others interested in Rural Community Engagement, Rural Education and Rural Management. The Journal takes pride in having eminent scholars, researchers and administrators on its Editorial Board. The majority of India still lives in villages and so the topic of rural education in India is of utmost importance. Further, we firmly believe that the Journal will meet the objective of disseminating the current developments in rural community education and engagement.



**Dr. W G Prasanna Kumar**  
**Chairman MGNCRE**

# 1. Role of ASHA Workers in Spreading Awareness about Vaccination to Fight Against the Pandemic

## An Action Research Project

Akankshya Mishra

### Abstract

Action Research is an intervention that will be helping the people of the villages in the Khordha district to get themselves vaccinated with the help of ASHA workers in the area. With the growth in COVID-19 cases, community healthcare workers (CHW) are playing a bigger role in ensuring that people in low- and middle-income countries are aware of disease transmission and infection control strategies. A lack of appropriate knowledge and attitude among CHWs can have a direct influence on the COVID-19 management program in this context. The role of ASHA workers would help the people of the village to become more aware of the present situation and take preventive measures. This action research will help more people to get vaccinated and motivate them to follow all the COVID protocols.

**Key Words:** Action Research, ASHAs, PHC, CHC

### Introduction

#### About Khordha District, Odisha

Khordha is located in Odisha's eastern region. It covers an area of 2813 square kilometers. The district is located between the longitudes of 84 degrees 55' and 86 degrees 05' East and the latitudes of 19 degrees 55' and 20 degrees 25' North. The district's gross cropped area is 209874 hectares,

the net sown area is 136102 hectares and the area seeded several times is 73772 hectares. The district's net sown area is 155%. The district's command area is 41836 hectares. The area has a total irrigation potential of 58175 hectares. After the 5-year project is completed, an additional 38294.5 acres of irrigated land will be created.

Items	Units
No. of Sub-Divisions	2
No. of Tahasils	10
No. of Municipalities/Corporation	3
No. of Blocks	10
No. of Police Stations	33
No. of Gram Panchayats	168
No. of Villages	1546
No. of Inhabited Villages	1358
No. of Uninhabited Villages	188

Table 1: Source: District Statistical Handbook 2011-Khordha

The district receives normal rainfall of 1408 mm, with maximum and minimum temperatures of 42.2°C and 11.1°C, respectively. Similarly, the average relative humidity varies between 46 and 89%. The agro-climatic zone is characterized by sandy-loam, loamy, clay-loamy and clayey soil in a diversified agro-ecosystem and is in the East & Southeastern coastal plain. The Deltaic Alluvium subregion, which consists of three blocks: Baliana, Balipatna and Chilika, is one of Khordha's two subregions. Banpur, on the other hand, is in the state of Begunia. The Lateritic sub-region includes

Bhubaneswar, Bolagarh, Jatani, Khordha and Tangi.

#### Demographic Details of Khordha, Odisha

The population of Khordha district is 14.15 lakhs, with 651947 males and 621839 females. The female to male ratio is 953 to 1000. The male and female populations are highest in the Bhubaneswar block. Khordha district has a total of 142154 children. Chilika block has the greatest population density of 509 people. Tangi block has the most people, while Jatani block has the fewest.

District	Block	Population				SC	ST	General	Total
		M	F	CH*	Total	No. of Members	No. of Members	No. of Members	No. of Members
Khordha	Balianta	56776	54356	11550	122682	29302	1257	80573	111132
Khordha	Balipatna	58410	55802	11403	125615	31784	89	82339	114212
Khordha	Banapur	63411	62537	15362	141310	10312	10926	104710	125948
Khordha	Begunia	67124	63237	14359	144720	13430	14010	102921	130361
Khordha	Bhubaneswar	71260	67093	15088	153441	21201	11768	105384	138353
Khordha	Bolagad	67355	63525	14644	145524	10911	9001	110968	130880
Khordha	Chilika	61495	58373	14425	134293	30280	980	88608	119868
Khordha	Jatani	50920	48724	10663	110307	15999	7491	76154	99644
Khordha	Khordha	69683	66561	15215	151459	15880	11205	109159	136244
Khordha	Tangi	85513	81631	19445	186589	28985	3441	134718	167144

Table 2: Source: Census, Government of India, 2011

District	Block Households	Households	Total persons	Total Male	Total Female	Total Children	Children Male	Children Female
Khordha	Balianta	23766	111132	56776	54356	11550	5853	5697
Khordha	Balipatna	25702	114212	58410	55802	11403	5936	5467
Khordha	Banapur	26237	125948	63411	62537	15362	8079	7283
Khordha	Begunia	28024	130361	67124	63237	14359	7493	6866
Khordha	Bhubaneswar	28655	138353	71260	67093	15088	7734	7354
Khordha	Bolagad	29965	130880	67355	63525	14644	7657	6987
Khordha	Chilika	25404	119868	61495	58373	14425	7691	6734
Khordha	Jatani	20339	99644	50920	48724	10663	5431	5232
Khordha	Khordha	27423	136244	69683	66561	15215	7833	7382
Khordha	Tangi	33932	167144	85513	81631	19445	10114	9331

Table 3: Source: Census, Government of India, 2011



District	Block Households	Total SC	SC Male	SC Female	Total ST	ST Male	ST Female
Khordha	Balianta	29302	14757	14545	1257	595	662
Khordha	Balipatna	31784	16086	15698	89	57	32
Khordha	Banapur	10312	5029	5283	10926	5348	5578
Khordha	Begunia	13430	6860	6570	14010	7060	6950
Khordha	Bhubaneswar	21201	10657	10544	11768	5833	5935
Khordha	Bolagad	10911	5486	5425	9001	4496	4505
Khordha	Chilika	30280	15471	14809	980	482	498
Khordha	Jatani	15999	8039	7960	7491	3819	3672
Khordha	Khordha	15880	8023	7857	11205	5567	5638
Khordha	Tangi	28985	14906	14079	3441	1682	1759

Table 4: Source: Census, Government of India, 2011

Tangi block has the highest population i.e 186589, among all the 10 blocks. Jatani Block has the lowest population at 110307.

### Introduction - ASHA Workers

The Government of India began the National Rural Health Mission (NRHM) on April 12, 2005. India aimed at providing primary health care to the poorest and most vulnerable members of society. The Ministry of Health and Family Welfare Department introduced Accredited Social Health Activist (ASHA) personnel in 2005 to stimulate the growth, affordability and acceptability of current health facilities, especially in rural areas. ASHA workers comprised female health volunteers, health service promoters, or a new generation of community-level health workers who were the driving force behind grassroots action. The NRHM portrays an ASHA worker as a health activist who is accepted by the community and who bridges the gap between the health system and the community.

Thus, according to SRS 2016 statistics, India's MMR (infant mortality ratio) is 130 per 100000 live births, while Odisha's is 180 per 100000 live births. According to NFHS-IV (2015-16), India's IMR (infant mortality rate) is 41 per 1000 live births, while Odisha's is 40 per 1000 live births.

The identified ASHA workers are taught, with frequent reorientation for organized and adequate skill development, to lower the IMR and MMR as part of achieving the MDG objective, in addition to reducing disease and improving nutritional status.

After thirteen years, it has become appropriate to evaluate the total work profile of these current linkage workers. As a result, this study was carried out to provide a general picture of the ASHAs' job profile and to identify any gaps, if any, so that the NRHM, now known as the NHM (National Health Mission), could be recommended to help them adjust their working patterns. The job of an ASHA is based on incentives rather than remuneration. Each ASHA employee is paid \$2,000 for the mandatory and guaranteed services she offers to the community. Aside from that, they are offered work-related incentives based on their performance, which are never paid in cash. ASHAs are either the village's daughter or daughter-in-law.

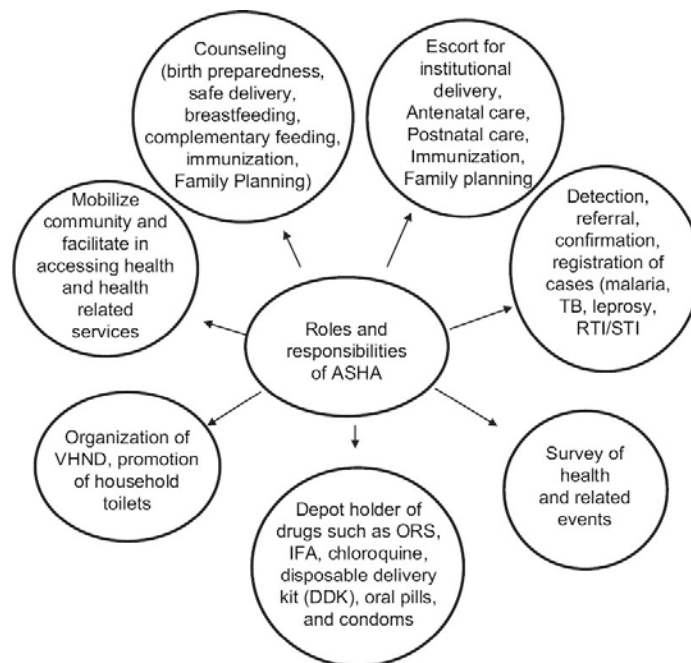


Figure 1: Roles and responsibilities of ASHA Workers

The Ministry of Health and Family Welfare, Government of India, created ASHA guidelines in which the rights and obligations of ASHA, their working arrangements, building capacity and performance-based rewards, among other things, were discussed. Many states have amended the standards to meet their needs, depending on the local circumstances. Because ASHAs are believed to be the grassroots workers, the success of NRHM is heavily reliant on their performance. As a result, for efficient service delivery, ASHAs must have a clear understanding of their tasks and responsibilities. As a result, the following goals were set for this research.

### Identification of the Challenge

The Odisha Government has provided masks, sanitizers and others to the PHCs, but 90% of the People in the village of Khordha, Odisha are not aware of the serious consequences of COVID and are not yet vaccinated. The people in the village have a lackadaisical attitude towards taking corrective measures against this virus. Despite all the help provided from the side of the Odisha Government, the people of the village are reluctant to take the vaccine, as they have a prenotion about the ill effects of the same.

With the rise in COVID-19 cases, community healthcare workers (CHW) are becoming increasingly important in

ensuring that populations in low- and middle-income countries are informed of disease transmission and infection control methods. In this context, a lack of proper knowledge and attitude among CHWs can have a direct impact on the COVID-19 management program. As a result, the current study was developed to examine COVID-19 knowledge, attitudes and behaviors among India's CHWs, also known as Accredited Social Health Activists (ASHAs).

### Review of the Literature

The foundation of India's national healthcare system is Accredited Social Health Activists, who are trained female community workers who work at the grassroots level (ASHAs). ASHAs are the principal frontline workers in India, distributing awareness and ensuring that the community follows the suggested preventive measures. They serve as a link between the community and the healthcare facilities that make up the primary-care system. The WHO suggests social separation, regular hand washing and keeping respiratory etiquette as preventive strategies in this situation (WHO 2020c). Also, with the rising in COVID-19 cases in India, public awareness of disease dissemination and infection control regulations put in place by the government have become more important. The government of India requires effective dispersion across communities, which is helped by ASHAs.

ASHA is a non-profit organization that promotes health awareness in the community. The public is being mobilized

to support local health planning and socioeconomic determinants, as well as enhanced utilization and openness of present public health services. She is a supporter of healthy wellbeing practices. Their service region is primarily rural, where suitable road and transit infrastructure are lacking. Every person has been affected by the Covid -19 epidemic, including Asha personally and professionally. The COVID-19 pandemic has hit India hard, making it the world's second-worst-affected country. Although the Indian government took several steps to combat the spread of coronavirus in the country, including a three-week nationwide lockdown (from March 25 to April 14) that was later extended three times until May 31, 2020, increased testing, quarantine facilities, COVID-19 treatment facilities, contact tracing through the Aarogya Setu application and many other measures. Because of the lockdown, when migrant workers were compelled to leave cities and return to their rural homes, the COVID-19 infection, which had previously only afflicted urban regions, spread to rural sections of the country. The proportion of COVID-19 patients in rural areas has increased over time.

### Challenges Identified

After surveying 8 ASHA workers in the Khordha District of Odisha. The questionnaire had a set of 30 questions, 10 of which were open-ended. After interacting with the ASHA workers, various factors which impacted the life of ASHA workers were studied. Also, the need of ASHA workers to create awareness in their community, so that maximum people in that village will be motivated to take vaccination or follow the Covid-19 protocols. After a thorough interaction with the workers, it was seen that The COVID-19 outbreak has expanded the number of workers available to ASHA employees. They worked for a total of 7-8 hours per day until the outbreak, but notwithstanding the postponement of routine tasks, the average number of hours worked per day climbed by 2-3 hours per day during the pandemic. This is owing to the additional activities associated with COVID-19 containment, as well as an increase in commute time due to the lack of public transportation.

The Ministry of Health and Family Welfare released instructions urging state governments to provide the distribution of safety equipment such as Personal Protective Equipment (PPE) to healthcare personnel to protect those who are at the forefront of the movement against COVID-19. ASHA employees, on the other hand, have a lower bar of protection than other healthcare workers. ASHA employees were deemed low-risk, with only triple-layer masks and shields advised for their safety. However, even obtaining this

least level of protection has proven difficult for these ASHA employees.

*"We were instructed to travel to Tangi, where 22 members of a 25-member family had screened positive for the virus. Many ASHA employees objected, but I agreed. I understand the significance of this effort. We were not provided with any masks or gloves when we arrived. We barely got multiple masks each after giving a TV interview. It is just a regular mask that we wash and reuse because we haven't been given anymore."*

—An ASHA Worker, Khordha District

Despite all the challenges faced by the ASHA workers, several people in the village do not follow the covid norms and regulations and not only expose their lives but also put others' lives at stake. Despite every step taken by Odisha Government and central government, in making it easy to take vaccines, providing free sanitizers and masks to the people, the villagers in the community do not utilize the same endangering several lives.

*"Two of my ASHAs have refused to continue working," "We have children, we have households," they say. How can we operate if we aren't protected? How can we jeopardize their safety?"*

-ASHA Worker (Khordha District)

To understand the motive behind the community for not taking preventive measures and what kind of difficulties ASHA workers are going through in terms of their financial status and the efforts taken by them in the past to help the people of the community to make them aware about the various ill effects of COVID-19 and what kind of interventions were planned earlier and what was the advantage after implementing them. This survey questionnaire will give us a fair idea, about why the people in the village do not follow the instructions given by the ASHA workers and what kind of problems these workers are facing by exposing themselves to such deadly virus, especially when they are overworking and underpaid.

ASHAs are frequently paid task-based incentives rather than a monthly fixed wage. Where they do earn a regular monthly remuneration in some areas, it is still quite modest, with their primary incentive ranging from INR 2000 to INR 3000 in most Indian states. ASHAs are referred to as "volunteers/activists" rather than "employees." They are not covered by labour laws and do not receive any welfare payments such as insurance, paid time off, or maternity leave. Many incentive-based tasks, including vaccine programs and awareness campaigns, were halted due to the lockdown, resulting in fewer profits. Although an additional

payout of INR 1000 was declared due to COVID-19 relief work, various inconsistencies in the payment have been noted. The Government of India has promised insurance of up to 50 lakhs for all healthcare professionals as part of the

Pradhan Mantri Garib Kalyana Yojna, but it fails to account for the hazards encountered by ASHA workers on the job (Ministry of Health & Family Welfare, Government of India 2020d).

### Pre-Survey Analysis

Materials and Methods- This cross-sectional observational study was conducted in the Khordha District of Odisha.

Study Population- trained ASHA workers.

Statistical Analysis- All the statistical analysis was performed using SPSS version 16. The categorical variables are presented as frequency and %ages. Appropriate graphical representation was done wherever required.

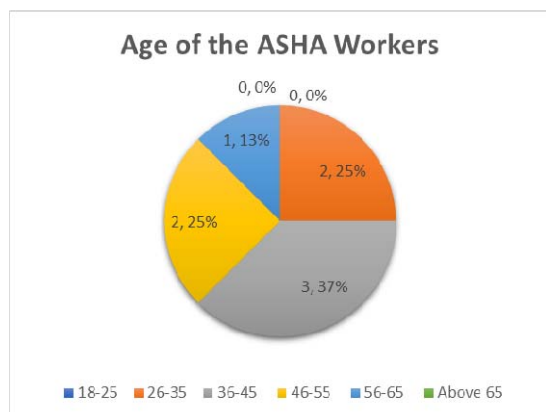
The survey was conducted among the ASHA workers and the following data were obtained. The interpretations of the data are done simultaneously to analyze the GAP between the impact and recognize the problems that are being faced.

Age of the ASHA Workers:

Age of ASHA Workers	Number
18-25	0
26-35	2
36-45	3
46-55	2
56-65	1
Above 65	0

Table 5: Age of the ASHA Workers

**Interpretation:** From the above table, it is visible that out of the total 8 ASHA Workers who were surveyed, 2 of the ASHA workers were between the age of 26-35. 3 ASHA workers were between the age of 36-45, 2 ASHA workers were between the age of 46-55 and 1 ASHA worker was between the age of the 56-65 age group. There were no workers between the age group of 18-25 years and above 65 years.



Graph 1: Age of the ASHA Workers

From the above graph, it is found that all the ASHA workers have a certain household to take care of and exposing themselves to COVID-19, also impacts their own

family, whether married or not.

Level of Literacy and Marital Status of ASHA Workers

What is your level of literacy?	
Primary	0
Secondary	1
Intermediate	5
Degree and above	2
Illiterate	0

Table 6: Level of Literacy of ASHA workers

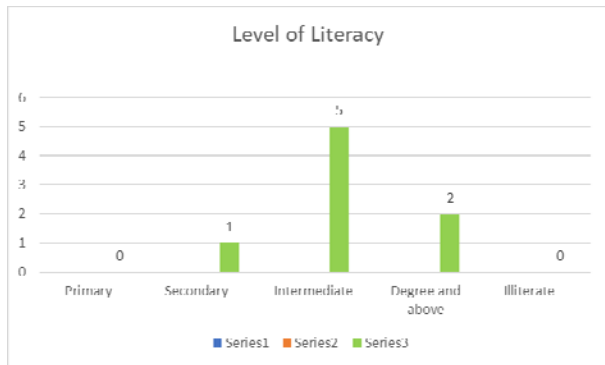
Marital Status	
Single	0
Married	7
Unmarried	0
Divorced	1

Table 7: Marital Status of ASHA Workers

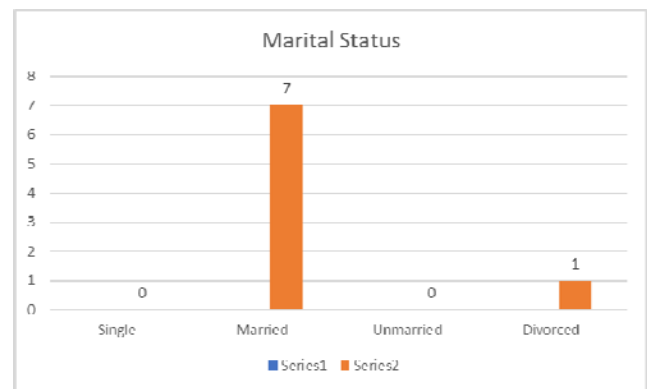
**Interpretation:** From the above tables, it can be inferred that All the ASHA workers are perfectly educated and 2 of them even have qualified degree level examination. Hence, as per this table, it can be said that the ASHA workers are aware of the current pandemic and the ill effects of not taking prevention against this virus, as no cure has yet been discovered till now.

Also, from Table no 6, all the ASHA workers have a family and one of the 8 ASHA workers surveyed is widowed and is the sole earner for the family.

The bar graphs for the following tables are shown below.



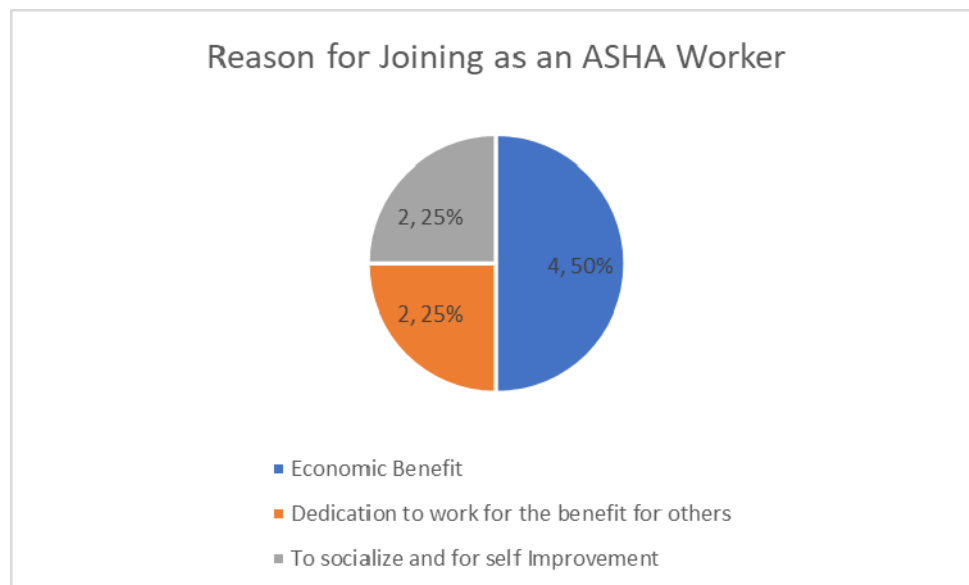
Graph 2: Level of Literacy of ASHA workers



Graph 3: Marital Status of the ASHA Workers

### The Reasons for Joining ASHA

As per the survey conducted with 8 ASHA Workers, several factors came to light when the workers were questioned about their reason behind joining as an ASHA workers. Two of the ASHA Workers had education till intermediate. Responded saying that they wanted to work for the greater good of the society and help other people. Four ASHA workers responded by saying that they joined as ASHA workers for economic benefits, as coming from a poor family, their source of income was limited to only one person and a helping hand would provide better education for their children and a scope to improve their living condition. The other two ASHA workers responded by saying that they wanted to socialize more in the community. These two women also have secondary businesses like Papad making and are also a part of the SHGs.



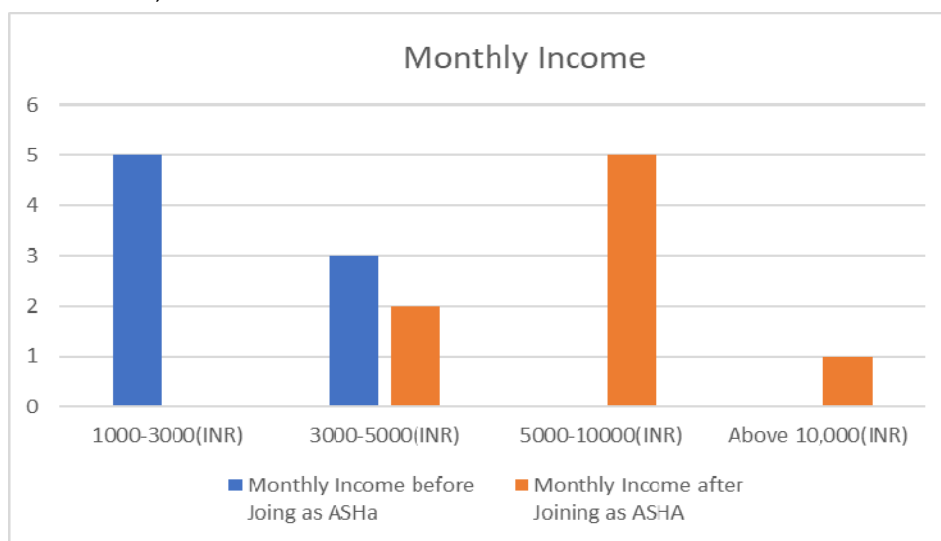
Graph 4: Reason for Joining as an ASHA Worker

Monthly Income of the Family of the ASHA worker before and after joining as an ASHA Worker.

	Monthly Income	
	Monthly Income before Joining as ASHA	Monthly Income after Joining as ASHA
1000-3000(INR)	5	0
3000-5000(INR)	3	2
5000-10000(INR)	0	5
Above 10,000(INR)	0	1

Table 8: Monthly Income of the Family of the ASHA worker before and after joining as an ASHA Worker.

**Interpretation:** The monthly income of the ASHA workers has significantly increased. Five of the ASHAs had a monthly income of INR 1000-3000, before joining as an ASHA workers. All five women are now earning more than they earned previously. Three ASHA Workers were earning between INR 3000-5000 before joining and now it has reduced to two. None of the ASHA workers earned INR5000-10,000 before joining ASHA and now, five ASHA workers are earning between INR 5000-10,000. And 1 ASHA worker earning more than INR 10,000.



Graph 5: Monthly Income of the ASHA workers

### Challenges Faced by ASHA During the Field Work

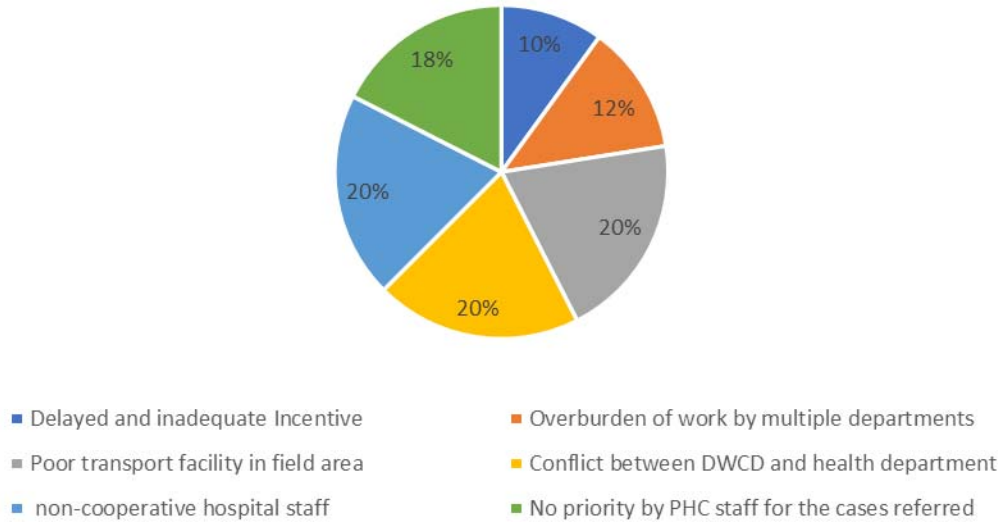
The COVID-19 pandemic has provided a once-in-a-lifetime chance to draw attention to the workplace conditions of India's large stock of female front-line workers employed through various government initiatives. Workers like them are crucial to the government's attempts to improve human development results. This function has been recognized as critical for better implementation and outreach of health services to the general public on a global scale. In India, however, most women who work in front-line government services are considered volunteers rather than full-time government employees. Instead of a monthly salary, they are compensated with honoraria or task-based incentives (which are often below minimum wages).

From the survey, several factors were considered to measure the challenges faced by the ASHA workers like

Delayed and inadequate Incentive, Overburden of work by multiple departments, Poor transport facility in the field area, Conflict between DWCD and health department, non-cooperative hospital staff and No priority by PHC staff for the cases referred. After taking the survey, the following data were collected.

These female workers have performed a wide range of activities since the nationwide lockdown to combat the health crisis began in March 2020. Conducting surveys, making door-to-door visits, assisting with contact tracing, testing and promoting awareness are all part of this process. They have helped not only to stop the spread of the disease but also to make treatment more accessible to individuals in both urban and rural locations.

Factors leading to ASHA workers facing challenges



Graph 6: Challenges faced by ASHA during the fieldwork

## Gap Analysis to Identify the Problems Faced by the Community by the ASHA Workers

### Absence of Promotive Healthcare System

ASHA workers play an important role in the healthcare system as linkages between public healthcare delivery systems and the communities they serve. As per the survey, when asked some open-ended questions like, whether they can contribute more towards community upliftment and what kind of challenges are faced by the community according to them. The most common answer was that during this pandemic, they were not provided with enough support to facilitate awareness campaigns as the people of the community were reluctant to meet with the workers due to the contamination. But ironically, most of them are till now not vaccinated, with a belief that there are hazardous side effects of the vaccines which are being administered. Their main responsibilities, according to the National Health Mission's directives, are to raise community awareness and provide information on nutrition, sanitation, hygiene, family planning and existing public health services. But due to noncooperation from the community side, this cannot be facilitated smoothly.

### Insufficient knowledge of the people regarding the pandemic

After interacting with the ASHA workers, it was found that the maximum of villagers in the community, were not aware of the consequences of coronavirus. Not wearing masks and not taking preventive measures can raise the death toll. This fact was very recently understood by them when there was a significant rise in the cases in the second wave of the

Pandemic. When the ASHA workers conducted the awareness campaign the previous time, they made the community aware of the use of sanitizers regularly, keeping a safe distance and the meaning of quarantine. After learning the behavior of the people of the community, the ASHA workers are planning an intervention to spread awareness campaign to promote vaccination and register them in the COWIN application, so that they won't face any issues.

### Damage to an already overburdened system is amplified

The pandemic's onset raised the load of work for ASHAs by a factor of ten and they were forced to deal with higher logistical challenges in terms of transportation, infrastructure and funding. Outreach programs, surveys, delivery services of supplementary nutrition and other services, making quarantine arrangements for returning migrants and organizing for relief measures (such as public distribution system rations) to reach beneficiaries were among the increased responsibility given to these front-line workers about the pandemic. Due to the closure of Anganwadi centers, AWWs were forced to supply additional nutrition to clients at their homes and monitor high-risk pregnant cases daily. They were also in charge of conducting door-to-door surveys and disseminating awareness about wearing masks and washing hands during the lockdown, along with ASHA and ANM.

## The need for Action Research

As per the pre-survey analysis, various factors demand necessary action be taken. The ASHA workers can plan an awareness program, where each ASHA worker out of the eight who have participated in the survey can cover a total of 25 households each. They can go to each household and spread awareness about the need to take the vaccines and along with that, if the person/ the family agrees, they can also help them register themselves in the COWIN application, which will save a date for them to take the vaccination. In this process, maximum people can get vaccinated or will be assured that they will be vaccinated in the long run. This will help other people in the village, to take up preventive measures against this pandemic.

This action plan is planned to be implemented by the ASHA workers for 10 days, where they are going to visit a total of 200 households and then we are going to evaluate the total number of people who have registered for vaccination and are now more aware of the current situation.

## Objectives of the Action Research

- To study the factors affecting the community due to which they prefer not taking vaccines.
- To identify the challenges faced by the ASHA workers during awareness programs.
- To assess the knowledge, awareness and practice of their roles and responsibilities in the delivery of health care services.
- To suggest specific recommendations on the ASHA scheme based on the study findings.
- To study the impact of the action imposed by the ASHA Workers to increase the vaccination status in the community
- To study various interventions planned for ASHA Workers to help them implement these programs during COVID-19 and identify whether these interventions were successful or not.

## Identification of the Challenge

Despite all the efforts putting by the Government of Odisha, various members of the community are against taking the vaccination. The last time an awareness campaign was arranged by ASHA workers was 6 months ago and hence this time, as per the survey, an action plan was thoroughly strategies where the workers will cover around 200 households. And these households would be those who have not yet received their vaccination. The ASHA workers will try to make these people understand the importance of health and the impact of the virus on human health and our body. We have also planned to mention some figures stating the number of people who are recovering each day and the current death toll in an individual day. And with the help of

this vaccination, the death toll has decreased to a massive extent. This will help the people in the community understand the reason why they should get vaccinated.

Another strategy was to make them aware of all the government applications and programs which has started with the onset of the pandemic so that they can stay updated and aware of what is going on in our country. Another important point that was described by the ASHA workers, which was very sad to hear was during the door-to-door survey undertaken by ASHA personnel is associated with a high sense of stigmatization. During their home-to-home visits to perform COVID-19 surveys, ASHA personnel are confronting violence. Workers for ASHA are encountering animosity from the same community they've been serving for years and who used to refer to them as "Didi" (elder sister). Men of the household are confined to their homes due to the lockdown and this ASHA personnel are subjected to their scorn and violence.

*"A few folks refused to let us in. They tell us not to approach their kids."*

—An ASHA Worker, Khordha District

*"There is a great deal of stigma associated with the disease and many are hesitant to admit they have symptoms or that they may be Covid-19 carriers. They become irritated and attack when ASHAs encounter them. Plenty of others about them, believing that because ASHAs are always on the field, they are diseased."*

—A lady from the community

*"People are afraid that catching the virus will result in their death. 'Look at me,' I implore them. My face is shielded by a dupatta. Every half-hour, I wash my hands. Is there anything wrong with me? Women are frightened of catching the virus if they give birth in a hospital."*

—An ASHA Worker, Khordha District

*"My husband lost his job in February, therefore I'm the sole earning member of my family. We must survey 50 or more households per day as part of our Covid-19 job. We are constantly on call. I occasionally get a call late at night asking for help finding a Covid-19 positive patient. We only earn Rs 4,000 after putting in hard hours, including Rs 1,000 for Covid-19 duty."*

—An ASHA Worker, Khordha District

## Hypothesis

H01: There is a significant relationship between the awareness programs taken forward by the ASHA workers and the vaccination status of the people in the community.

H02: There is no significant relationship between the awareness programs taken forward by the ASHA workers or any interventions planned by the Government and the



vaccination status of the people in the community.  
H03: There is no correlation between the impact of job loss and individual issues on the vaccination of the individuals.  
H04: There is a significant correlation between the safety precautions taken by the ASHA workers during the promotion of the awareness programs and the vaccination status of the people of the community.  
H05: There is a significant correlation between government interventions and the vaccination status of the people in the community.

### Research Methodology

The research is essentially descriptive. The study makes use of both primary and secondary data. Secondary data is gathered from various government sources, while primary data is gathered directly from eight ASHA workers and community members in Khordha, Odisha, through direct interviews and well-defined and structured questionnaires.

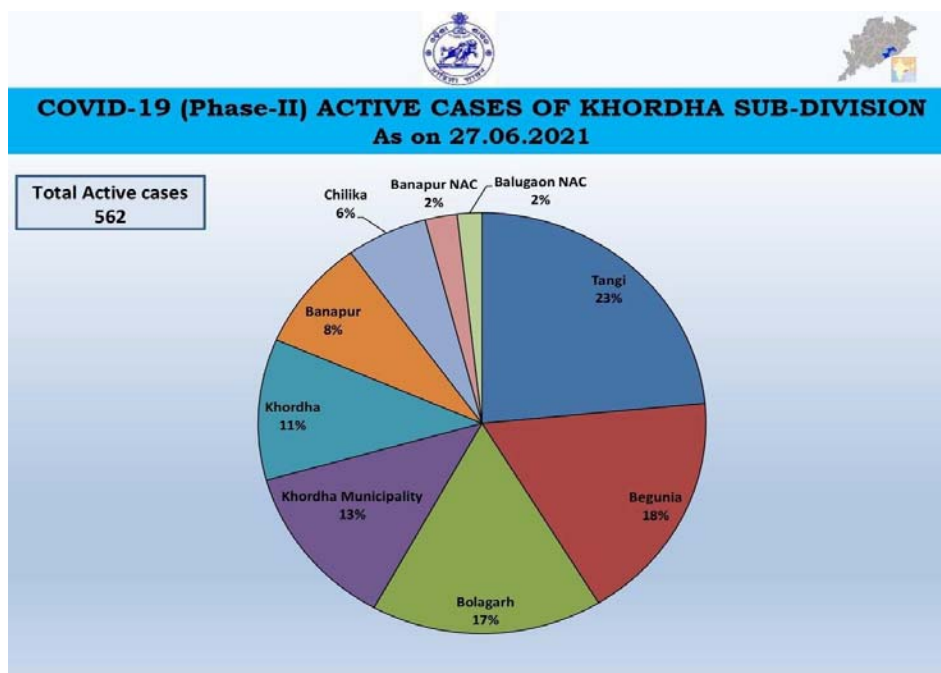
### Actions Planned to Address the Challenge

For the above research project, the activities planned is to support the ASHA workers to facilitate the awareness programs, where each ASHA out of the eight ASHAs

participating in the survey will be visiting 25 households each (Minimum number) and help the households to understand the need for vaccination and to adapt to various precautionary measures related to COVID-19. As per the survey conducted with the ASHA workers, it was very evident that the maximum number of people (About 80%) of the people in the community had not taken their vaccinations yet. Apart from that, even though the Government of Odisha had provided COVID-19 prevention kits containing masks, protective shields and sanitizers, they were not properly used by the people of the community.

COVID-19 started in the year 2020, from March and various interventions were planned by the Government, but in the villages of Khordha District, the people were not aware of the dire consequences. The infection rate in the village was indeed low, six months back, but with passing time, the infection rate has grown significantly and the death rate has increased in the district. This reason has led the government to declare Khordha as a red zone, with maximum%age of infection. Therefore, the actions planned by the ASHA workers will help the villagers to get a clear idea about the type of deadly virus it is. Along with that, the ASHAs will help the people to register themselves for the vaccination in the COWIN application. As of now, there are many governments run hospitals that are providing free vaccinations. Therefore, it would be productive for the people as well as the community.

Figure 2: COVID-19 Cases in Khordha District, Source: <https://twitter.com/dmkhordha>



From, the above figure, it is visible that the cases in the district are rising. Hence an urgent need of making the people of the community aware of the preventive measures so that the recovery rate will increase. The ASHA workers would also ensure to get maximum people registered in the COWIN Application.

### Implementation of Action Research Steps

- The ASHA workers have decided to cover 200 households at a minimum, considering 25 households each.
- The ASHAs targeted to visit the households from 8:00 AM so that all the members of the households would be present.
- The ASHAs would carry smartphones with them, where after making the members aware of the current scenario, will also help them to register in the COWIN application. As the booking date would be a bit late, hence the ASHAs will advise the members to keep a hard copy with them till the vaccination is done.
- For those members who would resist taking vaccination or following preventive measures, the ASHAs will provide them with real-life facts and figures to make them understand the gravity of the situation.

The ASHAs will also enquire about the different interventions that took place in the recent months to study the measure of the impact of the schemes on the people of the community and whether it was of any benefit to the community.

### Process of Implementation of the Study

ASHAs have played a crucial role in educating households about precautionary measures including handwashing with soap and water regularly, the significance of wearing masks when out in public areas and maintaining a proper physical distance. As a result of activities, there is a greater understanding of important and non-essential healthcare services, as well as how to obtain them. As they go about their responsibilities, the ASHAs are given basic protective equipment such as masks, soaps and sanitizers. ASHAs have been also helping the Panchayati Raj Department create communal quarantine facilities, as well as buildings such as Anganwadi centers and elementary schools. They have assured community acceptance of the Aarogya Setu app by raising awareness and assisting with its implementation.

ASHAs have made a significant contribution to non-COVID vital services. ASHAs implement safety line registration of all inhabitants, risk assessment and mobilization for screenings for chronic illnesses including as hypertensive, diabetes,

three malignancies (oral, breast and cervical cancers), tuberculosis and leprosy at Ayushman Bharat - Health and Wellness Centres. They've also helped provide Reproductive Maternal Neonatal and Child Health (RMNCH) services, which have now been significantly impacted by the lockdown and the need to maintain physical distance, according to the ministry. They (ASHAs) have increased concerns of these services' availability and assisted people in obtaining them, according to the report.

Nearly 10 lakh ASHAs are supported by the National Health Mission in rural and urban regions across the country. As they undertake contract tracing and contact with newly infected individuals in the neighbourhood, ASHAs have not been provided with proper PPE. This puts individuals and their families at risk and the community stigmatizes and discriminates against them as high-risk COVID-19 interactions. Multiple incidences of violence against ASHAs and their families have resulted as a result of this.

### Data Collection and Analysis

During the survey, many open-ended questions were asked to ASHA workers to get a brief idea about the current scenario and status of the pandemic in the area. A well-structured questionnaire was developed and was implemented so that there could be a proper analysis of the answers given by the ASHAs and the community.

The following Survey Plan was made:

Study Duration	30 Days
Area	Khordha District
State	ODISHA
Target Respondents	ASHA Workers, Village Households
Methodology	Interview, Observation, Questionnaire, Group Discussions

The reason for the survey is explained to the interviewee before the interview and he is given complete assurance that the data will not be used for anything other than educational purposes. And if the person being polled isn't convinced, he or she can opt not to answer any of the questions or not participate in the survey. Families and households were selected at random. The survey questionnaire is included as an annexure at the end of the document.

## Sample Design

Sample design A sample design is a method for selecting a representative sample from a population. It refers to the techniques or procedures used by the researcher when selecting a sample piece. The survey incorporates the following steps-

Population size- The population in the study is finite i.e., 8 ASHA workers and Approximately 200 households.

Sample Frame-Khordha.

(c) Sample Unit- ASHA, Village residents.

Sample Size- 8 ASHA Workers

## Methodology Used

The methodologies of the study on various aspects of its scope broadly consist of the following procedures.

Interview - Structured Interview and Unstructured Interview

Observations - Participant Observation and Non- Participant Observation

Survey Questionnaire

Group Discussions

Daily dairy

Photos and Videos

**Interview:** A conversation in which questions are asked and responses are given is known as an interview. An interviewee and an interviewer have a one-on-one conversation. The interviewer asks the interviewee questions to which the interviewee answers, normally to pass information from the interviewee to the interviewer.

**Structured Interview:** Structured Interviews consist of a specific collection of questions with restrictions on people's answers or some form of reaction. For this case, I have decided to intervene in a specific aspect of the villagers' lives. I have gathered information about their thoughts and feelings about a particular situation. I learned about health accessibilities in the village through structured interviews and I also learned whether government plans are beneficial to them. In this type of interview, these were specifically targeted.

**Unstructured Interview:** In unstructured interviews, I conversed with the villagers and ASHA workers naturally, allowing them to express themselves openly. While I initially used a general prompt or conversation to gain confidence, I still tried to encourage the villagers to express themselves freely. I also conducted unstructured interviews with the men, during which they shared their stories and ambitions.

## Observation

**Participant Observation:** It entails using direct contact to investigate a single person or a group of people. I obtained permission to observe and record the activities of village residents daily. I was able to observe the general population's way of life, manner of living and thought process.

**Non-Participant Observation:** It entails watching people while there are large groups of people gathered in some areas of the village. Rather than focusing on a single person, I observed a group of people interacting. I could evaluate the market, the financial state of the town and many other things in the village of Khordha District by participating in non-participant observation.

**Survey Questionnaire:** The survey form that the respondents were given covered every topic and were sufficient for me to learn all the basic details about the family with whom I needed to intervene.

**Daily Diary:** Human memory deteriorates with time and is easily manipulated by external stimuli. As a result, the daily diary served as the daily log, in which I recorded all the valuable lessons learned during the day. It aided me in the preparation of the paper. The diary included field notes, critical observations, research and unstructured interview records, among other things.

## Pre-Survey Analysis

Problems faced by the people of the community during COVID-19

India's healthcare services and systems are still in the early stages of development, with personnel shortages, absenteeism, insufficient infrastructure and low-quality care among the issues. Despite the government's commitment and the National Health Mission, adequate and affordable healthcare remains a mirage. Rural India's healthcare system is beset by a chronic scarcity of medical personnel, which hurts the quality and accessibility of care for rural residents. With the onset of a new pandemic, public health challenges such as eliminating persistent communicable illnesses like tuberculosis and ensuring equitable health care add to the challenges ahead. From the survey, the following facts were obtained.

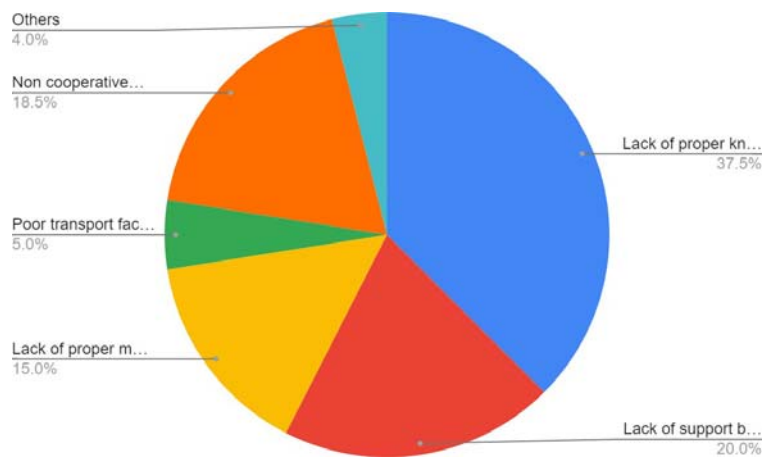
Factors	Count
Lack of proper knowledge	75
Lack of support by Government	40
Lack of proper medical facilities	30
Poor transport facility in the field area	10
Noncooperative hospital staff	37
Others	8
Total Households	200

Table 9: Problems faced by the people of the community during COVID-19

Are the people vaccinated in your village area?

As per the survey conducted by the ASHA workers, out of 200 households, 95 households have completed their first dose of vaccination, 11 households have completed their second dose of vaccination and are fully vaccinated and 94 households have not yet vaccinated.

First Dose Vaccination Completed	95
Fully vaccinated	11
Not yet started	94



Graph 7: Problems faced by the people of the community during COVID-19

According to the above data, it was found that 37.5% of the households had a lack of proper knowledge about the implications of the Pandemic and the necessity to take the vaccination. About 18.5% of the households had mentioned that there was non-cooperation from the hospital staff (especially the government-run hospitals). 20% of the households had a lack of support from the Government in availing the different schemes which made them unavailable for taking the precautionary measures against the pandemic 15% reported lack of proper facilities and 10% reported difficulty of transportation due to the fear of testing positive for the deadly virus.

From a recent survey done in the district of Khordha, the following information was found for the total number of people who are suffering from COVID.

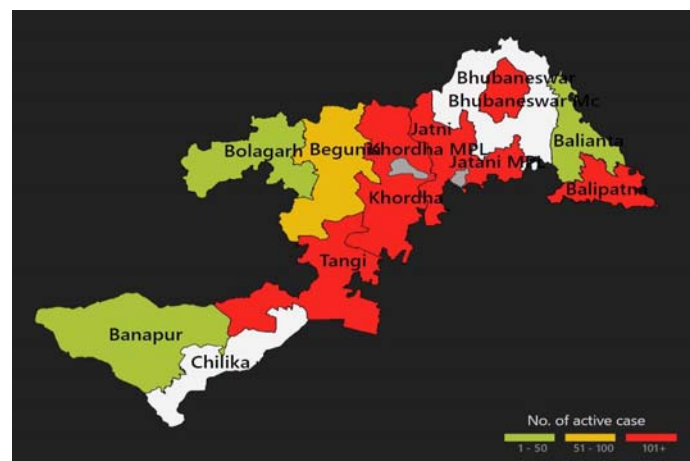


Figure 3: Active COVID-19 cases in Khordha District, Source: <https://statedashboard.odisha.gov.in>

Do the community people follow safety precautions in your area as per government guidelines?

Rural communities frequently face healthcare challenges that limit their capacity to receive the care they require. Rural residents must have adequate access to necessary and suitable healthcare services, which must be provided and accessible in a timely way. Even if the community has an acceptable supply of healthcare services, there are other

aspects to consider when it comes to healthcare access. For example, a rural dweller needs to have the following to have effective healthcare access:

Transportation to and use of services, as well as the capacity to take paid time off work to use such services, are examples of ways to reach and use services.

They have faith that they will be able to use services without jeopardizing their privacy.

Belief in receiving high-quality care

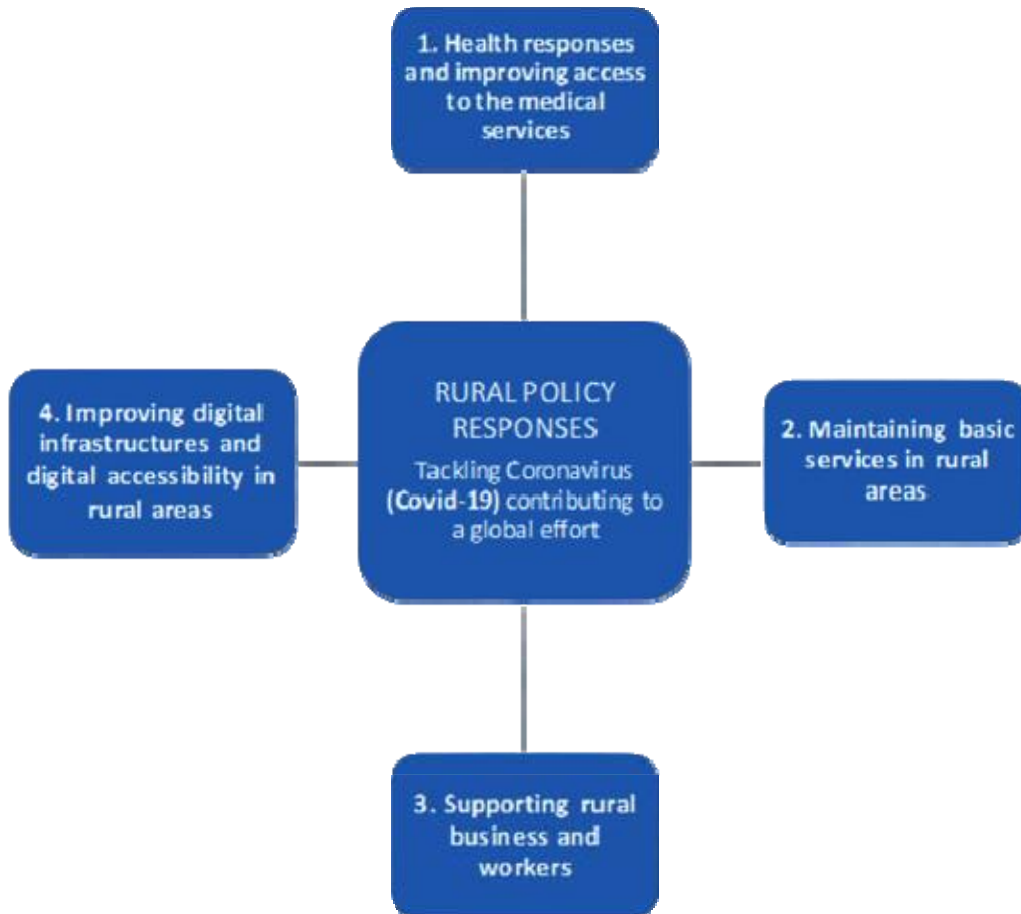


Figure 4: Services that can enhance the functioning in Rural areas

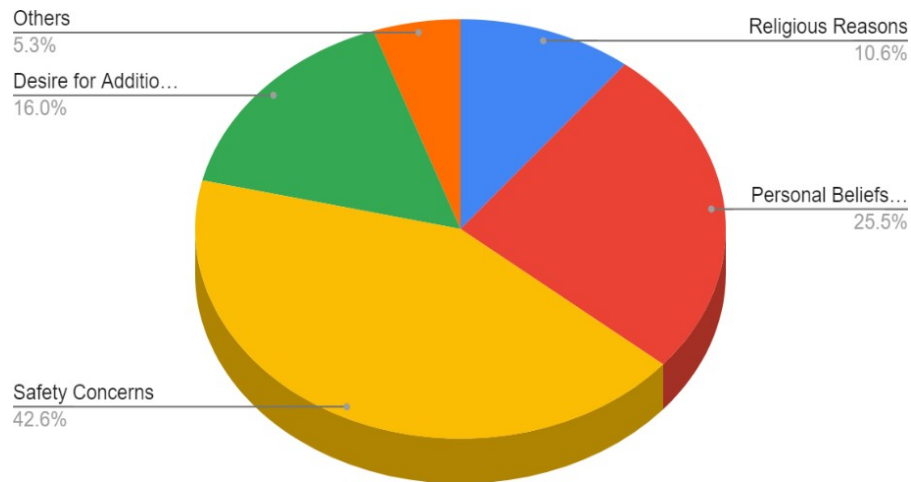
The COVID-19 crisis is hastening the adoption and spread of digital instruments. Remote employment, remote learning and e-services are all being encouraged by confinement measures. This is especially essential in rural locations because travel distances and times are larger. All of this could help rural places become more appealing. Government and private organizations may raise expenditures to recognize the potential advantages of digital tools as habits change and people become more eager to use them. Improved system connectivity in rural areas can open more employment options, synergies and regional integration between rural areas and their surroundings.

## The reason for not taking vaccination by the Community

As per the survey conducted by ASHA, various reasons are listed below in the table and then represented in a graph.

Religious Reasons	10
Personal Beliefs or Philosophical Reasons	24
Safety Concerns	40
The desire for Additional Education	15
Others	5
<b>Total</b>	<b>94</b>

Table 10: Reason for not taking vaccination by the community



Graph 8: Reason for not taking vaccination by the community

Religious views are one of the most popular reasons given by parents for refusing to vaccinate their children. Religious reasons differ from other reported reasons in that they are typically tied to the parents' underlying values, making it difficult to persuade these individuals to change their minds about immunization. These decisions are not the result of inexperience, but rather of a deliberate and determined decision based on a strong belief. Furthermore, unlike other reported grounds for reluctance, religious claims are frequently associated with a full refusal of all immunizations.

Personal or philosophical grounds are another popular argument given by parents for avoiding or delaying vaccinations for their children. Even though it defies human logic, some people believe that having their children acquire certain communicable diseases has some advantages. Some parents believe that survival benefit is preferable to vaccination-induced immunity for their children. Others

believe that if their child develops a preventable sickness, it will be advantageous in the long run because it will help strengthen the child's immune system as he comes of age.

Worries about vaccine safety are the third and possibly most important, reason parents provide for avoiding vaccinations for their children. Parents are frequently assaulted with other people's ideas about vaccinations, whether they come from television, the Internet, radio, or relatives and friends. For some parents, sorting through all this knowledge can be daunting, making it difficult to cope with an informed decision. Many of the facts and opinions that flood parents and generate confusion are focused on vaccine safety. Healthy ties between a doctor and a parent can go a long way toward assisting patients with this issue. Trust is essential for putting parents at ease and helping them overcome unfounded anxieties.

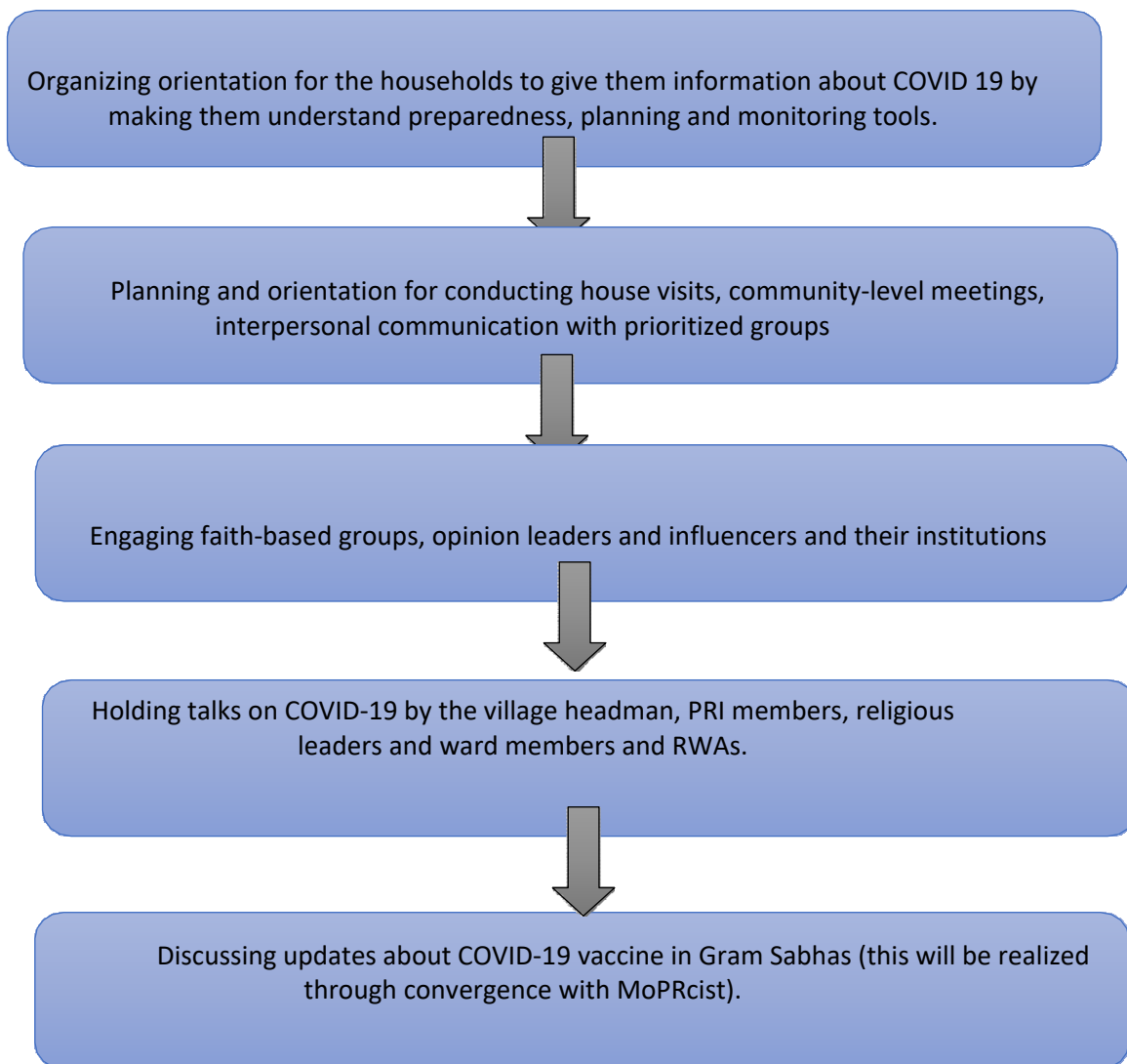
Parents desire more knowledge about immunizations, which is the fourth common theme. They want to be able to make educated decisions regarding their child's health by understanding the benefits and hazards of each vaccine. Many parents want more information about the side effects and advantages of vaccines that are presented in a truthful manner that does not appear to be trying to persuade them to vaccinate their child. The distribution of neutral, truthful

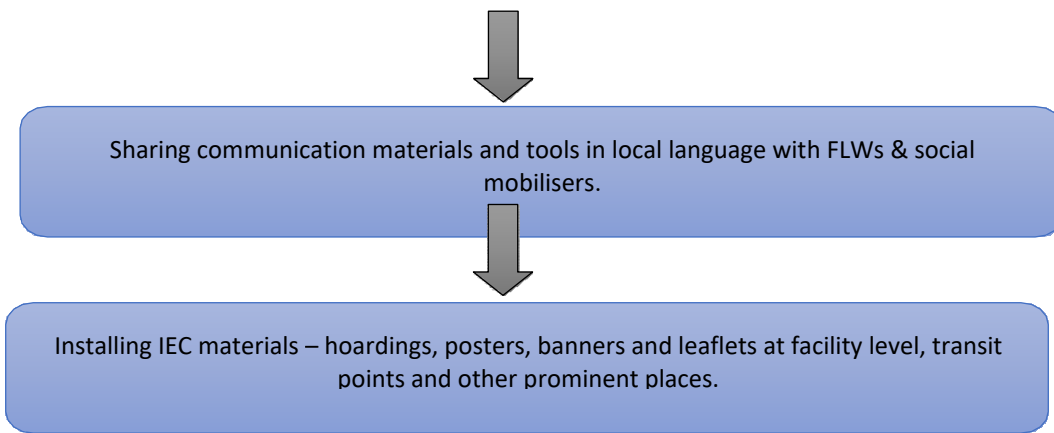
information about vaccines, as well as discussion of these materials with parents, is important role pharma and other healthcare providers may play.

When families do not receive the information they require from their providers, they turn to other sources for information, which may lead to them being misled and misinformed, causing them to make poor decisions for their children.

### Post Survey Analysis

Campaigning strategies by ASHA Workers to motivate the individual to register for vaccines

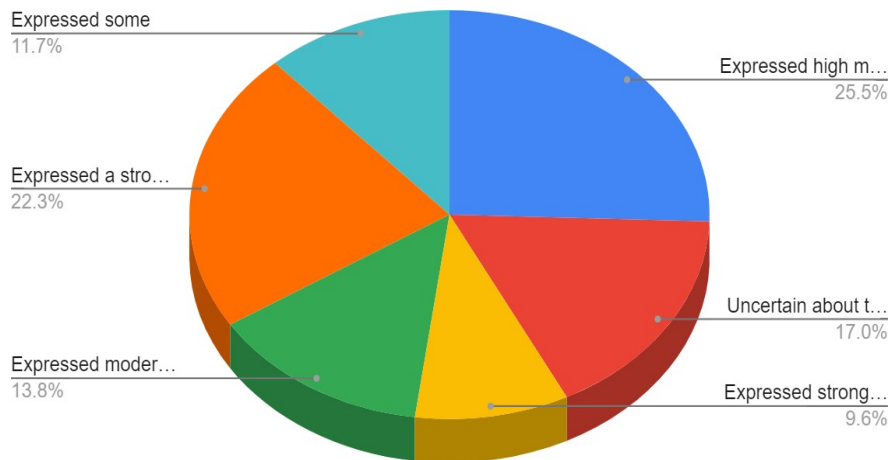




**The attitude of the individual towards the idea of vaccination against COVID**

Measures	
Expressed high mistrust of vaccine safety	24
Uncertain about their levels of trust	16
Expressed strong worries about unforeseen effects	9
Expressed moderate worries	13
Expressed a strong preference for natural immunity	21
Expressed some feelings that natural immunity might be better than a vaccine	11
<b>Total</b>	<b>94</b>

Table 11: Attitude of the individual towards the idea of vaccination against COVID



Graph 9: Attitude of the individual towards the idea of vaccination against COVID



The first cases of the Coronavirus SARS-CoV-2, which causes the disease COVID-19, were discovered just over a year ago. Much has evolved in terms of knowledge about the virus and its care during this time. For everyone concerned, there has been a tough learning curve. While physical separation and other protective measures have been ingrained in most people's daily lives, mass immunization against COVID-19 remains the best hope for recovery from this epidemic. It is also the time of year when new viral varieties emerge, creating widespread anxiety. If others who are significant in a person's life encourage them to do so, beneficial health behavior can be enhanced. Further findings showed that when consciousness and social influence were combined with perceived behavioral control, compliance with a health behavior was predicted even better. When individuals assume that a particular health-related behavior will help them transform their lives and that they have control over whether to do it, the likelihood that they will do it increases.

Did the individual have any pre-knowledge about the availability of vaccines in the area and about the COWIN application?

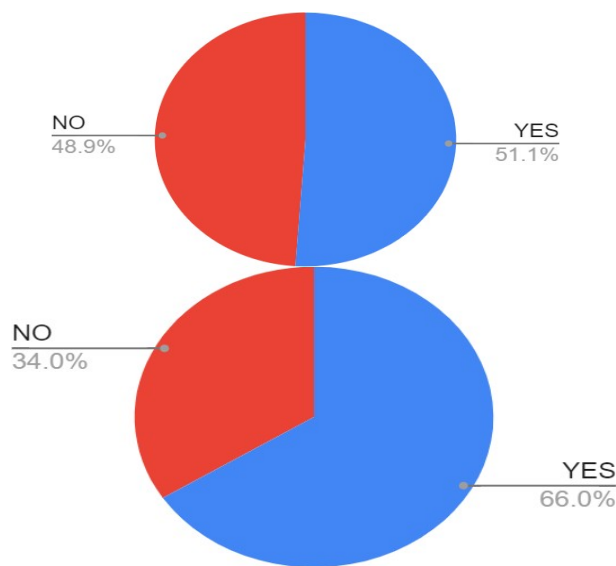
As per the survey conducted the following data was obtained which gave the ASHA workers an idea about the current knowledge of the people in the community.

Pre-knowledge about the COWIN Application	
YES	48
NO	46

Table 12: Pre-knowledge about the availability of vaccines

Pre-knowledge about the availability of vaccines	
YES	62
NO	32

Table 13: Pre-knowledge about the COWIN Application



Graph 10: Pre-knowledge about the availability of vaccines  
Graph 11: Pre-knowledge about the COWIN Application

From the above graphs, it is found that 51.1% of the people had an idea about the COWIN Application and how it operates, while 48.9% of the people did not know the same. This made ASHA workers sit with them and make them understand the functioning of the COWIN Application and how the registration is done.

Were the ASHAs successful to guide the People to register in the COWIN Application and motivating them to take vaccination

As per the Post Survey Analysis, it was found that the ASHAs were successful in guiding 30 participants out of a total of 94 participants who were not vaccinated to register themselves in the COWIN Application and book a slot in the nearest Government Hospitals for vaccination. The households were registered for COVAXIN. After learning the facts about the virus and its side effects, it was very evident to them the importance of taking precautionary measures and staying safe in these unprecedented times. The ASHAs tried their best to convince the rest families to take up the vaccination, but some of them were extremely rude towards the ASHAs and did not provide any type of information to them. It was distressing to get such kind of behavior towards the frontline workers of India. Yet, the Action Plan, was successful because it has helped 30 households to take up vaccination and get them a preventive shield so that they can remain healthy and immune to the virus.

## Findings

From the survey, it was found that 30 households in the villages of Khordha district have been registered under COWIN Application and have booked a date to take COVAXIN. This overall action plan was carried out by eight ASHA workers who have put a lot of effort to go from one household to another and help them to understand the importance of vaccination and the reason to take precautionary measures.

The experience of ASHA's works in executing the plan was very good and above all, it made them happy, as they could convince 30 Households to become immune to the virus. It does not guarantee, that they won't be affected in the future, but it will ensure that they recover soon and have an immune system.

### Conclusion

Even while the number of daily cases and deaths in India has been progressively decreasing since mid-September, the problem remains far more serious than most people know. In remote areas, there is almost no testing and thus no understanding of contact tracing or quarantining. As a result, the disease can be transmitted unchecked far and wide. It is past time for the government to focus on giving training and support to healthcare workers, particularly ASHAs in rural areas. COVID-19 dissemination and fatality in rural regions can be reduced by a massive education pro and the establishment of a powerful surveillance system.

Staff at ASHA should be given enough support, including the essential protective equipment, monetary assistance, social protection and appropriate training, not only to cope with the present pandemic, but also to strengthen our preparedness for any long-term health catastrophe in the country. Additionally, efforts should be made to raise public knowledge regarding post-covid care. In all Indian states, dedicated facilities and guidelines for post-covid-care should be in place.

Many of these women have fought for years to be recognized as government employees who work full-time as front-line health professionals. However, their demands have so far been rejected, except for some states, such as Telangana, where honoraria have been increased across the board. However, the perception that these women, who work at the grassroots level to execute India's health and nutrition goals, are essentially honorary volunteers rather than true workers, persists. The significant role that these workers have played in the COVID-19 outbreak may provide an opportunity to recognize their efforts and begin a process to improve their working circumstances. Expanding greater chances for front-line employees with fair wages is not only vital for recognizing their rights as workers, but it might also help to revive the rural economy by putting earnings in the hands of many people and get us closer to reaching our nutrition and health goals. This is especially significant in the current environment, where educated rural women have few job possibilities.

The government's acknowledgment of front-line workers and their contribution to human development is an important demand, given the diminishing female labour force participation. Along with supervisors and ANMs, AWWs and ASHAs provide vital services to the population's health and well-being. The failure to pay attention to their working conditions hurts policy outcomes, women's empowerment and overall community development.

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## About the Author

Akankshya Mishra, an MBA Rural Management student from XIM University Bhubaneswar, has experience in working at Odisha Mining Corporation and Crush Campaigns in Data Analytics and Database Management. She is currently involved as a core member at Gramin Abhiyan, a project developed by Rural Management student to spread awareness among the people who are in need and financially unstable. She has completed her B-Tech in Manufacturing Engineering and technology from the Central Institute of Plastics Engineering and Technology and has hands-on experience in using software like Auto CAD, CATIA, SolidWorks, SQL and Tableau. She also has experience in working as an intern at Financial Literacy Campaign and AgIntel. She has written this report as part of the internship which she is undergoing with the Mahatma Gandhi National Council of Rural Education (MGNCRE).

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## Annexures

### Annexure-01

#### SURVEY QUESTIONNAIRE

Impact of COVID-19 on ASHA Workers and facilitation of Vaccination by ASHA in Khordha, Odisha

Name:

Address:

Village:

Block

How old are you?

- a. 18-25    b. 26-35    c. 36-45    d. 46-55    e. 56-65    f. Above 65

What is your Religion:

- Hindu    b. Muslim    c. Christian    d. Others

What is your level of literacy?

- a. Illiterate    b. Primary    c. Secondary    d. Intermediate    e. Degree and above

Marital Status

- Single    b. Married    c. Unmarried    d. Divorced    e. Widowed

What is your occupation?

Monthly income of family:

Do you have children

- YES,    b. NO

If yes, how many-

Date of Joining as an ASHA Worker:

How long have you been a member of this group?

- 1-5 years    b. 6-10 years    c. 11-15 years

What are the reasons for joining ASHA?

- Economic gain    b. Self-improvement    c. To socialize    d. Others

Have you ever applied for a loan or credit?

- a) YES    b) NO

What is the source for a loan?

- Self Help Group    b. Bank    c. Micro finance institute    d. None

Did you take any loans from the group?

- Yes,    b. No

If yes, Amount of loan taken from the group:

What was your monthly income before joining as an ASHA worker?

- a. 1000-3000    b. 3000-5000    c. 5000-10000    d. Above 10000

What is your monthly income after joining as an ASHA worker?

- a. 1000-3000    b. 3000-5000    c. 5000-10000    d. Above 10000

Is there any social or economic contribution done by the group towards society?

- Yes,    b. No

If yes, what are the contributions?

Do you think ASHA plays an important role in our socioeconomic upliftment?

- Very much    b. To some extent    c. Not much    d. Not at all

Proportional distribution of the cost of health service delivery through community health workers:

- Maternal Health    b. Family Planning    c. Child Health    d. Medical Care

What kind of service do you usually provide?

- Preventive    b. Promotive    c. Curative    d. Indirect

What kind of skills do you have? Have you ever planned to start a business based on the skills that you possess?

What are the challenges faced by you during the fieldwork?

Delayed and inadequate Incentive    b. Overburden of work by multiple departments

c. Poor transport facility in the field area

d. Conflict between DWCD and health department

e. Noncooperative hospital staff    f. No priority by PHC staff for the cases referred by ASHA

g. None

Do you face any Demotivating factors in implementing your regular job responsibility in the village?

{Incentives (Irregular, Less), Transportation non-availability, Shortages of medicine, Attitude of health staff at the referral centers, Family dis-approval, Community resistance, non-cooperation of the auxiliary nurse midwife/Anganwadi worker/multipurpose worker, Community not following the information provided by the ASHA worker, Workload and stress, Lack of training}

Did you face any challenges during COVID-19 to manage your household?

What kind of problems is faced by the people of the community during COVID-19

Are the people vaccinated in your village area?

Do the community people follow safety precautions in your area as per government guidelines?

If not, what is the main reason behind the people in your community for not taking vaccination? Is there any specific problem?

Have there been any interventions previously in your village to support the ASHA workers? If yes, what was the intervention planned?

Was the intervention implemented earlier successful and how did it impact you personally and professionally to overcome your problems?

Do you have any recommendations or suggestions of any interventions that would be helpful to overcome your problems?



ASHA Worker during the household survey

## Annexure - 02

Post Action Plan Survey Questionnaire – 02 (After the Implementation of the proposed Action)

How many households did you visit?

What were your campaigning strategies to motivate the individual to register for vaccines?

What was the attitude of the individual towards the idea of vaccination against COVID?

Did the individual have any pre-knowledge about the availability of vaccines in the area?

Yes No

Did the individual know the COWIN application (Online Registration Process

Yes No

Had the individual or his/her family a survivor of COVID? If yes, did they take the initiative to take vaccine doses as per the doctor's recommendation?

Has any member of the family been vaccinated? If No Why?

Were you able to change the mind of the individual and help them register online?

If no, what was the remark or the reason, for which the individual was reluctant to take the vaccine?

Did you explain the COWIN application and guide them properly for the registration process?

Yes No



With an ASHA Worker

## 2. Marketing of Horticultural Produce of Farmers of Bhojubeer Village, Uttar Pradesh, through Digital Medium

### An Action Research Project

Alisha Maurya

#### Abstract

*Agriculture is fundamental to India, as the country's economy is reliant on the agricultural industry. After China, India leads in grain, fruit and vegetable production and thus emphasizes on agricultural and horticultural output. Without the help of marketing, the people in the horticulture industry would be unable to sell items, get a fair price, establish excellent relationships and have customers come back to them. The common belief is that horticulture marketing is responsible for the distribution of all products, whether they're fresh fruits, flowers, or herbs. This will help streamline tasks like planning, organizing, grading, packing, storage, food processing, distribution and marketing. Significant growth in household income and expenditure over the last several decades has seen the system shift from an agricultural-based model to one focused on increasing connections with foreign markets.*

*For farmers, ICT helps in gaining market information and promoting agricultural products, particularly in horticulture. To ensure rural farmers live better, they must be improved. To end poverty, it is important to increase production in farming, create a market for their goods and earn more profit. A considerable majority of the population in developing countries work in horticulture, a specific kind of agriculture. To empower rural farmers, they must be helped to remain there. Despite working very hard, farmers only earn meager profits. Middlemen are undermining farmers since the farmers do not know about input supplies and commodity pricing and this makes the middlemen exploit farmers. Because of the lack of proper market knowledge on the farmers' part, distant communities mismanage profit among stakeholders. Farming families suffer from poor communication and receive a less-than-optimal price for their goods because of it. Deciding when to harvest the crops is easier with accurate information; without it, farmers suffer as they suffer revenue, time and opportunity losses. When it comes to making better decisions about products, the market must decide where, when and at what price the fruit should be sold. Only with full knowledge of market conditions can farmers make better decisions.*

*One of the most essential contributors to the villagers' success is Agricultural/Horticulture Information Technology. Everyone will be influenced by digitalization; it will bring massive change to agriculture, the rural economy and product merchandise.*

**Key Words:** Horticulture, Digital tools

#### Introduction

The main stakeholders of the action research project are horticultural farmers of Bhojubeer village, Uttar Pradesh. To proceed further we need to understand first about the horticulture sector.

#### Introduction of Horticulture Sector

Horticulture is the study and practice of growing, marketing and utilizing high-value, carefully grown plants. Horticultural crops include annual and perennial plants, as well as edible and aesthetic plants.

Horticulture encompasses a diverse range of crops, including fruits, vegetables, tuber crops, flowers, medicinal and fragrant plants, mushrooms, plantation crops and spices, to name a few. These crops are grown in temperate, subtropical and arid zones with a variety of agro-climatic conditions.

Horticulture employs a diverse set of tools and techniques. It is a scientific approach to cultivating high-yielding crops that produce the desired quality. These scientific approaches could range from cultivating with tractors to making fertilizers by mixing sophisticated substances.

#### Importance and Scope of Horticulture

Horticulture has grown in prominence as a major component of agriculture in India in recent years. The new effort is being given to the development of horticulture, primarily to produce fruits and vegetables, which are an important part of India's dietary system (IDS). During the Five-Year Plans, horticulture development and capturing a larger proportion of the export market are stressed more. India is one of the world's most important fruit and vegetable growing countries. After China and the United States of America, India is the third-largest producer of horticulture crops.

Horticultural farming in India fosters the development of natural resources, increases land returns, increases land values, increases people's spending power and thus contributes to overall wealth.

Horticulture's scope and business development are expanding rapidly in India. Floriculture is a branch of horticulture that involves the cultivation of flowers that are used as a raw material in the pharmaceutical sector to make perfumes and other cosmetics. Vegetable cultivation is the most significant aspect of horticulture, which is extremely hard. Horticultural crops will offer higher returns per unit area than field crops (More yield means in terms of weight and money).

- Horticulture crops are extremely essential because of their great nutritional value. Fruits and vegetables provide us with a lot of vitamins and minerals.
- Horticulture is essential because it enhances the beauty of the environment.
- Horticulture crops are suitable for small and marginal farmers well.

Higher yield per unit area: Horticulture crops have a higher yield per hectare than field crops. The land of a fruit area produces higher yields. For example, paddy yields just 30 quintals per hectare, banana yields 300 to 500 quintals per hectare, pineapple yields 450 quintals per hectare and grapes yield 90-150 quintals per hectare. In the current situation, the shortage of fruits and vegetables can be alleviated by increasing the number of fruits and vegetables grown.

- Some fruit crops can offer the best exploitation of wasteland crops such as wood apple, custard apple, litchi, etc.
- Some fruit crops can offer the best utilization of wasteland crops such as wood apple, custard apple and litchi, etc. can be grown in such locations.
- Crop types with a wide range of applications are available in the Horticulture section.
- Horticultural plants benefit the environment by reducing pollution, conserving soil and water and helping farmers better their socioeconomic condition.

### **Features of Horticulture in India**

The horticulture sector has become one of the major drivers of growth as it is more remunerative than the agricultural sector (food grains mainly).

This industry offers employment opportunities in the elementary, secondary and postsecondary sectors. Horticulture crops, such as fruits, are more resistant to weather changes, while vegetables help small and marginal farmers supplement their income. Water usage is very low, lowering the chance of crop failure and allowing smaller farms to participate. Multiple crops are planted at the same

time to increase output and make the most of fertilizers. This industry enables people to consume a varied and balanced diet to live a healthy lifestyle. It has become a major driver of economic development in several of the country's states, with the Indian Council of Horticultural Research's division of horticulture playing a crucial role.

### **Factors affecting the scope of horticultural crops in India:**

- India's diverse agro-climatic conditions allow for the cultivation of a wide range of horticultural crops in distinct places.
- Improving irrigation facilities expands the range of crops that can be grown. The availability of scientific information on the development of horticultural crops will create the ideal environment for their growth.
- Growing communication and transportation infrastructure opens new markets for horticultural crops.
- There is significant potential for fresh and processed product export.
- Government-provided facilities assist farmers in replacing traditional crops with horticultural crops, resulting in increased demand for horticultural goods in local markets.

### **Types of Horticulture**

#### **Amateur horticulture:**

Amateur horticulture is a type of gardening that is not done professionally. It is just growing for oneself, whether for home cooking purposes or one's hobbies and tastes. Amateur gardening is a type of horticulture that is done for a living.

#### **Commercial horticulture:**

Commercial horticulture is the practice of cultivating and developing plants for the benefit of others to make a living. It necessitates thorough market knowledge, including what consumers require, their interests and preferences, what is readily available on the market and what faces scarcity. Professional horticulture is commercial horticulture.

#### **Horticulture Fruits and Vegetables:**

India is the world's greatest producer of mangoes and bananas, as well as apples, papayas, oranges, grapes and pineapples and ranks among the top 10 producers of apples, papayas, oranges, grapes and pineapples. India is the world's largest producer of cauliflower, the second-largest producer of onions and among the top 10 producers of cabbage, green peas, potatoes and tomatoes in terms of vegetable production. Mango, Banana, Papaya, Orange, Mosambi, Guava, Grapes, Apple, Pineapple, Ber, Pomegranate, Strawberry, Litchi and Onion are some of the primary fruits and vegetables are grown in India. Tomato, Okra, Chili, Brinjal/Eggplant, Green peas, Cabbage, Cauliflower, Carrot, Radish, Turnip, Pumpkin, Squash, Gourds, Cucumber, French beans and so on.

The following are some of the most important Horticulture crops:

- Mangoes: Safeda, Dussehra, Langda, Sindoori and other varieties of mangoes are grown in Maharashtra, Uttar Pradesh, Andhra Pradesh and West Bengal.
- Oranges: India's orange varieties, Nagpur and Cherrapunjee, are well-known.
- Kerala, Mizoram, Maharashtra and Tamil Nadu all cultivate bananas of varied quality. In portions of Uttar Pradesh, Uttarakhand and Bihar, licorice and guava are well-known.
- In Meghalaya, pineapple is grown and in Andhra Pradesh and Maharashtra, grapes are planted.
- Temperate fruits such as apples, pears, apricots and walnuts are grown in J&K and Himachal Pradesh and are in high demand around the world.
- Vegetables: India generates over 13% of the world's vegetable production. Peas, cauliflower, onion, cabbage, tomato, brinjal and potatoes are all key crops grown there.

### **Important Horticulture Farming Operations:**

#### **Training:**

It is called training when a plant is made to develop in the desired manner, with or without support, by removing or fixing some of its parts to give it a better foundation or better shape.

#### **Training system:**

Fruit trees are trained using one of three methods:

A. central leader system: In this method, a tree's main stem, also known as the central axis, is permitted to grow straight from the ground level to the top. The smaller side branches sprout in a variety of ways from the core axis. These trees grow tall and produce fruit at the top. Lower branches lose their strength with time and produce fewer fruits.

B. Open center system: In this technique, the main stem of a tree is allowed to grow to the required height before being cut off at the top to induce lateral branches, resulting in a low-headed tree with an open center. The produce is carried closer to the ground in this method because sunlight reaches all branches. It aids in the harvesting and thinning of a variety of fruits, as well as plant protection.

C. Modified leader system: This modified leader system is a hybrid of the central leader and open center leader systems. The main stem grows for a few years before being encouraged to create lateral branches that are widely separated and spread on all sides, unlike the open center system. As a result, the tree is quite sturdy and moderately spread, making orchard maintenance simple.

#### **Pruning:**

It is the deliberate removal of any aspect of a plant to direct

sap towards its producing zones, resulting in an improvement in yield quality. It is carried out at the end of a plant's life cycle when the plant is ready to produce flowers and fruits. Plant portions that have decomposed can also be pruned.

Pruning goals include: maintaining flowering and fruiting balance, obtaining regular fruit-bearing, removing pest-infested branches, ensuring adequate sunshine for plant growth and maintaining a balance between vegetative and reproductive growth stages.

#### **Staking:**

Staking is a method of supporting tomato plants, especially indeterminate varieties, to keep them off the ground.

Staking has several advantages:

- It provides support to a plant;
- It keeps fruits above ground and aids in the plant's health.
- Plants are less likely to be plagued with pests and illnesses.
- It makes pesticide and fungicide spraying and dusting easier.

#### **Transplanting:**

This is an agronomical process that involves moving plant seedlings and placing them in new locations. Seedlings in solanaceous crops are ready 4 to 5 weeks after sowing, or when they reach the 4-5 leaf stage. Before transplanting seedlings, they should be hardened (a process of withholding water for 4-5 days to reduce moisture content and establish a water stress situation). Depending on the crops or the facilities a grower can supply, solanaceous crop seedlings are transplanted on one side of the ridge bed or in the flatbeds.

### **Horticulture Farming in India**

- Horticulture has improved farmers' economic situation by increasing per capita consumption of fruits and vegetables from 40 to 85 grams of fruits and 95 to 175 grams of vegetables throughout the year. It has contributed significantly to women's empowerment by giving work opportunities in mushroom cultivation, floriculture and vegetable seed production, among other fields. During this time, the annual crop growth rate was more than 6.5%. As a result, the horticulture industry contributes more than 24.5% of agriculture's gross domestic product (GDP) although accounting for just 8.5% of the total land. Horticulture refers to the cultivation of both fruit and vegetable crops. Tropical and temperate fruits and vegetables are grown in India.
- On an area of roughly 4 million hectares in India, more than fifty varieties of vegetables are grown; significant vegetable crops include potato, onion, peas, cauliflower, tomato, brinjal, okra, cabbage and cucurbits.

Agriculture farming differs from horticulture farming in the following ways:

- Horticulture is solely concerned with plant cultivation, whereas agriculture includes both crop and animal rearing.
- Horticulture includes plants that are not intended for human consumption, whereas agriculture is primarily concerned with crops intended for human consumption.
- Horticulture is practiced on smaller, contained areas, whereas agriculture is practiced on wide swaths of land.
- Horticulture is simply one of agriculture's many branches. It primarily focuses on the research, cultivation, marketing and technology of various plant species. Agriculture is a broad phrase that encompasses any activity that involves the propagation of plants and/or the keeping of animals (both livestock and poultry). Agriculture comprises forestry, agronomy, aquaculture and animal husbandry, in addition to horticulture as one of its subcategories.

### Branches of Horticulture Farming:

Horticulture is divided into several branches, which are as follows:

1. Olericulture (Vegetable Culture): This branch is concerned with the cultivation of vegetables. Vegetables are nutritious plant-based foods that are usually cooked before eating or eaten raw in salads. Cabbage, tomato and fenugreek are some examples.
2. Pomology (Fruit Culture): It is a field of Horticulture that studies a variety of fruit crops. This field of pomology deals with the cultivation, management and other aspects of fruit crops. Mango, banana and grapes are among the examples.
3. Landscape horticulture: This branch of Horticulture studies landscape plants such as trees, plants, shrubs, turfs, herbaceous perennials and so on.
4. Floriculture and Ornamental Gardening: This discipline of Horticulture involves the cultivation of a variety of flower crops and ornamental plants. Gardening, landscaping and the attractiveness of the environment are all part of it. Roses, asters, lilies, cactus, ferns and other flowers are examples.

### Horticulture in Uttar Pradesh

Horticulture is one of the most important economic sectors in Uttar Pradesh. Horticulture crops are farmed on over 30 lakh hectares of land, accounting for about 12% of the state's total agricultural area (State Horticultural Mission Report, 2013). Expansion of area horticulture can help the state diversify its economy and so create more jobs. Utilizing accessible cultivable wastelands, fallow areas and property belonging to nonresident proprietors in villages can enhance the area under horticultural crops. Fruits, vegetables, tuber crops, mushrooms, floriculture, medicinal and aromatic plants, spices, food processing and beekeeping are all examples of horticulture crops.

Bhabar and Terai, Bundelkhand, central, Eastern plain, Mid-western plain, North Eastern plain, Southwest semi-arid, Vindhya, Western plain are the nine agro-climatic zones that cover U.P. The diversified agro-climate of the U.P. allows for the year-round cultivation of a wide range of crops, ensuring their regular availability. Because it offers diverse climatic conditions for growing various categories of fruits and off-season vegetables in its varied agro zones, the state has a large potential for the growth of various horticulture crops. As a result, horticulture has become one of the most important horticultural activities, with a significant increase in both area and production of horticulture crops. Horticulture crops, as has long been recognized, have the intrinsic benefit of offering higher productivity per unit area of land than other crops, resulting in higher revenue and employment production in rural regions. Due to higher yields and prices available on national and international markets, fruits and vegetables have been demonstrated to earn 20-30 times more foreign exchange per unit area than cereals.

### Uttar Pradesh's Main Horticulture Crops

The following are the most common horticulture crops grown in the state:

1. Fruits such as mango, guava, litchi, amla, banana, bael, ber and citrus
2. Cucurbits: Potato, Peas, Onion, Brinjal, Cucumber, Parwal, Tomato, Okra, Cauliflower, Cabbage, Lobia and other cucurbits Garlic, chillies, ginger, turmeric and coriander are some of the spices used.
3. Floriculture: roses, tuberose, gladioli, marigolds and jasmines
4. Aromatic and medicinal plants, such as Mentha, Aloe Vera, Ashwagandha, Tulsi, Sarpagandha and Damask Rose, among others.
5. Other plants: betel nut, mushroom and honey production

<b>Fruits</b>	<b>Mango, Guava, Litchi, Amla, Banana, Bael, Ber Citrus</b>
<b>Vegetables</b>	Potato, Peas, Onion, Brinjal, Cucumber, Parwal, Tomato, Okra, Cauliflower, Cabbage, Lobia
<b>Spices</b>	Garlic, Chillies, Ginger, Turmeric, Coriander
<b>Floriculture</b>	Rose, Tuberose, Gladiolus, Marigold, Jasmine
<b>Medical Plants</b>	Mentha, Aloe vera, Ashwagandha, Tulsi, Sarpagandha & Damask rose, etc.
<b>Others</b>	Betel vine, Mushroom, Honey production

Figure 1: Horticultural Produce



Even though distinct agro-climatic locations have had certain area-specific benefits for growing different horticultural crops throughout different horticultural seasons over the years, little effort has been made to promote the horticulture sector. Planners and policymakers have noted the lack of proper data and other information on the status and pattern of growing diverse fruits, vegetables and other horticulture crops at district, regional and agro zone levels as the key impediments to planning horticulture development in the state.

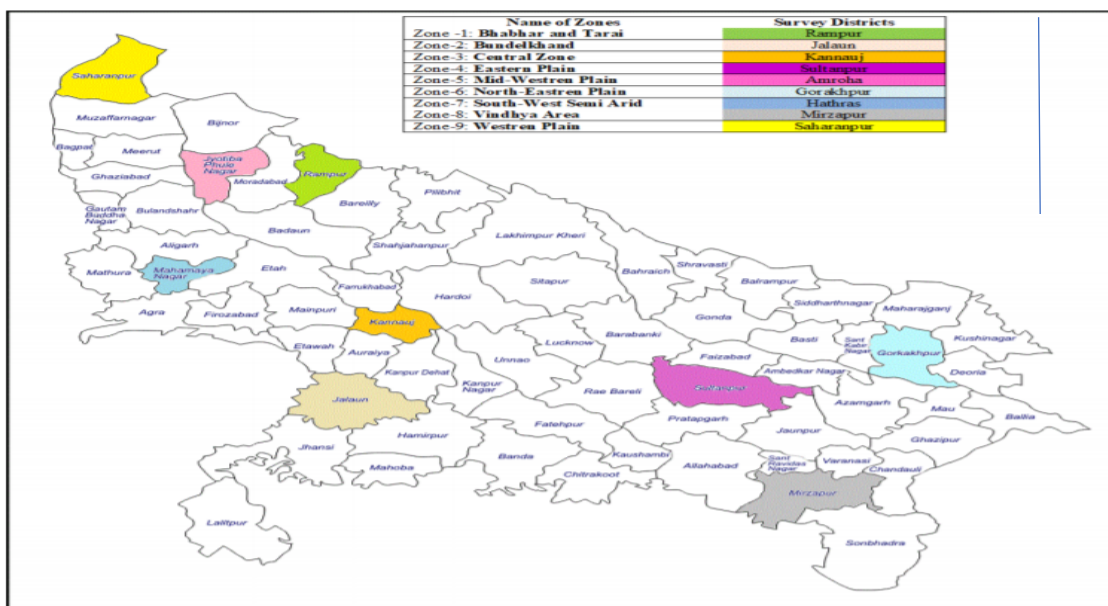
Name of Zones	No of Districts	Zone-wise Name of Districts
Zone -1 Bhabhar and Tarai	4	Bijnor, Moradabad, Pilibhit and <b>Rampur</b>
Zone-2 Bundelkhand	7	Banda, Chitrakoot, Hamirpur, <b>Jalaun</b> , Jhansi, Lalitpur and Mahoba
Zone-3 Central Zone	17	Allahabad, Amethi, Auraiya, Etawah, Farrukhabad, Fatehpur, Hardoi, <b>Kannauj</b> , Kanpur Dehat, Kanpur Nagar, Kaushambi, Kheri, Lucknow, Pratapgarh, Rae Bareli, Sitapur and Unnao
Zone-4 Eastern Plain	11	Ambedkar Nagar, Azamgarh, Ballia, Barabanki, Chandauli, Faizabad, Ghazipur, Jaunpur, Mau, <b>Sultanpur</b> and Varanasi
Zone-5 Mid-Westren Plain	5	<b>Amroha</b> , Bareilly, Budaun, Sambhal, Shahjahanpur
Zone-6 North-Eastren Plain	11	Bahraich, Balrampur, Basti, Deoria, Gonda, <b>Gorakhpur</b> , Kushi Nagar, Maharajganj, Sant Kabeer Nagar, Shravasti and Siddharth Nagar
Zone-7 South-West Semi Arid	8	Agra, Aligarh, Etah, Firozabad, <b>Hathras</b> , Kasganj, Mainpuri and Mathura
Zone-8 Vindhya Area	3	<b>Mirzapur</b> , Sant Ravidas Nagar and Sonbhadra
Zone-9 Westren Plain	9	Baghpat, Bulandshahr, Gautam Buddha Nagar, Ghaziabad, Hapur, Meerut, Muzaffarnagar, <b>Saharanpur</b> and Shamli
	<b>75</b>	

Note: Highlighted areas are selected on basis of highest area under horticulture crops.

Figure 2: The following figure shows the Agro- Climatic Zones of Uttar Pradesh

Source: Benchmark Survey of Horticulture Crops in Uttar Pradesh Area and Production Estimation (2018)

Map 1: Uttar Pradesh Showing Selected Districts



Source: Benchmark Survey of Horticulture Crops in Uttar Pradesh Area and Production Estimation (2018)

Because of its contribution to the gross domestic product of the agricultural sector, the horticulture sector has developed as a significant component of the Indian economy in recent years. Horticulture crops provide not just nourishment but also a source of money for growers. It includes a vast range of fruits, vegetables, spices, medicinal plants and other plants and it necessitates the right environment. The different agro-climatic zones of Uttar Pradesh are ideal for growing a wide range of horticultural crops. Uttar Pradesh's overall horticulture production was predicted to be 392.48 million tonnes, with a total area of 2477.04 million hectares. In the year 2017-18, the principal horticulture crops were vegetables, with a total output of 28316.45 million tonnes and fruits, with a total production of 10539.775 million tonnes, demonstrating that Uttar Pradesh has enormous potential for horticultural development (MIDH Report, 2018-19). Despite so many favorable characteristics, Uttar Pradesh's horticulture sector is still far from realizing its full potential. Various state government programs, such as the expansion of the area, rejuvenation of old mango, guava and orchards, production of quality planting material and post-harvest management, are being implemented within the state for the commercialization of horticultural crops and diversification of agriculture in the state.

The mission for Integrated Development of Horticulture (MIDH) is a Centrally Sponsored Scheme that was implemented in 2014-15 to promote the holistic growth of the horticulture sector, which includes fruits, vegetables, root and tuber crops, mushrooms, spices, flowers, aromatic plants, coconut, cashew, cocoa and bamboo. State governments/state horticulture missions also benefit from MIDH's technical guidance and administrative help (SHMs). National Horticulture Mission (NHM), Horticulture Mission for North East and Himalayan States (HMNEH), National Horticulture Board (NHB), Central Institute for Horticulture (CIH), Coconut Development Board are among the MIDH projects (CDB).

The Government of India contributes to 60% of total spending for developmental programs in all states within MIDH, except the North East and Himalayas, where state governments contribute 40%. The Government of India contributes 90% to the North Eastern States and 14 Himalayan States. The Government of India gives 100% to the National Horticulture Board (NHB), Coconut Development Board (CDB), Central Institute for Horticulture (CIH), Nagaland and the National Level Agencies (NLA). On the advice of the "committee on perishable farm commodities," the Government of India established the National Horticulture Board (NHB) in April 1984 as commercial horticulture. The NHB has its headquarters in Gurgaon and is registered as an autonomous society under

the Society Registration Act 1860. NHB is implementing several MIDH programs in all states and UTs, with the Government of India contributing 100%. The National Horticulture Board was established to accelerate the development of commercial horticulture in promising clusters by coordinating producer farmers for better resource and technology utilization. The horticulture board has developed several schemes to provide farmers with training and education, promote research and development programs to encourage technology, strengthen the market information system and developing high-quality horticulture farms and promote horticulture activity in identified belts.

#### **National Horticulture Board (NHB) Plans:**

- 1: Commercial horticulture promotion scheme
- 2: Establishing a cold storage capacity and plan.
- 3: Technology development and transfer for horticulture promotion.
- 4: Horticulture crops' Market Information Services system.
5. Service for horticulture promotion.

**National Horticulture Mission (NHM)**, a non-profit organization dedicated to The National Horticulture Objective, was created as one of the MIDH sub-schemes, with the mission of providing guidance and promoting horticulture development in chosen states. State Horticulture Mission is implementing it in selected districts across 18 states and four union territories. It was launched by the Indian government in 2005-06 to provide holistic growth of the horticulture sector in the country, develop it to the maximum potential available in the state and increase production of all horticultural products (fruits, vegetables, flowers, crops, spices, medicinal aromatic plants) in the state. The Indian government contributes 85% of the total, while state governments contribute 15%.

Other goals of the NHM include increasing horticulture production, promoting and developing dispersed technologies and creating job opportunities. Significant progress has been made in expanding the area under horticulture crops since the commencement of the National Horticulture Mission (NHM) in 2005-06. This has resulted in increased production. Over the last decade, India's overall horticulture crop production has climbed from 178.172 million tonnes to 184.40 million tonnes on an area of 25.43 million hectares, with vegetable production increasing from 178.172 million tonnes to 184.40 million tonnes from 2016-2017 to 2017-18. Fruit output increased dramatically from 90.2 million tonnes to 97.4 million tonnes (Area and Production of Horticulture Crops) (Agriculture Cooperation and Farmers Welfare, Horticulture report 2017-18).

Year	Total Horticulture Production	Total Fruits Production	Total Vegetable Production
2015-16	286.2	90.2	169.1
2016-17	300.6	92.4	178.172
2017-18	311.74	97.4	184.40

Figure 3: India's Total Production under Horticulture Crops (in million tons)

Source: Agricoop Statistics/State Level

National Horticulture Board has implemented various schemes under the Ministry of Integrated Development of Horticulture in all the States and Union territories. The table above indicates the total number of projects and the amount of subsidy released under various schemes of NHB between 2005-06 to 2017-18.

**Percentage share and CAGR of Area, Production and productivity of Major Fruit Crops for Uttar Pradesh during 2013-14 to 2017-18**

Major Crops	Area		Production		Productivity in MT Per HA	
	TE - 2018	Growth Rate 2014-18	TE - 2018	Growth Rate 2014-18	TE - 2018 (Avg.)	Growth Rate 2014-18
Aonla/Gooseberry	7.43	2.29	3.66	2.38	10.86	0.09
Banana	14.47	18.47	29.98	18.59	45.72	0.10
Guava	10.38	3.29	8.84	3.51	18.78	0.22
Jackfruit	0.13	11.10	0.14	11.02	24.85	-0.08
Litchi	0.89	1.84	0.35	2.25	8.63	0.40
Mango	55.89	1.73	43.41	2.83	17.14	1.09
Muskmelon	4.40	5.44	5.18	5.45	26.01	0.01
Papaya	0.40	107.75	0.88	108.52	48.11	0.37
Watermelon	2.84	6.04	5.81	6.10	45.07	0.06
Other Citrus	0.84	4.94	0.15	6.69	3.86	1.66
Other Fruits	2.33	1.47	1.61	1.39	15.21	-0.07
<b>Uttar Pradesh</b>	<b>100.00</b>	<b>2.64</b>	<b>100.00</b>	<b>7.33</b>	<b>22.06</b>	<b>4.56</b>

Figure 4

Source: Benchmark Survey of Horticulture Crops in Uttar Pradesh Area and Production Estimation (2018)

**Percentage share and CAGR of Area, Production and productivity of Major Vegetables Crops for Uttar Pradesh during 2013-14 to 2017-18**

Major Crops	Area		Production		Productivity in MT Per HA	
	TE - 2018	Growth Rate 2014-18	TE - 2018	Growth Rate 2014-18	TE - 2018	Growth Rate 2014-18
Bitter Gourd	0.23	21.57	0.19	23.63	12.46	1.69
Bottle Gourd	0.78	16.41	1.05	16.67	19.67	0.22
Brinjal	0.43	16.56	0.67	18.46	22.91	1.63
Cabbage	0.47	36.44	0.74	37.08	22.80	0.46
Carrot	0.34	14.59	0.39	15.62	16.70	0.90
Cauliflower	1.42	18.92	1.48	20.87	22.85	1.64
Kaddu/Pumpkin	0.78	19.46	1.36	20.11	38.20	0.54
Okra /Ladies Finger	1.85	16.61	1.13	18.63	13.40	1.73
Onion	2.12	2.45	1.60	1.59	16.56	-0.84
<b>Peas (Green)</b>	<b>17.93</b>	<b>4.63</b>	<b>9.30</b>	<b>6.28</b>	<b>11.36</b>	<b>1.58</b>
Pointed Gourd /Parwal	0.17	15.56	0.21	17.51	26.72	1.69
<b>Potato</b>	<b>49.86</b>	<b>1.65</b>	<b>55.75</b>	<b>6.91</b>	<b>24.47</b>	<b>5.18</b>
Radish	0.47	23.24	0.55	23.59	25.74	0.29
Sweet Potato	1.40	1.60	0.85	1.67	13.24	0.07
Tomato	1.71	30.54	3.09	30.70	39.58	0.12
Other Vegetables	18.06	9.88	19.46	7.41	23.73	-2.25
<b>Uttar Pradesh</b>	<b>100.00</b>	<b>5.23</b>	<b>100.00</b>	<b>8.35</b>	<b>21.88</b>	<b>2.96</b>

Figure 5

Source: Benchmark Survey of Horticulture Crops in Uttar Pradesh Area and Production Estimation (2018)

The table above explains the percentage share and CAGR of area, production and productivity of Major Vegetable Crops for Uttar Pradesh during 2013-14 to 2017-18. The Triennium estimate of area 2018 indicates that the highest area is potato (49.86%) followed by other vegetables (18.06%) and peas (green 17.93%). The growth in the area during 2014-18 has been found very significant under cabbage (36.44%) followed by Tomato (30.54%), Radish (23.24%) and bitter gourd (21.57%) whereas the growth rate of area under all vegetable crops in the state was found to be 5.23%. In terms of TE- 2018, the production is very significant under potato (55.75%) followed by other vegetables (19.46%) and peas green (9.30%) where the growth rate in production during

2014-18 is highest of cabbage (37.08%) followed by tomato (30.70%), bitter gourd (23.63%) and Radish (23.59%). The state of U.P. as a whole production under all vegetable crops reported a growth rate of only 8.35%. The Triennium estimate 2018 of average productivity per hectare is found significant under tomato (39.58%). The state as a whole has reported and observed a good increase in productivity (21.88%) in TE estimates 2018 while the state of U.P. reported a productivity growth rate of 2.96%. It was found that the growth in productivity per hectare 2014-18 was found significant in the case of potato while it is negative (-0.84) for onions.

**Zone wise percent Share and CAGR of APY of Horticulture Crops for  
Uttar Pradesh during 2013-14 to 2017-18**

Name of Zones	Area		Production		Productivity in MT Per Ha	
	TE 2018	Growth rate 2014-18	TE 2018	Growth rate 2014-18	TE 2018	Growth rate 2014-18
Zone -1 Bhabhar and Tarai Zone	2.68	5.2	2.92	6.5	23.4	1.3
Zone-2 Bundelkhand Zone	8.85	5.7	6.21	7.6	16.1	1.7
Zone-3 Central Zone	29.75	5.8	29.93	10.6	20.8	4.6
Zone-4 Eastern Plain Zone	11.04	4.5	10.15	11.8	19.4	7.0
Zone-5 Mid-Western Plain Zone	6.82	4.6	7.17	5.8	22.2	1.1
Zone-6 North-Eastern Plain Zone	9.24	6.7	10.47	10.8	21.1	3.8
Zone-7 South-West Semi-Arid Zone	21.84	2.9	23.55	4.7	22.3	2.0
Zone-8 Vindhya Area	1.35	5.9	1.06	6.7	17.1	0.9
Zone-9 Western Plain Zone	8.44	4.4	8.52	7.0	22.5	2.5
<b>Uttar Pradesh</b>	<b>100.00</b>	<b>5.1</b>	<b>100.00</b>	<b>8.0</b>	<b>20.6</b>	<b>2.8</b>

Source: Horticulture and Food Processing Department, UP Govt., UP Udhyan Bhawan, 2-Sapru Marg, Lucknow & <http://nhb.gov.in/Statistics.aspx?enc=K1SxiJnLqCTqPmc6tzC6mBuHmjyK79Diz12BGKh5acu41PoHDv5hOakPtQZEaGJBuHkPLH24/5uwVKWN0rSKg==>

Figure 6: Zone wise %age share and CAGR

**Description of the Village**

**Bhojubeer Village**

Bhojubeer is a medium-sized hamlet in the Varanasi Tehsil of the Varanasi district of Uttar Pradesh, with a population of 149 households. According to the 2011 Population Census, the Bhojubeer village has a population of 983 people, with 508 men and 475 women.

In Bhojubeer village, there are 137 children aged 0 to 6, accounting for 13.94% of the total population. The average sex ratio in Bhojubeer village is 935, which is higher than the state average of 912 in Uttar Pradesh. According to the census, the Bhojubeer child sex ratio is 957, which is higher than the Uttar Pradesh average of 902.

In comparison to Uttar Pradesh, Bhojubeer village has a higher literacy rate. Bhojubeer village has a literacy rate of 71.87% in 2011, compared to 67.68% in Uttar Pradesh. Male literacy rates in Bhojubeer are 86.53%, while female literacy rates are 56.13%.

Bhojubeer village is administered by the Sarpanch (Head of Village), who is an elected representative of the village, according to the Indian constitution and the Panchyati Raaj Act. Schools and hospitals in Bhojubeer village are not included on our website.

Horticultural Growers' Socioeconomic Characteristics:

Because it determines the incidence and prevalence of many indicators on livelihoods, socio-economic status (SES) is an essential factor of the standard of living and health status. It is a comprehensive measure of a person's work experience in comparison to others and it is affected by factors such as the individual's education, income, housing situation and occupation, among others. Horticulture has played a significant role in the development of Indian agriculture throughout its history. Horticulture also contributes significantly to the village's economy by providing work to a large number of growers. Because of the significant rise in both area and production of horticulture crops, it has emerged as one of the most important horticultural activities.

**Profile of Demographics:** As the principal source of labour for agricultural production, the demographic pattern of a farming community is one of the most essential factors. Only 13% of growers involved in horticultural cropping were from the general group. Only about 8% of total homes were Muslim, with the remainder being Hindu. The majority of the 58 Muslims who made up the 8% were people who had been cultivating horticulture crops for 40 to 50 years.

**Educational Status:** Education is one of the most important measures of a family's socioeconomic well-being, as it reflects the family's standard of living. It is regarded as one

of the most important factors in determining the quality of manpower. The quality of human resources involved in productive activities is influenced by educational standards. Growers' educational background has an impact on not just their perspectives, but also their expectations and works conduct. Because education is so crucial in teaching skills to the unskilled, it is important to talk about the educational status of the homes in the sample. In comparison to Uttar Pradesh, Bhojubeer village has a higher literacy rate. Bhojubeer village has a literacy rate of 71.87% in 2011, compared to 67.68% in Uttar Pradesh. Male literacy rates in Bhojubeer are 86.53%, while female literacy rates are 56.13%.

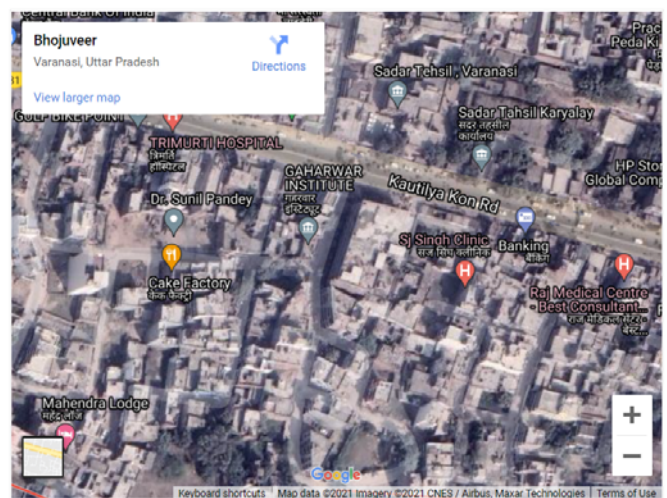
**Employment Status:** To understand the socio-economic situation of the farmers participating in horticulture production, it is necessary to examine the kind of employment status of the home population. In the settlement, 78.8% of residents are self-employed. Furthermore, 13.1% have permanent jobs, with 16.3% men and 6.6% women, while 8.1% have temporary jobs, with 9.4% men and 5.3% women. As a result, it is obvious that a greater proportion of the household population engages in their work and is self-employed.

The employment status can also be broken down into primary and secondary occupations. As a result, it is critical to examine the household population by occupation, which reveals that 69.5% of the population works in agriculture, with 68.8% of men and 71.1% of women. It is worth noting

that women are significantly more involved in agriculture than men.

**Land Holding Status:** The landholding status of the respondents is significant since it reveals the households' economic and social standing. Crop pattern, horticultural income, productivity and adoption of enhanced technology and other activities are all influenced by the area of the land. It shows that 73.7% of all households were marginal farmers, 16.0% were small farmers, 5.4% were medium farmers, 1.9% were major farmers and 3% were landless.

Google Map of Bhojubeer



The Map data on this website is provided by Google Maps, a free online map service one can access and view in a web browser.

Type	Status
Public Bus Service	Available within less than 5 km
Private Bus Service	Available within less than 5 km
Railway Station	Available within less than 5 km

Figure 7: Connectivity of Bhojubeer

### Identification of the Challenge

For the most important horticulture commodities, India ranks among the top three producers in the world. That's not unexpected given that farming employs half of the country's workers and covers 140 million hectares of land, roughly half of which is irrigated. Simultaneously, the vast majority of farmers in the country are destitute and hundreds of farmers commit suicide each year.

The most serious issue that horticulture producers confront in the village Bhojubeer is a lack of demand knowledge combined with a lack of market connections. The horticulture producers have been treated unfairly by not being able to ensure that their product has a market where

they may earn better profits. Horticultural growers in Bhojubeer village experience the major challenges that are improper marketing of their produce.

Farmers are expected to receive only 30% of the value of their output and this is an average across all crops. Returns on traditional commodities such as rice, wheat, potato and onion are often lower. Farmers are yoked to agricultural produce market committees (APMCs) hence market links are the weakest in food grains. This was designed to prevent traders and middlemen from exploiting farmers, but it became corrupted over time.

The following were the fundamental causes of the difficulty of a lack of market linkages, which prevented farmers from selling their produce to customers and so receiving a fair share of profit.

- Inadequate understanding of current market trends and prices
- Customer communication gap due to a lack of digital literacy
- Horticulture items such as mangoes, bananas, cucumbers, pomegranates and custard apples, as well as other Horticulture crops, have no Minimum Support Price set by the government. These fruits fall into the category of perishables. Even though horticulturists have raised their voices numerous times, the situation persists.
- Investing in the Horticulture sector in India is a difficult endeavor, especially without the help of local governments for small and marginal farmers, because input prices are higher than for agricultural items such as food grains.
- For marginal farmers, dealing with high price volatility is a difficult task. Small and marginal farmers are waiting for a ray of hope in their lives because their troubles are never-ending.
- Extending the life of perishable items has become a difficulty due to a lack of a reliable transportation network and a scarcity of good cold chain storage.
- Horticultural export is one of the major roadblocks to India's horticulture sector's development. The lack of market intelligence, particularly for exports, makes it the most difficult option to make.

There were further issues with the horticultural market that were discovered while interacting with the farmers such as:

- Lack of farmers' organization.
- Sales that are compelled.
- A lack of financial support.
- Weak negotiating position.
- Infrastructural development is lacking.
- Intermediaries are present.

## Review of the Literature

In India, the digital era is accelerating due to technological advancements and progress in all industries. This digitalization has resulted in a rise in smartphone users as well as an increase in digital literacy among Indians. As a result, the Indian government has prioritized investments in digital technologies across a variety of industries, including banking, finance, telecommunications and agriculture. UNESCO and the World Bank, for example, place a strong emphasis on empowering people in the horticulture sector through a variety of innovative programs. As a result, digitalization is playing a vital role in all trade programs through mobile applications in numerous industries, including in the horticultural marketing industry.

India is an agricultural country that is directly or indirectly reliant on the agricultural sector. With a world ranking of second in grains, fruits and vegetables after China, India has placed a strong emphasis on agriculture or horticulture output. Marketing is crucial in getting horticulture products

to customers, selling them, getting a good price, building relationships and pleasing customers. Horticulture marketing is thought to encompass all services involved in getting a horticulture product from the farm to the end-user. Planning, organizing, grading, packing, storage, food processing, distribution and advertising are all made easier with it. Due to increased marketed surplus, greater urbanization and income levels and subsequent changes in the structure of demand for marketing services; increased links with distant and abroad markets, the horticulture marketing system has seen many changes over the previous 60 years.

Agricultural/Horticulture Information Technology is one of the important factors that lead to the expected development. E-horticulture or e-horticulture business refers to the use of information and communication technology (ICT) in the horticultural sector. Digitalization will affect every aspect of the agricultural and food supply chain, but it will necessitate big changes in farming, rural economics and produce marketing.

In terms of acquiring market information and promoting agricultural products, ICT in horticulture has a favorable impact on farmers. It is critical to improving the living conditions of farmers who live in rural areas. This can only be accomplished by boosting their farming productivity, finding a good market for their products and earning more profit, therefore increasing income and alleviating poverty. Agriculture to be specific horticulture employs a large portion of the people in developing countries. As a result, it is critical to empower farmers who live in rural areas. Farmers put a lot of time and effort into their business, yet their profits are very poor.

Farmers face a significant issue due to a lack of access to critical information. Farmers in developing countries have relied on radios, booklets, posters, radio, television and other forms of media as their sole source of information for many years. There is a significant time difference between when information is transmitted and when it is received. Farmers, on the whole, are unaware of market information such as commodity prices and input supplies, which leads to middlemen acting unfairly and farmers losing money.

Due to farmers' inadequate market information on time, remote community makes it difficult and mismanage the profit between stakeholders. Farmers suffer ignorance and thus do not get the best price of their product due to this inorganization. Correct information also aids in deciding when to harvest the crops; otherwise, the farmer's earnings are harmed due to a loss of revenue, time and opportunity. To improve margins, the market must make better decisions

about where, when and at what price the produce should be sold. Farmers can only make better decisions if they are aware of the input and output market conditions. They are unable to obtain correct and timely market information for short-lived, readily spoilt products due to a lack of marketing experience and industry knowledge and hence are unable to obtain a fair price.

Farmers benefit from the use of ICT in agriculture since it allows them to acquire market information and promote their products. We can digitally change the agriculture market from beginning to end in the digital world. ICT assists small farmers in locating various purchasers for producers ready to pay a premium. Small business owners deal with a small number of buyers who either pick up from them or pay them directly. Market distortions can be reduced by using a mobile application that provides price information to farmers.

Farm mobile applications are facilitating collective sales in Kenya, where users may identify the location of farmers, input dealers, buyers, warehouses for storage, finance and other services and it has been reported that farmers are obtaining higher market prices. Farmers in China's agriculture industry have typically planned their crop depending on the previous season's sales. Alibaba's flash sale and marketing platform "Juhuasuan" has a virtual farming function called "Jutudi" that allows farmers to access consumer sales data to better plan crops based on current consumer trends. It allows customers to order agricultural products in advance of harvest. To avoid middlemen, it works directly with cooperatives and farmers. The government of Tamil Nadu offers the Uzhavan app for marketing products as one of the services it provides, as well as many other digital apps from other state governments to notify farmers about timely and accurate agricultural production and market information.

#### **Challenges in using digital media to promote horticultural products:**

Even though mobile phone technology for farmers has been introduced in developing nations, a smartphone can be used to access personal bank accounts, for example (Herzberg, 2003). However, the bulk of farmers continues to practice conventional agriculture. Farmers, for example, are still hesitant to conduct agriculture/horticulture banking transactions using their mobile phones. Farmers still go to banks, stand in huge lines for hours and complete their banking transactions manually because they are afraid of illiteracy and do not trust mobile cash transactions. Farmers still prefer face-to-face meetings with stakeholders and do not utilize SMS or email on their mobile phones for communication. Mobile weather forecasting apps are also available, but farmers still rely on IKS's "Indigenous

Knowledge weather Forecast" system, which is based on myths and religious beliefs and observes the patterns of plants, flowers and trees, as well as the locations of the sun, moon and stars. Farmers are still reliant on others for agricultural market information, such as radio, television and newspapers. Farmers frequently continue to rely on informal guidance from friends and neighbours.

Although mobile communication has swiftly become an important aspect of rural life, its applications are not particularly beneficial to farmers because the majority of them are unrelated to the livelihood and environment of farmers in rural areas. These mobile phone applications do not usually follow a basic layout and design for a specific target market and they do not always have localized or regional content (Lanjouw J. O. and Lanjouw P., 2001). The majority of mobile horticulture applications are not user-friendly and we should account for farmers' illiteracy when building such apps. Everything like horticulture, marketing, weather and guidance should all be localized and in the local tongue in this application. Academic institutions, as well as the proper interests of religion, government, NGOs, mobile phone businesses and development partners, must break down educational and social boundaries. In mobile phone ICT technology, infrastructure and pricing are equally important factors to consider. Smartphones and mobile phone applications that require a lot of Internet bandwidth are prohibitively expensive. Other obstacles that come into play while promoting their horticultural produce include a lack of sufficient computer knowledge, gender disparities, trust, infrastructure, electricity, security issues, government involvement, low income, high cost and user-pleasant mobile phone application design.

#### **Using Mobile Apps for Marketing:**

In this digital age, it is critical to recognize that the horticultural system is built on three important pillars: knowledge, infrastructure and a reliable delivery method. Accessibility, affordability and farmer acceptance of technology are all pillars that promote these goals (Seth & Ganguly, 2017). Digitalization has enhanced production, supported training, created new opportunities and modern agriculture can help alleviate poverty (Sinha, 2013). The impact of digital technology interventions on horticulture outcomes has made significant contributions, such as boosting market transparency, increasing farm productivity and allowing for more effective logistics (Deichmann, Goyal, & Mishra, 2016). Overall, a digital transformation is a process that begins with planning, capacity building, identifying the appropriate stakeholders and establishing governance and monitoring procedures. It also includes Suppliers and Buyers, who work together to build the supply chain and demand pipeline. To make it more effective, a Point-of-Sale application (which will be mobile capable at



some point) has been created, which will bring buyers and sellers together on one platform (Shalini & Biswas, 2017). When it comes to horticulture and digital transformation, the emphasis is on long-term growth via technology and innovation.

Horticultural product marketing is viewed as unique and deserving of special attention. Through numerous marketing approaches, the primary goal of digital media marketing is to promote companies, establish preference and increase sales.

Horticulture sector marketing, like other forms of industry or sector strategies, focuses on learning about present clients, developing techniques to encourage a larger customer base and promoting successfully to appeal to as many people as possible. These objectives are frequently achieved through market segmentation, analysis and the implementation of a marketing strategy. In most situations, this type of marketing is conducted on a business-to-business basis rather than directly targeting individual consumers. Market segmentation is a very efficient horticultural company marketing approach that is frequently utilized in the food production industry. Market segmentation is the process of carefully examining three sets of criteria for the groups, including the company's current client base as well as potential customers. In addition to other distinguishing factors, physical qualities refer to the client base's size, location and assessed desire or demand for the products offered. Specific information regarding past orders, such as the most common times of the year or seasons purchased and how much product is normally requested each transaction, is included in a thorough analysis of the group's behavior.

The next step in segmentation marketing is to identify quantitative elements, which includes breaking down the client base to obtain less precise information about the clients' overall feelings about the brand offered and purchase intentions. Market and client analysis is another form of horticultural business marketing technique that has proven to be effective. Most businesses have marketing teams on standby to go over all of the pertinent data obtained about their current customer base as well as the broader market situation. This data is frequently seen in market segmentation studies and it is critical in supplying details for advertising teams to implement upcoming campaigns. Some form of marketing or advertising plan must be included in an effective marketing strategy. Many businesses hire specialized advertising organizations to do this task for them. These companies use the data obtained throughout the segmentation and analysis phases of the process to create effective tools for attracting and retaining as many customers as possible, such as email advertisements, brochures and direct contact with industry

buyers. At this stage of the food production process, it is customary for campaigns to focus primarily on business-to-business partnerships. Horticultural marketing refers to the services that are required to get a horticultural product from the farm to the consumer.

Planning, production, growing and harvesting, grading, packing, shipping, storage, horticultural produce-and-food processing, distribution, advertising and sale are just a few of the interconnected operations involved (Grahovac, 2005). Some definitions include "the acts of purchasing materials, renting equipment, (and) paying labour," implying that marketing encompasses everything a company does. Such operations are impossible to carry out without the interchange of information and they are frequently reliant on the availability of adequate funding. Marketing systems are dynamic, competitive and characterized by constant change and improvement. Profitable businesses are those that have lower expenses, are more efficient and can produce high-quality products. Those who have excessive prices, fail to adjust to market demand changes and deliver worse quality are frequently thrown out of business. Marketing must be customer-focused and profitable for the farmer, transporter, merchant, processor and others. This necessitates an understanding of buyer requirements, both in terms of product and business conditions, by individuals involved in marketing chains.

The promotion of products or brands through one or more types of electronic media is known as digital marketing. Promotional efforts did via the Internet, social media, mobile phones and electronic billboards, as well as digital and television and radio channels, are examples of advertising mediums that could be employed as part of a business's digital marketing plan. Digital marketing has evolved into an essential component of all marketing initiatives and has become a critical success factor. Online marketing refers to any strategies for marketing products, brands and businesses that rely on new media and technological tools to encourage people to interact with them both online and offline (Zavii, 2011). Hoffman and colleagues (1995) were the first to offer a structural framework for studying the evolution of economic activity on the Internet. They looked at the Web's role as a distribution route as well as a medium for marketing communication, weighed the benefits to consumers and businesses and considered the obstacles to its commercial expansion from both the supply and demand sides. They said that the interactive aspect of the Web liberated customers from their traditionally passive role as recipients of marketing communications, allowing them to access more dynamic data to aid decision-making. Hoffman et al. found that enterprises profit not only from information transmission but also from the establishment of client relationships.

A digital agriculture system is one example. It is a database that contains not only numerous types of agricultural data, ranging from soil conditions to market assessment, but also optimal decision functions that aid in the decision-making process in a variety of agricultural production and marketing operations. A system like this is a valuable tool for horticultural risk management since it can help analyze climate change risks, construct a revenue protection strategy for farmers and generate a soil quality management plan (Shen et al. 2010). Improved horticultural output is a key weapon in the fight against global hunger, as well as a means of improving rural livelihoods and boosting economic growth. Horticulture is one of the country's most important industries and it might gain greatly from the use of ICTs, particularly in improving the socioeconomic situations of the poor in backward areas. Horticulture is a vital source of income and the majority of the rural poor rely on rain-fed crops and fragile forests to survive. Farmers in rural locations typically suffer from lost crops and animal disease and solutions to their problems are out of reach due to restricted communication facilities (Patel, Sayyed, 2014).

#### Mobile application in other countries

1. The Commodities Prices app keeps track of commodity prices as well as livestock prices and more. The Cash Grain Bid app delivers cash bids and their base level in a specific area by inputting the ZIP code.
2. The Weather Underground app provides information on temperature, humidity and visibility for each hour, as well as a seven-day forecast.
3. Virtual Farm Manager is used to storing, view and log data about our field.
4. My Traps monitors insect pest movement in the field throughout the season. Livestock Manager is a program for livestock producers that allows them to keep track of their animals.
5. Corn yield is predicted by Optimizer 2.0 based on seed variety, soil type and meteorological data.
6. JD Linkis from John Deere, which allows owners and managers to remotely connect to their equipment and receive maintenance and location alerts.
7. CropNation is a social network for farmers in the United States to communicate agricultural trends, photos and other information.

#### The role of Indian applications in agriculture

1. **eNAM:** The National Agriculture Market (NAM) is a pan-India electronic trading platform that connects current APMC mandis to form a unified national market for agricultural commodities.
2. **Kisan Suvidha:** Kisan Suvidha is an omnibus mobile app designed to assist farmers by instantly presenting them with

vital information. Users can access weather forecasts for the current day and the following five days, as well as information on dealers, market pricing, agro advisories, plant protection, IPM practices, expert guidance and warehouse details. This app's main feature is that it sends out extreme weather alerts.

**3. IFFCO KISAN:** This is a non-government service provider owned by a joint venture between IFFCO, Bharti Airtel and Start Global Resources Ltd. Agro ICT, call center, urban gardening, software solution, commodity services and rural distribution services are among the services offered by the app.

**4. Plantix** is a crop advising app for farmers, extension workers and gardeners on mobile devices. It can detect plant illnesses, pest damage and nutritional deficits in crops, as well as recommend treatment options (20). The profile can be customized dependent on the crop sown. The user can perform a crop health check by sharing a picture of the crop. It provides a list of suggestions to help you achieve the best potential return.

**5. Apps connected to agriculture** in the Google Play Store and the Apple App Store Because there are so many mobile applications available in the App stores, here are a few examples. Agri App, Agri Bazaar, Kisan.Net, Agri Pro, Pusa Krishi, Agri Doctor, Agri Marketing, KRISHI JAGRAN, Ticker Market, Agri Bid, Tradus, Kisan Hub, Crop Manager, CropInsights, Mahindra Agro Bolo, Organic Farming, Farm Bazaar, AGRISCIENCE KRISHI, Krishi Hub, Kisan Network, agriculture for all, cropinfoindia, Agrinote, Vyavasayam Telugu Farmers App, KarshikaKeralam, Agriculture News Network (ANN), Agriculture Engineering, etc. Objectives of the Action Research

While horticulture farmers in the village of Bhojubeer, Uttar Pradesh, work all year and grow their produce with all of their efforts and endeavor, they fall prey to middlemen due to a lack of knowledge about the market and its current trends, as well as a lack of knowledge about the market's current prices and as a result, they sell their produce and output of hard work at a significantly lower than market price. This causes them to miss out on the market share they deserve, causing them to become demotivated.

Thus, the village horticulture farmers would gain a better understanding of their rights and adequate market information as a result of this action research study. This study seeks to help farmers secure an appropriate share of their profits.

#### The Objectives of the Action Research Project

- To identify the challenge: In Uttar Pradesh, one of the difficulties that farmers in the Bhojubeer village are facing is the inappropriate marketing of their horticultural produce as a result of a lack of proper market

information (current trends and current prices), as well as a communication gap between them and their clients. Due to the lack of digital literacy, this situation gets worse.

- To implement the action plan: Using mobile applications (digital media) to promote their horticultural produce is the focus of the action research project to empower farmers and ensure that they receive a fair portion of their profits.
- To study the outcomes of the intervention planned: By using pre and post-survey questionnaires the challenges identified will be alleviated by the use of digital media to market their produce. For the same they will be given basic knowledge about how to use the digital media, using government national horticulture website to know the current prices of their prices in the market to sell their produce to the customers directly without the involvement of any middlemen.

## Hypothesis

Based on the challenge identified, by the horticultural farmers of Bhojubeer Village. The proposed solutions to their problem are the use of digital media (mobile applications like WhatsApp and Telegram) to increase their sales of horticultural produce which will increase their profit of share.

It is expected that the use of digital media will increase their sales and will bridge the gap between them and their customers. It is anticipated that these digital media will not only increase their sales but also help them to acquire a sustainable model of marketing.

The proposed solutions will use the trending concept in the mobile ecosystem that is mobile application and its major impact on horticulture marketing. Mobile applications for horticultural and rural development (m-ARD apps) provide the most economic, practical and accessible routes to information, markets, governance and finance for millions of people who have been excluded from their use (Qiang, Kuek, Dymond, & Esselaar, 2012). Several horticulture information apps can be classified under various segments such as business apps, conference apps, disease and pests' apps, farm management apps, learning and reference apps,

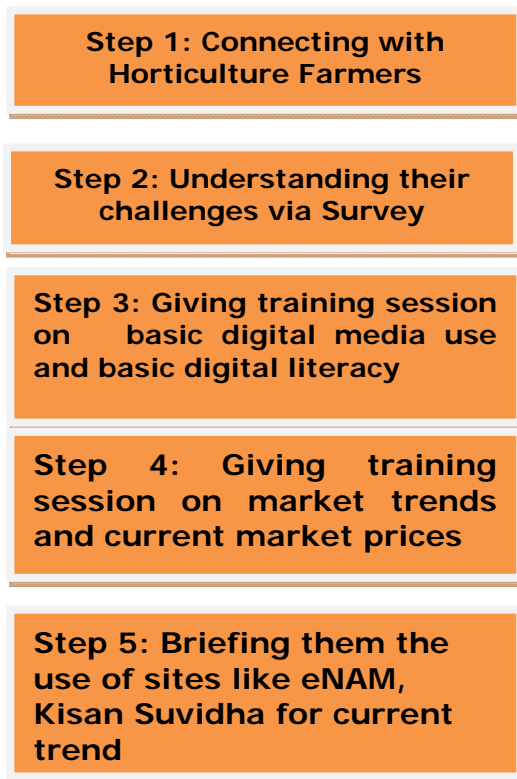
location-based apps, market data apps and weather apps (Patel & Patel, 2016).

One of the major issues in rural areas are the farmers have not known the true power of ICT due to low awareness and indifferent attitude and perception on same (Ajayi, Alabi, & Okanlawon, 2018). However, providing them the basic knowledge will help them about the digital media and applications will help them to become empowered. Information and communication technology (ICT) solution in agriculture marketing helps to evaluate, plan, deploy impactful interventions to facilitate smallholder marketing.

Mobile-based ICT plays a key role in both promoting economic growth and reducing poverty because mobile technology is one ICT experiencing rapid development in rural areas. The Internet and mobile networks can provide agriculture market information and they can also be used to share the farmer's practical experience knowledge. Mobile phone is a very strong device to communicate advanced scientific and agricultural practices for the social network. The main goal of mobile phone applications is to make better communication among the various agriculture business stakeholders such as scientists, specialists, farmers and NGOs. Mobile phone technology can empower farmers with knowledge and enhance their living standards. Mobile phones do not require special training to access agriculture market information.

## Actions Planned to address the Challenge

As proposed, solutions to address the challenge of the improper marketing of horticulture produce of the farmers of Bhojubeer Village are the use of digital media. WhatsApp Marketing and Telegram Marketing are the two kinds of digital marketing that will be used as part of implementable solutions. For the same, there is an utmost need to train farmers about the basic knowledge of these digital media applications and explaining them the multi-use of these text-based applications. Farmers will be made aware of various features of these mobile applications that can help them to connect with customers.



### Implementation of Action Research Steps

Horticulture producers struggled to promote their products because of a lack of market awareness and a communication gap with their clients. Farmers face a significant issue due to a lack of access to critical information. Farmers have relied on radios, booklets, posters, radio, television and other forms of media as their sole source of information for many years. There is a significant time difference between when information is transmitted and when it is received. Radio and television are other common information sources. The farmer's observation and experimenting, followed by a chat with other farmers, is usually the main source of information for agricultural or horticulture prices, weather forecasts and advice on agricultural practice. In India, most rural areas lack connectivity and accessibility to people, as well as knowledge about farmers' markets. Farmers must spend a significant amount of money and effort chasing down information and officials, which has an impact on agricultural output and other difficulties (Singh A. K. 2012, Misra Satyan, 2005). Farmers, on the whole, are unaware of the market information such as commodity pricing and input supply, which leads to middlemen's injustice and farmers' loss of income.

It is critical to improving the living conditions of farmers in emerging countries' rural areas. This can only be accomplished by boosting their farming productivity, finding a good market for their products and earning more profit,

therefore increasing income and alleviating poverty. Horticulture employs a large portion of the people in developing countries. As a result, empowering farmers living in rural areas of emerging countries is critical. Farmers put a lot of time and effort into their business, yet their profits are very poor. As a result, as digitalization advances, digital marketing techniques can be leveraged to address their problems.

To answer the farmers' concerns, the following research activities were taken:

Connecting with horticulture farmers (over the phone and in-person)

### Conducting a Needs Analysis

It is the process of identifying the most pressing issues and opportunities faced by farmers, as well as the sorts of information they want, to develop a workable solution. It is significant because it aids in ensuring demand-driven solutions, gaining access to farmers, improving cost-effectiveness, ensuring optimal targeting of farmers facing marketing issues and developing farmer accountability. Interacting with them revealed that their lack of understanding of current market prices, bad marketing strategies and a disconnect with clients were some of the challenges that prevented them from making a profit. As a result, they needed to be empowered through the use of digital media.

### **Recognizing the Difficulties Encountered**

COVID-19 sparked supply and demand issues, as well as a slew of agricultural marketing issues for farmers. The necessity for farmers to be able to offer their products directly to customers is at the top of the list. The collapse in the supply system caused farmers to trash their produce during the peak of the crisis, as food store shelves lay empty. Farms are trying to stay afloat as a result of this circumstance.

### **Scarcity of Marketing Know-how and Resources**

One of the most difficult aspects of running a business is reaching out to customers. Even seasoned marketers have difficulty overcoming these obstacles. Marketing is also not inexpensive. To be successful, you must commit a large amount of time and money.

### **Fierce Competition**

According to Statista, India had around 2 million farms in 2019. A farm is defined as an operation that sells \$1,000 or more in agricultural products in a year. When you add in the smaller farms strewn over the country, clients have a plethora of agricultural commodities to choose from. Farmers may find it difficult to enter new markets or establish themselves independently as a result of this.

### **Making the Switch to Selling on the Internet**

The pandemic has forced many farmers to sell their crops online due to limits on in-person interactions.

According to Held, one of the most difficult aspects of agricultural marketing for many farmers is developing business models that include direct-to-consumer marketing and delivery. The creation of an online presence through websites and social media pages to communicate with and sell to clients is the other major problem.

Even though these obstacles are significant, there are advantages to overcome them, such as a wider consumer base and a longer selling season.

### **Investigating the Underlying Causes of the Problems**

#### **Lack of Market Price Knowledge:**

One of the most pressing issues in the Indian agricultural sector is the farmer's inability to obtain a fair price for his produce. The central and state governments have had a minimum support price (MSP) or a floor procurement price for agricultural commodities for a long time to assist farmers with income security. Farmers, on the other hand, frequently do not receive a fair price for their food and in particular, when production is higher, they are obliged to sell it to merchants at a lower price than MSP due to government

procurement limits. Consumer pricing for such commodities, on the other hand, is uneven across the country, with large inter-regional availability discrepancies.

#### **Lack of understanding of digital media:**

India is a place of contrasts when it comes to agriculture. At the same time, the country produces 11% of global agriculture and is home to the world's biggest population of malnourished people. Agriculture employs roughly half of India's population, the majority of whom are smallholder farmers, although medium- and large-scale farmers get the majority of government agricultural subsidies. Smallholder farmers have been neglected in India, despite the country's significant achievements in agricultural modernization. In a decade, the average debt of a farming household has increased fivefold, while agricultural profits have not kept pace and more than 300,000 Indian farmers have committed suicide.

Given the complexities of Indian agriculture, no single policy change or technological shift will help the country achieve its dual goals of increasing smallholder farmer income and maintaining Indian agriculture's competitiveness, but the global digital transformation of agriculture holds some promise for progress.

#### **Informing farmers about the value of digital media:**

Farmers in India, or farmers in any other country, do not farm for the sake of a country's food security. They farm to generate revenue and profit. However, big agricultural changes in India have historically been farm-centric or production-centric and have not always focused on increasing farmer income. At the time, these reforms were enormously essential. However, our agricultural systems are still primarily designed for production-oriented efforts. A transformation from a production-centric infrastructure to a market-centric infrastructure, as well as market access for smallholder farmers, will be required. Farmers have been waiting for this transition to happen at the proper time. It will necessitate a shift away from business as usual and toward agricultural market orientation—from agriculture as a welfare sector to agriculture as a business sector.

The value of digital media was stressed to the farmers during the talks. They labour very hard day and night in all seasons, putting in a lot of effort and hard work to generate any horticulture outputs, beginning with lending money for their inputs such as seeds, fertilizers and manures and finishing with plowing the field. During the summer, they work in the heat of the sun and during the winter, they work hard despite the drab and chilly weather. All of their efforts, however, are for naught when middlemen buy their produce at a low price and then sell it to clients at a high price for their gain. As a result, the innocent and poor receive an

inequitable portion of profits and suffer losses, which demotivates their desire to work more.

Here comes the play of the digital era and how it will empower poor and marginalized farmers, allowing them to receive their fair portion of the profit. The following advantages were thoroughly explained to the horticulture farmers of the village:

Long-term success trajectory: Digital media can support long-term marketing of their products despite any barriers such as pandemics, supply chain disruptions, market strikes and so on.

Effectively managing consumer needs: Using digital media, they will be able to bridge the gap between farmers and their customers, allowing farmers to learn more about their customers' preferences and wants.

Current Market Prices: Digital media can provide a clear image of current market trends in terms of the most popular vegetables and fruits, as well as the exact prices at which they are supplied to clients by vendors.

Providing farmers with basic digital media knowledge: Farmers were taught how to utilize digital media such as WhatsApp and Telegram to communicate with their clients. They were taught how to communicate with their clients and how to have productive price negotiations with them.

Providing basic information on market prices and trends: Because most farmers were unaware of market prices for vegetables and fruits, they were given basic information on the subject as well as how to sell their goods successfully to achieve the best price for their production.

Educating farmers on the relevance of fundamental websites and how to use them: ICT assists small farmers in locating various purchasers for producers ready to pay a premium. Small business owners deal with a small number of buyers who come to them directly. Market distortions can be reduced by using a mobile application that provides price information to farmers.

**The following websites were taught, as well as how to use them:**

eNAM: National Agriculture Market (NAM) is a pan-India electronic trading site that connects the current APMC mandis to form a unified national agricultural market.

Kisan Suvidha:

Kisan Suvidha is an omnibus mobile app designed to assist farmers by instantly presenting them with vital information. Users can access weather forecasts for the current day and the following five days, as well as information on dealers, market pricing, agro advisories, plant protection, IPM practices, expert guidance and warehouse details. This app's

main feature is that it sends out extreme weather alerts.

**UZHAVAN:**

The Tamil Nadu government created and maintains this app. It provides information on Subsidy Schemes, Crop Insurance, Market Price, Fertilizer Stock (in government societies), Custom Hiring Centers, Weather Forecast, Assistant Agri Officer & Horticulture Officer visits, Water Reservoir Level (Full-depth, today level, inflow & outflow).

**Process of Implementation of the Study**

It is critical to improving the living conditions of farmers in emerging countries' rural areas. This can only be accomplished by boosting their farming productivity, finding a good market for their products and earning more profit, therefore increasing income and alleviating poverty. Agriculture employs a large portion of the people in developing countries. As a result, it is critical to empower farmers living in developing countries' rural areas.

Farmers, on the whole, are unaware of market information such as commodity prices and input supplies, which leads to middlemen acting unfairly and farmers losing money. The Indian telecommunication revolution has begun to allow mobile services to reach previously unreachable users. Remote communities make it difficult and mismanage profit across stakeholders due to farmers' lack of timely market knowledge. Due to this ignorance, farmers do not receive the greatest price for their goods. Correct information also aids in deciding when to harvest the crops; otherwise, the farmer's earnings are harmed due to a loss of revenue, time and opportunity. Better crop production, which is dependent on the weather, as well as agricultural pest and disease control at the proper time, results in a higher price. To improve margins, the market must make better decisions about where, when and at what price the produce should be sold.

Farmers can only make better decisions if they are aware of the input and output market conditions. They are unable to obtain correct and timely market information for short-lived, readily spoiled products due to a lack of marketing experience and industry knowledge and hence are unable to obtain a fair price. Farmers are frequently left with a large number of unsold horticultural items as a result of their blind hunt for consumers to obtain a better market price for their product. Farmers are unable to make correct business decisions because they are unable to obtain accurate agriculture market information at the appropriate moment. Farmers frequently rely on middlemen who profit from their ignorance. Due to a lack of adequate communication, farmers' income is significantly lower than that of buyers and brokers. Farmers also have little contact with the people who buy their products. Only brokers act as a go-between for farmers and customers. Farmers are unaware of

consumer expectations and are unsure of their product's market value and demand (Singh A. K., 2012; Misra Satyan, 2005).

Similarly, due to a lack of access to information and communications to make decisions and reach new markets, farmers in rural areas in developing countries confront challenges competing in the global marketplace and global forces beyond their control. There is no end-to-end knowledge and experience exchange between producers and consumers due to low literacy and limited access to essential information. Market intelligence is critical for making decisions, such as coordinating product sales, movement and distribution.

The goal of this action initiative using digital media is to empower horticultural farmers, which is a pressing need.

As a result, the following actionable steps were taken.

- **Creating a connection with farmers:** Farmers for the project were identified in the 'Sabji Mandi of Pahariya' during the inspections. They were approached for this initiative and the conversation began with a discussion about the appropriate profit sharing and price allocation for their horticultural produce. Though they were initially hesitant to give their fundamental details, they gradually began to do so as they became more comfortable after having regular chats.

- **Identifying the difficulties** that horticulture producers face: Lack of information on basic market prices and trends was recognized as one of the obstacles they faced in marketing the produce. They were likewise oblivious to the needs of clients. During repeated conversations, it was discovered how they were duped by middlemen who bought horticultural produce from them at a far lower price than the typical market price. For example, the current market price of bananas is roughly Rs 30 per dozen, however, the intermediaries purchased the identical fruit from the farmers for half the price per dozen.

- **Informing farmers** about the benefits of using digital media to advertise their products:

Farmers were informed that their year-round hard work and efforts to generate their horticultural production are useless since they sell their produce at a considerably cheaper price to intermediaries, depriving them of the proper profit that they deserve. Farmers were thus made aware of the potential of using digital media to sell their products, as well as the benefits that can be obtained:

**1) Direct Communication:** Farmers will be able to contact dealers or customers directly, removing the need for middlemen and resulting in benefits such as consistent commodity pricing and profitability, timely crop supply and reduced scarcity.

**2) Increased knowledge:** Farmers can learn about the most up-to-date technology and strategies that can be used to

boost productivity. They can also put up their websites with the correct amount of training, which will help them advertise themselves and eliminate the need for marketing companies.

**3) Broader Reach:** Digitization and digital marketing will assist entrepreneurs in broadening their reach and so catering to a bigger audience. This will assist them in increasing their sales and revenue. Furthermore, the government intends to offer reduced prices for marketing services provided to farmers through established organizations, guaranteeing that no additional costs are paid.

**4) Farmers' training** in the use of digital media: Farmers were taught how to advertise their products using digital platforms such as Whatsapp and Telegram. Farmers were provided basic training about how to use every feature effectively to interact with clients and advertise their produce once they became comfortable and recognized the necessity of digital media for marketing. Because the programs were distinct, they were distributed to each user separately. They were inspired to use word of mouth to pass on their knowledge to other farmers in the neighbourhood.

Two digital media, WhatsApp and Telegram, were recognized as marketing tools and training sessions were provided to them to explain the two styles of marketing.

**Training seminars on WhatsApp marketing:**

They were told what it was and why it was important. It was thoroughly explained to them that it is a type of messenger marketing that entails advertising a brand via WhatsApp. This channel assists brands in reaching a large audience, developing strong customer relationships and increasing sales. Some of them were just aware of using it as a text platform at first, but with the help of the training, they had a better understanding of its multi-functionality.

WhatsApp is the most widely used messaging app on the planet. By 2020, its monthly audience will have swelled to 2 billion active users. For organizations looking to interact with audiences in developing countries, this marketing channel is a must-have. More than half of WhatsApp users check the app every day, thus WhatsApp marketing allows you to stay in touch with your customers. Even better, text messages have a 98% open rate, so you can be sure they'll see your offers. Last but not least, your customers adore this mode of contact. They have faith in brands that use chat apps: 53% of individuals said they would buy from a company that can be reached via chat. There are, however, additional advantages to including WhatsApp in your marketing approach.

Farmers were taught the following benefits of WhatsApp marketing and Telegram Marketing:

### **1. Long-term consumer relationships:**

Using messaging applications makes over 55% of people feel more connected to a brand. It turns WhatsApp marketing into a fail-safe method for cultivating long-term, meaningful relationships with customers. Customer retention is 5-25 times cheaper than acquisition, therefore maintaining such a connection helps brands minimize costs. WhatsApp delivers a broad set of customizing options for businesses right out of the box. You can, for example, send customized welcome messages, special discounts and birthday greetings. Customers are more engaged with a brand when they receive individualized marketing communications; over 70% of consumers indicate they only interact with tailored marketing messages.

### **2. Increased conversion rate:**

Selecting the right channel for your first interaction with customers is critical. People may become irritated by phone calls while remaining unavailable via email or social media. Customers responded to 40% of WhatsApp communications, according to businesses. Even better, messaging encourages conversions. Specifically, messaging a prospect after the first contact can boost the conversion rate by 112.6%. WhatsApp marketing, on the other hand, isn't the only approach to increase conversions.

### **3. Increased sales:**

WhatsApp marketing acts as a sort of sales magic wand. Adding a WhatsApp phone number to your website could result in a 27% increase in sales leads. The ability to contact a brand via any messaging app appears to create confidence in potential customers. At least 66% of people are more likely to buy from a firm that is active on social media.

### **4. Lower marketing costs:**

WhatsApp is still a relatively inexpensive marketing medium, which makes it appealing to small enterprises. To get started, all you need to do is download an app and connect to the Internet. Meanwhile, the likelihood of your message reaching the customer is extremely high. A user checks WhatsApp an average of 23 times every day. WhatsApp marketing increases conversions boost revenue, helps you to cultivate long-term client relationships and costs next to nothing in terms of marketing expenses.

- They were also given a detailed explanation of the following Telegram Marketing benefits:

1. Allows marketers to keep their customers up to date: Telegram channels make this possible. Create a public or private channel for your present customers and invite them to join. Share more product photographs and videos, remind subscribers about your brand's history and introduce your crew. Notify customers of impending specials, special deals, or discounts.

2. Enables marketers to communicate with their clients more

effectively: Telegram groups will allow you to communicate directly with your customers. A Telegram group is a conversation where you can communicate with your audience and interact with other members of your group. You may also add administrators to your group to help you manage it more effectively. With a group, you can enlist the support of your existing customers to answer questions about your product or service for new leads. Telegram Groups are a fantastic way to form a community.

3. Allows businesses to provide customer service 24 hours a day, seven days a week: Chatbots can help in this situation. A chatbot is an online helper that can help you with mundane activities. Chatbots can handle FAQs, orders and client consultations and are available 24 hours a day, 7 days a week. Your customer service personnel will be able to focus on more complex issues as a result.

4. Brands can use it to attract traffic to their website: Share links to your landing sites, ask customers to check out your new collection, or link to client reviews. You'll improve traffic to specific site pages this way.

5. Boost user participation. This is simple to implement with Telegram polls. Add a poll with several options to learn what your consumers think about your product or service; create a quiz to explain why a user chose the incorrect option. The final choice is particularly beneficial for educational services. The polls can be completed anonymously.

Implementation of the action by the farmers is as follows:

- Farmers were requested to create an appropriate profile with a suitable display photo to submit following the training and then they were provided contact information for clients to interact with.

- Farmers who comprehended the sessions passed on their information to those who expressed an interest in the effort.
- They initially ran into some difficulties engaging with market clients and dealers and determining their demands. However, some of them progressively succeeded in converting customers for the marketing of their agricultural goods at a reasonable price.

- Farmers used the internet to find out the current price of fruits and vegetables on the market and then used that information to constructively bargain with clients.

- They were also taught how to make clients feel unique and discover their specific needs to maintain a long-term relationship with them as part of sustainable marketing.

- Some farmers placed a special emphasis on the quality of the produce they provided, such as freshness and hygienic conditions, to maintain client loyalty.

- Some farmers created fruit combinations to sell to their consumers, complete with attractive packaging and attractive discounts, ensuring a profit for the producers.

Because this is a new endeavor for them, there were just a few bottlenecks throughout the entire process, from strategy to action. It took some time for them to grasp the



seamless flow of the system and the benefits of performing all of the aforementioned processes. They realized that developing a trustworthy relationship with customers would be difficult, so suggestions were made that they use the basic knowledge they were given about online tools and features of digital media, as well as the use of basic websites, to stay informed about the current market trends and prevailing market prices of horticultural produce.

Farmers felt empowered as a result of their activities because they were able to directly contact their clients and they began to believe that they were receiving adequate compensation for their year-round efforts on the farm. They were relieved to be free of the profit-making middlemen and to be able to take their portion of the profit directly from the market, which encouraged them to work more.

### Data Collection and Analysis

Data collection was made through the mediums of pre-survey and post-survey questionnaires. The questions were

being asked after the farmer got comfortable.

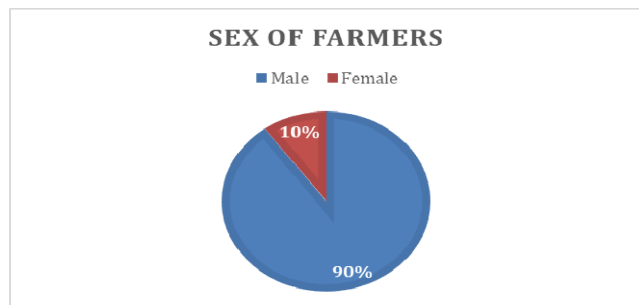
The Pre-Post survey was used to look at how things changed over time. This survey was employed to know how digital media can be used for the proper marketing of the horticultural produce so that farmers can get a proper share of their profit. It also was used to see how market prices and trends awareness levels changed after the idea of using digital media for the marketing of horticulture produce was introduced. The catalyst to potential change, sometimes called the event or treatment, is a known, planned treatment that usually happens within a certain timeframe. If this is the case, then a Pre-Post project may be applied.

A pre-survey is used to see if participants already know what they are going to learn before training. The information included here will help you plan the content and give it to the participants.

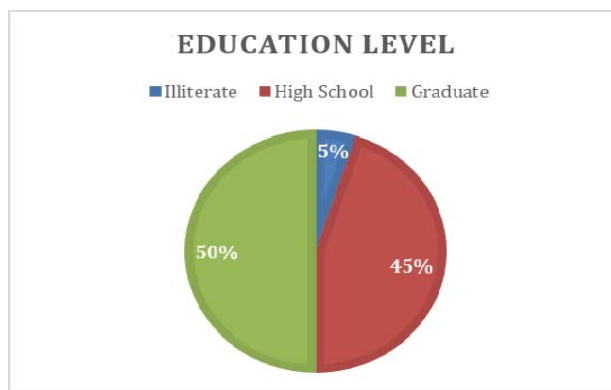
### Pre-Survey Analysis

All the farmers belong to the village of Bhojubeer, Uttar Pradesh and their average age were between 35-47 years.

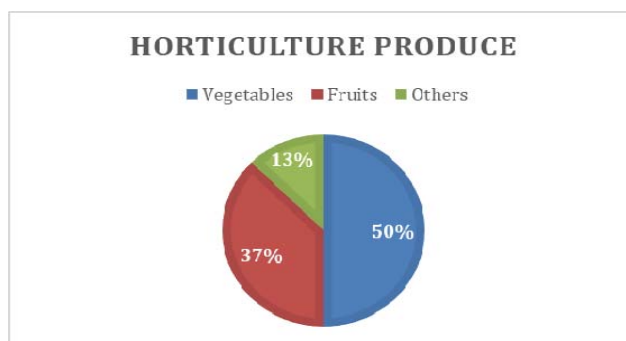
The majority of the farmers were of the Male category.



Upon analysis, it was found that the education level of the farmers was up to mark as the majority of them were graduate.



The type of horticultural produce showed that the majority of the cultivated vegetables like beans, potatoes, bhindis, pointed guard, bitter guard, bottle guard, jackfruit, etc. The fruits grown by the farmers included banana, litchi, mangoes, guava, ber, amla, etc.



### Comparison between the market prices and the value received by the farmers

Fruits/Vegetables	Market Price	Value Received by Famers
Guava	Rs 60/kg	Rs 35/kg
Mangoes	Rs 50/kg	Rs 22/ Kg
Beans	Rs 60/kg	Rs 25/kg
Aloo	Rs 20/kg	Rs 12/kg
Bhindi	Rs 30/kg	Rs 17/Kg
Bottle Guard	Rs 40/kg	Rs 20/kg

The majority of them had smartphones but the features were not known. Thus the training sessions were about how to use them for marketing their horticultural produce. Due to a lack of knowledge about the market prices and trends, the farmers were dependent on middlemen for selling their produce and were quite disappointed with the share they get.

### Post Survey Analysis

The farmers initially faced a lot of challenges while understanding the multi-functionalities of the digital media as it was new to them, like how to interact with customers, how to send a media file over these digital mediums, how to change their names or display pictures. However, half of the farmers were able to learn the maximum features of WhatsApp and Telegram Marketing. Then those farmers were asked to teach the same to the other farmers of the village.

After frequent practice and training sessions, the farmers were able to use the digital media tools and were able to connect with the customers.

The maximum farmers were comfortable in using WhatsApp over Telegram for the marketing overproduce.

Some of them (1/3rd) were able to convert the customers for a longer time and they also gained profit by selling their produce over these digital media.

The majority of the farmers got a fair idea of market price and trend after using these digital media for selling their produce directly to the customers.

### Findings

The action project's conclusions included the difficulties farmers experience while selling their goods and the importance of horticulture produce marketing via digital platforms such as WhatsApp and Telegram. Horticultural farmers face numerous obstacles which include:

- Horticulture does not have a safety net like the Minimum Support Price (MSP) for food grains due to a lack of safety nets.
- Lack of adequate cold chain storage and transportation networks to increase the shelf life of perishable goods
- Because machinery and equipment provide very little or limited input, it is difficult to reduce time constraints.
- Higher input costs than food grains make it difficult to begin up, especially when local governments do not support smaller farms.
- The huge price variations make it difficult for marginal farmers to cope.
- Limited market intelligence, primarily for exports, makes it a more difficult alternative to choose.
- Negative profits due to a lack of understanding about current market trends and customers, allowing middlemen to grab a cut of the profits.
- Lack of digital literacy to promote their horticultural produce, which is a viable and long-term choice for farmers to become more empowered.

### The following are the Outcomes of the Action Taken:

1. The above-mentioned problems were solved through action research by executing the step of promoting horticultural produce via digital platforms such as Telegram and WhatsApp.
2. A larger emphasis was placed on these two methods of marketing by teaching farmers basic digital literacy skills that enabled them to bridge the gap between them and their customers.
3. They were also taught the concept of sustainable marketing, which enabled them to build long-term relationships with clients and so create a safety net.
4. The effort was advantageous for them because they learned about market trends and client needs, according to the findings of the implemented stages.
5. Farmers learned the technique of constructive negotiating, which enabled them to seek an equitable and fair sale of their produce as well as a sufficient profit share.

### Farmer's Experience:

It will take a long time for them to become more familiar with digital media such as WhatsApp and Telegram because it was new to them. Since this is a new initiative for them and there were few bottlenecks in the entire process from planning to action implementation. It took time for them to understand its smooth flow and the utilities behind doing all the above-mentioned steps in the implementation part. They got a fair idea that building a trustworthy relationship with the customers will not be easy and that's were suggestions were provided that the application of the basic

knowledge given to them about the online tools and the features of the digital media along with the use of basic websites will keep them updated with current market trends and prevailing market prices of the horticultural produce and the current customer behavior.

The actions implemented by the farmers made them feel empowered as they directly reached their customers and they started feeling that they were getting the deserving value for their year-around efforts on the farm. They felt relieved from the profit-making middlemen and getting their share of profit directly from the market which motivated them to work harder.

## Conclusion

Farmers are unable to collect important data regarding the horticulture market, thus they miss out on profits or may not be able to sell their products on time if their goods have a limited shelf life like fresh vegetables and fruits. Mostly, they rely on other farmers, radio and television as their source of information. Agriculture News and information are typically not included in these publications. Because the market information is inaccurate, entrepreneurs frequently need middlemen, who exploit their lack of knowledge or literacy about market information and thus take advantage of them. Due to their incredibly low income, they are still extremely poor and must continuously struggle with such daily necessities as a clean environment, access to clean drinking water, good food, education and access to the necessities of life, such as safe housing and energy. For their children to succeed in attaining a basic education, they have to contend with several barriers and this puts them at a disadvantage when it comes to pursuing technology-related careers.

Mobile phone technology has been widely disseminated and has started to appear in less-developed countries around the world. Using mobile phones to access horticulture market information and knowledge, as well as increasing the horticultural business by enhancing productivity, especially in rural areas, should be an important part of horticulture market communications. For the horticulture business stakeholders, mobile phones that are often used for communication with family and friends could be put to use as tools for accessing relevant information. By providing farmers with timely market information, the phone might help to build and strengthen relationships with all of the horticultural industry partners and in the process assist farmers by increasing their income and reducing their poverty. Mobile phones can benefit farmers' standards of living.

Marketing horticultural produce has several obstacles. Most of the small farmers that use local moneylenders (also known as leeches) still rely on government funds that are still in their early stages of development. The farmers are robbed of their benefits because of so many vultures. Laws at present do not provide for an organized and regulated marketing structure for marketing horticultural produce, thus various gaps allow the produce to be taken illegally. We sought to prove that digital marketing is a big possibility for farmers in the future, in our action research project. Changing these aspects is only going to open up more avenues for farmers and customers to get access to the market information and farmers will have a harder time accessing it because of their poor literacy levels.

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## About the Author

Alisha Maurya is pursuing an MBA in Rural Management from XIM University Bhubaneswar, Odisha. She has done her B.Sc. Hons. in Microbiology from IHE, Delhi University. She is rendering her services as General Secretary of Student Executive Council in her university and as Innovation Coordinator for Entrepreneurship Development at the institution level under Institution's Innovation Council, MoE, Government of India. She has done her Summer Internship in RBL Bank where she completed her project on the impact of Covid-19 on the Microfinance Industry and how the prominent players of this industry changed their strategy to survive and grow in the market in the post-covid era. She has also researched the Impact of lockdown on SHGs' supply chain and market linkages as a part of an academic project. She has completed Rural Learning & Living Experience of 6 weeks in Kullu, Himachal Pradesh as a part of the University Curriculum for Rural Management students where she studied the hamlets based on different parameters and learned about their challenges and how they are coping up with those in their daily life.

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## Annexures

### Annexure 1

#### Pre- Survey Questionnaires

Marketing of Horticultural Produce through Digital Media (WhatsApp/ Telegram)

Name of the farmer \_\_\_\_\_

Village Name: \_\_\_\_\_

Age: \_\_\_\_\_

Male/ Female: \_\_\_\_\_

Education Level: \_\_\_\_\_

Language Known: \_\_\_\_\_

Type of Horticultural Produce: \_\_\_\_\_

Channel used to market the produce: \_\_\_\_\_

To what extent/degree are you satisfy with the value you get after sales of horticultural produce: 5 being highly satisfied and 1 being highly dissatisfied

5 4 3 2 1

To what extent/degree do you think you know current market trends and prices: 5 being highly knowledgeable and 1 being least knowledgeable

5 4 3 2 1

Do you have smartphone: (Yes/ No)? \_\_\_\_\_

Which features of WhatsApp are you acquainted with: \_\_\_\_\_

Which features of Telegram are you acquainted with: \_\_\_\_\_

### Annexure 2

#### Post- Survey Questionnaire

To what degree are you satisfied with the digital media use training:

(5- highly satisfied and 1 being lowest satisfied)

5 4 3 2 1

To what degree are comfortable with the tools: (5 being highly comfortable and 1 being least comfortable)

5 4 3 2 1

Name the digital tools that you will prefer to use: \_\_\_\_\_

To what degree has your knowledge on the current market trends and current market prices has increased:

(5 being highly knowledgeable and 1 being least knowledgeable)

5 4 3 2 1

Name the website you will use to know about market prices:

\_\_\_\_\_

Now to what extent/degree are you satisfied with the value, you get after sales of horticultural produce: (5 being highly satisfied and 1 being highly dissatisfied)

5 4 3 2 1

To what extent you get a fair idea about how to interact with customers: (5 being highly knowledgeable and 1 being least knowledgeable)

5 4 3 2 1

To what extent are you satisfied with the number of customers you have converted:

(5 being highly satisfied and 1 being highly dissatisfied)

5 4 3 2 1

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Annexure 3



Selling of pointed guard by the farmer at the Mandi (Pahariya Mandi)



Horticultural farmers selling cucumber at half of the market price



Woman horticultural farmer



Purchase of vegetables by Middlemen



Horticultural Farmers after the sale of their produce

### 3. Influence of Odisha Millet Mission on Sustainable Agricultural Practices

#### An Action Research Project

Ankita Panda

#### Abstract

*In 2013, the Odisha government launched the Odisha Millets Mission (OMM), also known as the Special Program for Promotion of Millets in Odisha's Tribal Areas, to reintroduce millets to both rural and urban households and palates. To combat malnutrition, millets were introduced into the public distribution system's public conveyance framework (PDS) and other legislative sustenance campaigns. Along with it, it works towards the promotion of sustainable agriculture and the generation of livelihood opportunities, with special emphasis on women-led enterprises. OMM was successful in encouraging farmers to adoption of millet cultivation and also supported the creation of different livelihood opportunities. However, there are a few exceptions- like the district Keonjhar of Odisha. The adoption and popularity of millets are very low. It is necessary that the actual need of the village needed to be understood and accordingly few interventions were undertaken.*

**Key Words:** Agriculture, Action Research, Sustainability, Millets, Malnutrition

#### Introduction

Keonjhar district is considered to be a 'biodiversity hotspot' and also boasts of the culturally diverse, yet indigenous tribal communities. If the resources are naturally managed, the villages can sustain themselves with just rainfed agriculture.

Kumundi is a tribal village, consisting of various small hamlets of different communities, is located in the Banspal block of district Keonjhar, in the state of Odisha. Kumundi is the locus of the research and intervention plan of the project. Situated in the center of borders of four districts of Odisha, the village boasts rich biodiversity and culture. The village was chosen for the intervention because of its improper natural resource management methods. The village comprises various indigenous communities, who believe in the conservation of natural resources and even their traditions and beliefs revolve around the same. But in recent years, due to rapid urbanization in nearby areas, industrialization, loss of traditional know-how among the youngsters, the natural resources are not properly managed.

The village comprises mostly tribal farmers, the majority of which are marginal and small farmers. The farmers in the village to farming in a small scale. Most of the products which is done in the agricultural lands is used for self-consumption. because of low productivity, the produce incurred from this agriculture is not sufficient to satisfy the proper nutritional needs of farmers and their families.

Before the increase in popularity of cash crops, the tribals were known for the cultivation and consumption of millets. the nutritional benefits of the millet crops are manifold. The millets are considered to be the superfoods and are in great demand in present days. Not just that, the millet crops are one of the easiest crops to grow. It can grow on drylands and does not require much effort during its agriculture tenure. Neither does it require the use of artificial fertilizer for growth. It is a perfect sustainable crop.

Recognizing the nutritional benefits of the millet, the agricultural ministry of India took the decision to launch special schemes for promotion of millets all over India. Some of these align with various objectives like:

- Promoting sustainable agriculture
- Water resource management
- Revival of indigenous tribal knowledge of agriculture
- Promotion of nutritional benefits of millets
- Creating a greater number of self-sustaining villages
- Growth of market for millets and millet-based of food items
- Creation of organizations for management of demand and supply of millets
- Empowerment of rural women enterprise and increasing their market linkages to sell millet-based items

For the conservation of the biodiversity and promoting sustainable agricultural practices, government institutions, NGOs like PRADAN, Foundation of Ecological society (FES) and WASSAN along with CSR wings of different mining corporation are operating in the village.

One such scheme for the promotion of sustainable agriculture is the Odisha Millet Mission; a collaborative project of the Odisha Government and WASSAN which was introduced in the year 2019 for the promotion of millet cultivation and consumption at household level also a sustainable agricultural practice.

The mission works in 14 districts of Odisha covering 72 blocks. The mission encourages conservation of biodiversity, creation of grass root institutions for managing the resources, promotion of millet-based food items in daily consumption.

The mission is suitable for the village of Talajagar, as the climate and the environment consist of a lot of dry lands and hilly regions.

Though the project should work efficiently in the village as it requires less expenditure and fewer resources, the performance and productivity through the mission are less than expected. The farmers are dropping out of the mission and the millet-based items are not as popular as expected from the tribal village.

To assess the influence of this sustainable agriculture mission which can help in livelihood generation, it is necessary to identify the challenges that are faced for the success of the villagers.

The interventions are planned in such a way that, the millet mission reaches a greater number of people in the villages and to make them aware not just about its nutritional benefits, but also the livelihood which can be generated from adopting the mission.

### Identification of the Challenge

The major challenge is the natural resource management of the village, even after introduction of sustainable practices.

Even before the implementation of millet mission, the villagers had worked with a lot of organizations, for managing their resources especially improving agricultural productivity. But these interventions were not able to sustain in the long run because of some internal parameters.

#### Some of these parameters are-

- More number of small and marginal farmers
- Employment in factories for more wages
- awareness about land ownership rights
- low literacy levels
- Low participation of women in monetary decisions
- the less amount of technological interventions
- popularity of cash crops over and vegetables over other

crops

- market linkages to sell the produce
- no organized body of farmers
- infrastructural development
- gradual loss of indigenous knowledge of agricultural and natural resource science

To counter some of these internal factors experimenting and modifying the pre-existing interventions through the millet mission could be done in the short term so that sustainable practices could be promoted. The long-term intervention could be planned accordingly and requires the collaborative effort of all the parties so that, the village can manage its resources well.

Therefore, reference from other villages that had efficiently practiced these methods is taken into consideration while planning the short-term interventions.

### Review of the Literature

A report known as Evaluation of Bio-diversity's Efforts to Promote Small Millets in India which was recently published talked about the interventions which were done in the Koraput region of Odisha, which is also famous for its diversity.

This 2019 report talks about different types of intervention that were undertaken in the Koraput district before the intervention of Millet mission. This report is important to address because the intervention which were implemented promoted the cultivation and consumption of small millets under the Food security act. The interventions were divided based on technical, commercial and marketing interventions. These interventions led to success of the millet mission in recent years. Some of the interventions of agronomic education and household and marketing interventions inspired the short-term intervention projects undertaken by self for the village of Kumundi in Keonjhar.

Other than that, few other reports from the researchers were also referenced for this action research project. A lot of these reports had someone dimensional understanding and do not address all the challenges faced by the farmer communities for the adoption of millet mission.

Millets are one of the most nutritious crops unknown. It has various health benefits. Some of the millet crops are considered superfoods as millets provide most of the supplements for the body's smooth functioning. Few millets such as Ragi, Bajra and Jowar are in very high demand because of their nutritional qualities. Millets of various types like Sorghum (Jowar), Bajra, Finger Millet (Ragi/mandia), Foxtail millets and other such various types, are acknowledged by the Ministry of Agriculture and Farmers

Welfare for their health benefits and declared to be promoted for cultivation, consumption and trade. The OMM program's objective is aligning with the Agriculture Ministry's goal, which has been working on increasing the consumption of millets in Odisha's daily lives. These include the people who are part of the cultivation of millets' crops. One of the OMM's main objectives is enhancing millet consumption up to 25% at the household level.

A research named as 'A study on the millet-based production system and its agroecological practices in Koraput district of Odisha' claims in their study that, from the hundred household surveyed, 95 households are involved in millet cultivation or some mixed crop cultivation which involves millets. Finger millets are the most commonly grown millet crops, followed by black-gram, horse-gram, red-gram, soyabean and foxtail millet. Farmers in the area also follow rotational cropping system with system in millet field. "They go for millet cultivation with cash crops like ginger and other vegetables in each alternative cropping season. The unused residues of fertilizers are used in the next Kharif seasons and hence tribal farmers do not apply any further fertilizers and get comparatively better yield."

According to the study about several important constraints related which reduce the production. The major production constraint according to the study is that the weeding of around millets. Though the seeding, cropping does not take a large amount of time, the harvesting of the crop takes comparatively a much larger amount of time. Many NGOs involved in Odisha Millet Mission have implemented system of millet intensification (SMI) methods of cultivation, timely weeding and other intercultural operations in a large scale to enhance the production of millets. By adaptation of various improved package of practices, the yield of the especially finger millet has increased up to 10qtl/acre among the tribal farmers. Even, in normal broadcasting along with quality seeds, timely weeding and application of fertilizers increased production up to 30% of the normal sowing in the farmers' field.

Another constraint identified in the study is the post harvesting process, which consumes a lot amount of time. the harvested millet crops need to be sundried and crushed in form of powder for final consumption. the post harvesting process is mostly done manually with the help of traditional tools known as 'Dhenki Kuta' and other such tools. Another important point that was identified is the participation of women in the pre and post production process. According to the study, women are the decision makers for selection of plot of land for millet cultivation, post-production process. Men in the area usually take care of the financial aspects. women are considered to have more knowledge about selection of good plants for sowing and

cultivation and usually they take part in all the intervention activities.

From the primary information gathered for the purpose of making an Action research project seems partially similar to the study. There are lot of gaps identified in the former.

First, the study conducted by the NCDS foundation, does not emphasize the dropout rate from the millet production. The main reason behind the dropout even after registering for OMM was not considered. There are a lot of factors which were identified that contributed to the low production of millets in the area. some of the challenges faced by the villagers are the animal menace, the lack of proper irrigation facilities and the huge demand of cash crops in the area, loss of traditional knowledge relating to millet cultivation, a number of farmers are marginal and small farmers.

Secondly, the study does not focus on the low consumption and less popularity of millets, even when it is known that tribal people were known to consume a lot of millet items in the area. the report provided by NCDS does mention briefly about the different ways in which the millets are part of the diet of tribal people. in contradiction to this, the research conducted for action research project finds the number of people who consumes millets are comparatively lower. The perception regarding the millet farming is also not as good as seem. The main perception regarding millet farming and consumption is that, millet cultivation is done by lower income people. the comparatively well-off family who are involved in agriculture do not prefer to grow millets on their agricultural land. Another perception which was encountered during research is that, the food does not appeal to masses because of its color. The dark color is again associated with lower-level food item. Another major reason behind the low consumption is that, although millets such as Ragi are in huge demand in urban commercial markets, the less amount of information related to market value undermines its potential for the rural consumers.

Another important point that was not mentioned in the previous research is the failure of supply chain management. The OMM program is considered to be successful for facilitating end to end procurement and selling of millets, but during our interview with the SHG members of the village who deals with distribution of ragi ladoos to Anganwadis suffered a huge crunch in supply during the lockdown phase, which in turn led to, cancellation of distribution of millet-based items. Such challenges need to be addressed in the Action research project.



## Objectives of the Action Research

Based on the exploration for various research papers on similar interventions, the objective of this action research project will follow these tasks.

Identification of the challenge- the main challenge identified for the research project is how to promote the cultivation and consumption of millets and millets-based food items.

The action plan will focus on these objectives-

- Awareness about the livelihood opportunities especially among youth and women which can be created through millet mission
- Educate the villagers about the nutritional and commercial value of millets through participatory method of intervention
- Revival of traditional knowledge and culture
- Assessing the popularity of millets and millets- based food items in the village and how it can be increased.
- To study the outcomes of the intervention planned, first a pre-survey will be conducted among the villagers about their engagement and awareness about the millet mission.
- Three small interventions will be conducted, from which outcomes will be analyzed.
- A post intervention interview with the villagers will be conducted to know about the implications of the project.

Due to the constraint of time, interventions on the production and agriculture of millets not given importance on a short-term basis. The commercial and livelihood opportunities of millet-based food items in the households of villagers are given more importance in the Action research project. The intervention in the agriculture and production of millet will require more planning and time to be properly implemented. Thus, the short-term objectives, would also align towards creating general awareness among the villagers about the sustainable agriculture through implementation of the millet mission.

## Hypothesis

To assess the identification of problem of sustainable agriculture aligns with the need of the villagers or not.

The implementation of the action plan will try to clarify what are the constraints which are faced, in sustainable agriculture practice in village from the perspective of Kumundi.

## Actions Planned to address the Challenge

The action plans that are to be implemented are as follows- Conducting a 3-day workshop on millet and millet-based food items, inviting all the villagers especially women to participate in the workshop. The workshop will be conducted with the help of a local SHG operating in the village and will be conducted in a local village place, like Anganwadi center, so that the place can be easily accessible. The objective the workshop is to make the villagers, especially the women and children aware of the nutritional benefits of the millet-based food products. The millets-based food items were already in distribution but not on regular basis in schools with mid-day meal schemes. This workshop will help be like a small training program, where the villagers can participate in the preparation process of millet-based food items. These workshops will encourage the villagers for household consumption of millets. Also, the workshop will include teaching the villagers about the machinery for processing the millet crops after harvesting. These new machinery reduce the time of manual pounding and grinding and can be introduced for the convenience of farmers. This will encourage farmers to produce more millet crops without worrying about the time consumption for the processing of crops.

Awareness program about the millet mission with the help of block coordinators, community resource persons of the village in local festivities to be celebrated in the village. The village is famous for its local festivities. These festivities are celebrated in the gatherings of the community. A lot of companies use the tactic of promoting their products during festivals and gatherings for attracting attention. The same promotional strategy can be used for promotion of the millet mission. Cultural programs relating to the tribal history and millet consumption can help to connect with villagers at emotional level, as well as it will be educational for the youth and children of the community.

One training program for the women and youth to be conducted about the scope of employment opportunities as well as livelihood opportunities which can be created through engaging with millet mission. Youth can be encouraged to volunteer in the millet mission, with a chance of employment, women can take part in social activities conducted by the coordinators for spreading awareness about sustainable agriculture.

## Implementation of Action Research Steps

Type of Action Plan	Activity	Participants	Expected Outcome
<b>Promotion of millets and millet-based food items</b>	Workshop/ training program	The villagers especially the farmers, SHG members, women association, Anganwadis and ASHA workers, community resource person of WASSAN and FES, block coordinators of KRDTI	Popularization of millets and millet-based items.
			Exposure and training to adopt newer technologies for millet cultivation.
			Increased awareness about sustainable agriculture practices and natural resource management.
<b>The promotional campaign for millet mission</b>	Promotion via involvement in cultural festivals and meetings.	The villagers, the community resource person of KIRDTI, the panchayat members	Increasing awareness about millet mission
	Revival of tribal culture and knowledge with millet mission objectives.		Popularization of tribal heritage and culture especially among youth
			Reintroduction of traditional millet-based food recipes during the celebrations and meetings.
<b>Livelihood opportunity and awareness program</b>	Volunteering and training program especially for youth in the village will be conducted.	The youth and women of the village. The community resource person of the village, the FES members and block coordinators of the village.	Participation of youth in encouraging villagers to adopt millet mission
	Participatory social issues meeting for women		Empowerment of women about knowing and decision-making sustainable agriculture and social issues, the livelihood of the families and running small scale enterprises.

Table 1: activities, participants and the expected outcome of the action plan

In the table 1 above, the types of interventions which were planned is promotional and informative in nature.

Column 1: Represents the type of intervention of intervention was divided into three basic types.

The first intervention is promotion of millet cultivation and millet-based food items.

The second intervention is the promotion of millet mission in mass gatherings.

The third intervention is the livelihood opportunities that can be created through the millet mission.

Column 2: Represents the activities which are planned under each of these interventions.

The first activity under the first intervention is conducting a three-day workshop- training program for the villagers.

The second and third activities under the second intervention will focus on engaging with the communities in their celebrations as well as reviving the traditional recipes and tribal culture.

The fourth and fifth activities planned under the intervention are voluntary participation of youth and women in meetings related to discussion about social issues in the villages, sustainable agriculture and educating them about the livelihood opportunities with millet mission.

Column 3: The third column represents the participants which will be involved in conducting and taking part in the activities planned under the intervention. The expected participants are the farmers, the women and the youth of the community. Most of the activities are planned in such a way so that the communities can perform the activities. Other stakeholders like community resource persons of WASSAN and FES, the block coordinators of millet mission and Anganwadi staff will act as the facilitating groups for the villagers.

Column 4: Column four represents the expected outcomes from the activities to be conducted under the intervention. The common expected outcomes that can be achieved are-

Popularization of millets and millet-based items in both agriculture and household consumption

Increased awareness among farmers about sustainable agriculture and newer agricultural technologies

Increased participation of women in decisions regarding agricultural interventions and social issues, information for the creation of small-scale enterprises and other livelihood opportunities.

Phase	Schedule	Activity
Phase 0	Planning of action research project	
	Identifying the common challenges faced by the villagers	
	Research on similar interventions	
	Literature review on previous interventions	
	Pre- intervention survey and analysis	
Phase 1	19th July	Millet based food workshop for the villagers
	20th July	Awareness program about new machinery for millet cultivation with the help of Community Resource Person
	21st July	Awareness about sustainable agricultural practices.
	Analysis of the phase 1 intervention	
Phase 2	27th July	Promotional Campaign for millet mission in local festivals like Maghaparba
	28th July	The promotional campaign for millet mission in local festivities
	29th July	Promotional campaign for millet mission in village meetings
	Analysis of phase 2 intervention	
Phase 3	2nd August	Livelihood opportunity program for women and youth
	3rd August	Common social meeting for women
	4th August	Social awareness meeting for women
	Analysis of phase 3 intervention	
Phase 4	Post intervention survey and analysis	

Table 2: Phases and Schedule of the Activities

For the implementation of the action research steps, the interventions were planned in a phase-wise manner for better execution. The table 2 represents the phase wise execution of all the activities.

Phase 0: phase 0 represents all the activities that are done

before planning the interventions for the village. The steps include planning of the action plan and identifying the common challenges faced by the villagers. For this report the main challenge of promoting sustainable agriculture along with fulfilling the nutritional requirement for the villagers was taken. The next step was researching about the previous interventions which have already incurred in other places for

the similar challenges. A literature review was conducted on these challenges. Further, for the better execution of action research project, a pre-survey was undertaken with the villagers.

Phase 1: Phase 1 represents the execution of the first intervention. The intervention is planned for three days and includes workshops, training program for the women and farmer community about millet cultivation and millet-based food items. After that a post intervention analysis was conducted.

Phase 2: Phase 2 in table 2 represents the schedule for the second intervention which needed to be executed as a promotional campaign for the millet mission. The campaign is executed in different social gatherings of different tribal communities on different days. Again, the impact of the intervention was recorded.

Phase 3: phase 3 represents the execution of third step of the intervention, i.e., conducting meeting for the youth of

## Process of Implementation of the Study

As suggested in the expected outcome of table 1, the expected outcomes of the project are mentioned for the action research project.

There are some short-term outcomes and long-term benefits which will be received from the intervention if the outcomes of the project are fulfilled.

The most important benefit which need to be achieved in the long run is the adoption of sustainable agriculture. the second benefit which will be incurred is the self-sustenance of the village through generation of small-scale enterprises supported by the millet mission and other similar projects. Appropriate natural resource management techniques and systems can be implemented to ensure sustainability and also economic development.

Benefits of the training and workshop program- If the training and workshop programs are conducted on a regular basis, it will help in implementation of newer agronomic interventions. These agronomic interventions will include crop management, use of suitable seed varieties according to the environmental conditions of a place, use of proper technique for cultivation of different crops, reducing use of fertilizers, regulating plant growth and management. The workshops and training program can also help to establish FPO, SHGs and other small-scale enterprises which are currently absent in the village. The training and workshops could also be expanded to teach farmers about the seed

the village to participate in the millet mission and encourage participation from the farmer community, also meeting for the womenfolk of the villages will be done to make them aware about the importance of participation of women in social issues and also livelihood. they will also be taught about the operations of the women enterprises and other important projects which can be done in the village for development.

Phase 4: Phase 4 represents the post intervention interview and analysis part of the intervention. This will be the final phase of the intervention. In this phase, the impact of all the intervention which are done will be assessed. Comparison will be drawn on pre and post intervention phases. This will help to evaluate what are the challenges which are faced by the villagers, as well their interest in implementing the millet mission. The post intervention will also help to strategize long term interventions which can help to improve the agricultural practices as well influence the community to consume millets on a daily basis which will further improve their health conditions.

production and management programs which will help to establish seed banks. These seed banks can again be managed by the locals and thus help to create employment opportunities. These seed banks will also ensure that the growing demand of millet will also be met and there will be no supply crunch. The workshops related to the preparation of millet-based items will help to popularize these recipes. Also, the nutritional benefits education session will help to create awareness about the consumption of millets. a lot of traditional recipes can also be revived by these workshops and it will engage the locals, especially women folks of the village to try something new for their families as well start small scale business.

The training program and workshops do not are not expensive can be easily manageable by the locals with the help of facilitating agencies. Thus, the regular workshops will be educational, engage the locals and well as train them about various livelihood opportunities which can support them financially in future.

Benefits of the promotional campaign – As mentioned earlier in the reports the promotional campaign is a marketing strategy which are used by a lot of companies to attract rural audience. some of the companies try to engage with the community during these social gatherings to connect with them at a personal level.

The familiarity created through these campaigns helps to create a market base for the products and services of these

companies. Thus, similar tactic for promotion of the millet mission can be done.

One of the major drawbacks of the millet mission in the village is that, it was unable to express the purpose of the whole intervention. To stand out from other interventions, the millet mission has to be personalized in such a way that, the locals empathize with the whole objective. To do so, the millet mission can be promoted at the local level, so that, the more and more people get to know about the mission. the local festivals like Maghaparba, Peedha Samaj will be places to promote the mission. the tribals are known for their old connection to the millet cultivation and consumption. with the gradual passage of time, the tradition, knowledge and culture of the tribals getting dissolved. The revival of this knowledge will help to create an emotional connection with the community and also engage the youth and children to know about their rich culture and heritage.

The intervention will be linked to the importance of millets in the life of tribals and how its revival can again benefit the community. The millets promotional campaign also acts as a value addition for the promotion of millet-based items.

The revival of traditional recipes along with introduction to new recipes and snacks from millets will incur interest among the younger generation to try millet-based food items through the promotional campaigns.

There are a few successes story of the positive impact of millet mission in the lives of the villagers. When these stories will be highlighted in front of other locals and even higher officials, it will help to generate more awareness in both local as well administrative and state levels.

The promotional campaign will not incur a much expenditure from the authorities, as these only require first engaging with communities in their celebration and trying to connect with them. local can be appointed for the promotion of the millet mission in their community and also assist in designing the promotional campaign which will attract attention of their fellow villagers.

Benefits of livelihood generation and awareness program- The livelihood generation and awareness program will be similar to the training and workshop intervention from phase 1 but, in this phase, it will focus on women and voluntary participation of youth of the community.

The voluntary program for the youth focus will focus on the participation of youth and training them about the millet mission. they will be given prospectus of what the mission is all about and how they can influence the community to

adapt to the mission. the program for the youth can be developed into a long-term intervention, in which certain number of them are selected for training with the facilitating agencies like KRDTI or directly under the supervision of WASSAN. After the training program, they will be assigned the task to promote, encourage registration of farmers for the millet mission and assist in tasks related to agriculture and the supply of the millets. this will create employment opportunities for the local youth and hand in hand will ensure the smooth functioning of the millet mission.

The women in the community are engaged in agricultural labour, the livelihood work as well they manage household chores. Yet, they are not considered the primary breadwinner for the family. Thus, it is important to understand and engage more participation of women in this intervention.

An awareness program specially for women in the community will be conducted to educate them about land ownership rights, they can discuss with each other the issues related to agriculture along with any social or governance issue they face in the issue. The open forum will help the women to raise their concerns as well as come up with a solution on their own. The education about sustainable agriculture, operation and importance of women associations and enterprises, their legal rights can empower them to be more participative in decision making related to agriculture, livelihood and financial decisions for their family as well as the community.

These third phases of intervention are completely participatory and can be regularly conducted, so that with each session, the number of participants will increase.

The Phase 1, was conducted with the help of the community resources person, the members of Panchayat, the block coordinators of the millet mission, the Anganwadi staff. List of farmers was made with the help of locals, community resource person and panchayat members.

First, the farmers in the village are identified and were invited to attend the sessions. The women of the village with their families were requested to participate in the workshops. They were invited by the SHG members and community resource person of the village. The workshop was conducted in the SHG center where the members of the SHG demonstrated their working and processing unit. Then the local women were encouraged to participate with the SHG members in the preparation and packaging of the food millet-based food items.

They were also made about the nutritional benefits of the millets and also educated about the importance of the

distribution of millets in the PDS and midday meal schemes. The second and third day of the program was conducted for the farmers of the village and they were made aware about the newer agricultural interventions which can help in the agricultural practice. Women farmers were given importance in the sessions and it was conducted with the help of the block coordinators of the village.

The challenges which are faced in millet cultivation were also addressed by the farmers.

The farmers were made aware of the new machinery which can help in agriculture purpose. The information about the use of cycle weeders and heavy machinery for processing of millets such as hulling machinery were promised to be availed to the farmers in the nearest procurement centers in a rent manner. Rainwater harvesting for agriculture which is not systematically managed in the village is to be assisted by the community resource persons and volunteers from other agriculture organizations for the upcoming agricultural season.

The farmers also showed interest in formation of a farmer's association for looking over issues related to farming and also supervision over the supply and procurement of the production.

The general awareness session was conducted with the help of the block coordinator and assistant block coordinator of the millet mission.

For future seminars like this, they promised to higher officials and other experts to address the farmers, concerns and issues regarding the sustainable agricultural practices.

Phase 2 of the action plan, i.e., the promotional campaign for the millet mission was conducted in local festivals like Maghparba and also meetings of the tribal community of like the monthly meeting of all the tribal communities in the village, also the Pidha meeting was conducted by the Munda community.

These events are organized by the tribals' communities themselves. Each and every age group people participate in the event. this is a great way of mobilization of the community where they together with the festivals and discuss the issues related to the tribal community in general. Outsiders are allowed to witness these meetings and social gatherings, but they are not allowed to be involved during organizing the events.

A systematic pre-planning is done before conducting these events. Some of the events are exclusive to a tribal community, while the others try to ensure all the different

tribal communities take part in the event. The locals participated in the gatherings and discussed about the tribal culture, heritage and governance system. The tribal leaders also addressed the locals in the gatherings. The festivities were conducted with a lot of cultural programs, sports events and other activities.

Also, this time, the communities in the village invited people from tribal community who reside outside the district of Keonjhar. An interdistrict tribal community meeting was organized and the local leaders of the communities participated in the event.

Issues related to the tribal community, the legal rights of the tribals, conservation of traditional tribal culture and heritage. The event also focused on the celebrated tribal leaders who took part in the independence struggle and became an example of true tribal leadership.

Along with all the issues discussed, the tribals also talked about the conservation of forests and adopting methods to conserve the natural resources so that the livelihood as well the resources can be secured without exploitation.

Views from the locals like the sustainable methods adopted by the ancestors should be modified to suit the modern lifestyle so that, it can ensure conservation as well as improve the economic conditions of the villagers.

Discussion about how the millet mission can help the cause was also brought up and the local try to understand the importance of sustainable agriculture. The meetings and gatherings were solely managed by the community and the discussion took place without the involvement of the outsiders. This shows participation and community mobilization can be efficiently managed by the tribal communities.

Phase 3, was the livelihood opportunity and awareness campaign for the youth and women in the village. the meetings were facilitated by the community resource person of millet mission and FES together. These meetings were conducted in the Kumundi Panchayat office.

The participation of the youth from the community was not as much as compared to the women of the community. The meeting with women was attended by a higher official belonging to the FES, who address the challenges that the women in the village. The discussion started with the development in the village, impact of a pandemic on the education of their children as well their employment.

The women were also made aware about the various government schemes which will help the agriculture. the

discussion related to starting an SHG and how to manage the financial operations of the village. Women from other villages who were part of local federations or other women's associations took part in the event. A lot of women farmers registered for the next year millet cultivation program and also asked about other sustainable agricultural practices which could be done in the village.

A session regarding other livelihood opportunities which can be created by adopting sustainable practices.

A volunteering program will also be introduced for the women and youth in the village, in which they will be trained for one week and will work for the millet mission program. The participation from the program will also ensure

employment opportunities for these groups.

For the promotion of millets in household consumption, the women discussed about the problems related to the processing of millets, less knowledge about the different millet recipes and how to prepare them, they also address the unavailability of millets during Pandemic in PDS and mid-day meals schemes. The women insisted on conducting more workshops similar to phase 1, because it helped get informed about the importance of millet cultivation, its nutritional value and how to prepare newer recipes with them.

A post-intervention discussion was also conducted about to know the effectiveness of the action plan undertaken in the village.

## Data Collection and Analysis

### Data Collection

Some of the pre intervention data collected from village and other secondary resources

<b>Special Program for promotion of millets in tribal-cum- mining areas of Keonjhar, Odisha under DMF</b>	
<b>Programme Duration</b> of OMM- 5 years (2018-19 to 2023-2024)	
<b>Programme Objectives</b>	
<ul style="list-style-type: none"> <li>Increasing household consumption of millets by 25% to enhance household nutrition security and to create demand for millets.</li> <li>Improve production and productivity of millets and make them profitable.</li> <li>Developing millet enterprises and establishing market linkages to rural/urban areas with focus on women enterprises.</li> <li>Promoting millet processing enterprises at Panchayat and Block levels to ease processing of households and for value added markets.</li> </ul>	
<b>Programme Outreach</b>	
<b>(1<sup>st</sup> year)</b>	
- No. of GPs covered	: 18
- No. of Villages	: 90
- Area Coverage	: 188 Ha
- No. of farmers	: 459
- Ragi Produced	: 46.91 Quintal
<b>(2<sup>nd</sup> Year)</b>	
- No. of GPs covered	: 59
- No. of Villages	: 190
- Area Coverage	: 1067 Ha
- No. of farmers	: 2415
- Ragi Produced	: 2300 Quintal
- Area to be covered	: 415 Ha
<b>Initiatives</b>	
<ul style="list-style-type: none"> <li>Introduced Ragi Laddus as morning snacks for pre-school children enrolled under ICDS in the district.</li> <li>Eol released for setting up 35 nos. Millet kiosks @ 5nos. per block and 1 no. mobile outlet in Sadar</li> <li>One millet processing unit has been established in Sadar block</li> <li>Eol released for setting up Millet Shakti Café inside Dist. Collectorate campus</li> </ul>	

Table 3: Details about the OMM project undertaken in Keonjhar

These data were collected from the Kumundi Panchayat through participatory research methods and as well as

through secondary research. the research focused on the intervention and extension activities undertaken through the

Odisha millet mission. A total of 100 households were surveyed in households in five hamlets belonging to different tribal communities in the Kumundi panchayat; the second survey was the follow up i.e., the pre-intervention surveys of 100 households in Kumundi Panchayat. The

surveys had collected information on production, consumption, income and marketing from households who had been involved in the project activities along with those households who had not.

(No. of families surveyed =100, the sample size taken for record purpose)

Intervention	No. of Households
Phase 1	
Training and workshop program	60 (counting one member per each household)
Agricultural awareness program -I	50
Agricultural awareness program-II	50
Phase 2	
Witnessed promotional campaign -I	100
Witnessed promotional campaign-II	75
Witnessed promotional campaign-III	77
Phase 3	
Livelihood opportunity program	20
Social awareness meeting	40
Social awareness meeting	40

Table 4: Represents the no. of households that participated in various interventions

No. of Households registered of millet mission (out of 100)	50
No. of households who registered and cultivated millets (out of regstd.50)	17
No. of households who dropped out or did face crop failure (out of regard. 50)	33
No. of people who received incentive (out of regstd.50)	45
No. of people who registered but did not received incentive (out of regstrd50)	5

Table 5: Represents the pre-intervention data related to the millet mission out of 100 households

Challenges faced by farmers during millet cultivation	
Animal menace	20%
Irrigation facility	30%
Low awareness about millet cultivation	30%
Market linkages	20%

Table 6: Data related to challenges faced in millet cultivation

Reasons	No. of Households
Low awareness about millet recipes	40
Time constraint for processing of millets	20
Low class food	20
Low awareness about millet consumption	17
Unattractive looks	3

Table 7: Reason behind low consumption of millets at a household level out of 100 households Outcome Analysis

In this segment I present data on the local level results from the assortment of activities carried out for the action research project group in the Kumundi Village. the results of the intervention related to the promotional campaign of millet mission, the training and workshop program

conducted for the farmers and women and also the social awareness and livelihood generation program created for the women and youth of the community. The interventions of particular interest are those listed in the preceding section. The post-intervention surveys were conducted in



phase-wise manner as mentioned earlier, summarized as a final analysis after the interventions were completed.

The methodology adopted here is to analyse the mean outcome of the post-intervention with the pre-intervention. The two broad areas on which the outcome will be analyzed are agriculture and household consumption. The parameters which will be mentioned in the analysis are:

- Trends of farmer's activities in millet mission
- The relative comparison of other crops with millets
- The impression of millets in the household consumption and agriculture
- Effectiveness of intervention
- Developmental intervention which can be planned in long term

Table 4 shows the number of families in the town that were engaged with the different interventions. The pre-intervention review found out if their family had at any point had adopted the millet mission or taken an interest; and regardless of whether they were as yet associated with the training. By and large, this information demonstrates that half of respondents had been presented to and had adopted some suggested rehearsals, in the villages. All of the respondents surveyed for the data collection belonged to the agriculture sector, which means at least one member of each family is a farmer.

## **Pre-intervention Analysis**

### **Agriculture**

The OMM intervention was launched in the year of 2019 in the village. All of the families surveyed dependent on agriculture for livelihood. Before the intervention, 50% of the population were registered under OMM when it was first introduced. Out of the 50%, only one-third of the population properly adopted the cultivation practice. The remaining two-thirds either did not adopt the mission or faced crop failure. 60-70% agreed that they were not aware about the proper practice of adopting millet cultivation. The incentives related to agriculture intervention has reached almost 90% of the respondents surveyed, 10% of the population has not received incentives provided under the millet mission. Only 30% of the population surveyed were aware of the modern technologies which can be used for the millet cultivation and post-harvesting processing.

The major challenges that were faced by the farmers who adopted millet cultivation are categorized into different parts. Nearly 20% stated animal menace led to crop damage, 30% stated the low awareness about the millet cultivation technique, 30% stated that unavailability of proper irrigation techniques was the main reason behind the low productivity, while the rest stated that more inclination

towards cash crops and vegetables and low market linkage was the main reason behind low productivity. The low productivity of the millet crop is the main reason behind the increasing dropout rate from millet cultivation.

One of the major concerns stated by the farmers is the lack of irrigation facility. The millets are comparatively very less water-intensive than crops like rice and other cash crops. However, due to high demand for rice, the millets are not considered a priority.

For every 10kgs of millets produced 8 kg are procured under by the FCA while the rest 2 kgs is available for a whole year, which is not satisfactory.

Additionally of interest is that none of the families in the village, mentioned having attempted any training program before trying millet cultivation. Population which was not exposed to the intervention are not considered in the treatment or quasi-control population. It is important to note that, the information about the millet mission can spread from neighbour to neighbour in the villages, as observed in different other schemes observed implemented in the village.

### **Household Consumption**

By the current trend, unmistakably presently rice is a far greater part of the diets than the millets in the people's diet in the village. The number of times rice is consumed is far more than the number of times millets are consumed in the households of the village. As stated earlier, if 10 kg of millets is produced, only 2kgs of the millets remain with households. Which is also on a yearly basis. It shows the disparity from the objective of OMM mentioned in Table number 3.

Zeroing on millets explicitly, almost all of the consumption of millets are consumed via the PDS system. The self-produced millets are also sold completely in the market. The most popular type of millets is the finger millets in the village. It almost contributes to 80% of the millets of the millet consumption. The other millets which are produced or grown in the nearby areas are foxtail millets and little millets. A modest quantity of the other millets is consumed as well as used for selling purposes, but in most of the villages in the area, the finger millets overwhelm others.

Millet consumption has gradually increased over time, so has the consumption of rice and vegetables. Thus, it does not make any significant change in the food habits of the people. Rice is still considered an important part of consumption.

But again, there are some other factors that also influence the consumption of millets.

- Subsidized rice and easy availability make it the most consumed crop.
- Less knowledge about the types of recipes that can be prepared from the millets. 40% of the households which were interviewed stated the same reason.
- Time consumption for processing of millet crops which contributes to the second major reason behind the low consumption by 20% of households in the village.

The third important reason which is stated by the villagers are that there is a preconceived notion that, the millet is food for the lower income people and people with higher status do not consume it. The reason is stated by almost 20% of the household surveyed.

4th reason is the low knowledge about the nutritional values of the millet crops and also low awareness about different types of millet crops. It contributed to almost 17% of the responses collected.

The other reason is behind low consumption is looks of millet are not attractive and makes it inedible for certain people. this contributed to the remaining 3% of the population.

## **Post intervention Analysis**

### **Agriculture**

50% of the respondents surveyed participated in the training program conducted about the millet mission. An equal number of men and women participated in the session conducted for the millet mission. The training about seed and crop management and organic farming practices were shared among the farmers. the number of participants in the session of different types of cultivation techniques for different crops was the most. From the number of participants, almost all had shown interest in forming a small farmer producer unit or cooperative for managing different crops. The registration for the agricultural cycle of millet cultivation is still not reached a satisfactory level.

The area under cultivation of millets crops is comparatively very low as compared to rice and other cash crops. Though the production in the two years also had marginal growth. The farmers were advised to cultivate millet in bigger proportions of land to have more productivity.

The general awareness program in Phase 3 able attracted a greater number of registrations for millet farming for the next agriculture season. As mentioned by the block coordinators there is around a 1.5% rise in the registration of women farmers in the area for the next agricultural season.

Along with the development in the agricultural sector, the

allied activities related to agriculture should be also taken into consideration. Most of the farmers are small and marginals with ownership over a small piece of land. to generate more livelihood opportunities the farmers had shown interest in other sectors like supply chain management, transportation and marketing of millets as well as other crops.

### **Household consumption**

For the popularization of millet -based food items in the households, the workshops were organized, in which participation of women was satisfactory. Though the millets are consumed by the locals in the area, it is very lower than the consumption of rice and other vegetables. Significant changes were not observed in buying millets from pre-intervention period to the post-intervention period.

The respondents surveyed in the village belonged to different age groups of the population.

It was observed that the people belonging to older generations had more knowledge about the different types of millet recipes than the younger generations.

A lot of households did not have much knowledge about different types of millet-based items. The most known items in the village are some finger millet recipes. 90% of the households believed that it will be useful if ready to make millet snacks are available in the village. The availability of street vendors, hawkers and food trucks in the village like the other districts where the OMM is in operation, will make it easier to popularize millet-based items in the district.

The household income and the land area also play a major role in productivity except for the challenges mentioned in the pre-intervention part. Since the area of cultivation is low, the production is low, thus the consumption of millets at households' levels is low.

A lot of respondents believed that, like other places coming under OMM the training program about seed treatment, nursery bedding was useful and implementable.

The revival of tribal knowledge along with traditional recipes had interested a majority of the respondents surveyed.

Introduction of the machinery for the processing of millet crops, along with workshops relating to running a small business of millet-based food items was also a topic of interest among the households.

The employment and training of more than one community resource person will help assist the farmers during the cultivation and post-harvest activities. A lot of women have shown interest in the training program for becoming

community resource persons in the area. 5-6 SHGs are present in the village. However, only one SHG is presently active for processing of millets and millet-based items.

The other SHGs can be supported and assisted by the facilitating agencies to operate millet-based processing units, millet-based units for producing food items for better livelihood opportunities.

## Findings

According to the research presented in the previous section, the multiple interventions done for the millet mission, it is premature to assess the scale, efficiency and variety of millets production in the places where those mediations were attempted since the intervention has only been adopted in 30 days. However, certain assumptions can be made regarding the outcome of the intervention.

The workshop and training program conducted for the farmers and women garnered attention for the implementation of sustainable agriculture. The program conducted about the general awareness about useful information regarding participatory varietal selection, use of seed banks, establishment and operations of FPOs will be implemented.

The women participants were more actively involved in this intervention as compared to male participants. The participation of women was very helpful in the implementation of the workshop and growing interest in millet-based food items in the households as well as for millet cultivation.

The agricultural land for millet production is very low as compared to other cash crops and vegetables.

Finger millet is the most prominent millet crop grown in the area; a however small number of farmers are diversifying their crop selection to produce different varieties of millets.

Paddy, wheat and rice are the most prominent crops which are produced and consumed in the area, followed second by vegetables and then lastly millets. The number of times rice is consumed in the area is way 14-15 times more than millets are consumed in the village.

Popularization of millet consumption not only depends on low productivity but also other externalities, hence it is necessary to identify these externalities and promotional strategies should be created in such a way that, it will help in the popularization of millet crops.

The youth in the village are more interested in the other

livelihood opportunities which can be created by the millet mission, rather than volunteering for the same.

A large number of farmers had shown interest in involving in other allied activities related to agriculture and selling produce directly to the market.

These findings show that the interventions done in the village had created some interest in the locals towards the millet mission project's main goals: increasing local hereditary resource supplies (by expanding the types and varieties of millets grown); and capturing the decline in the production of minor millets in India. The aforementioned results demonstrate unequivocally that participatory techniques to promote millets rather than external influence will push the needle in the intended direction in the places where it will be operating.

Nonetheless, it is to be noted that size of millet cultivation in the place is little by any reasonable standard. Homestead sizes are small and the impact of millets on the areas both in terms of geography and yield—remains minimal when compared to other harvests.

The community mobilization technique helped to create peer awareness about the interventions and created more audience to participate in the interventions. Especially the participation of women folks in the last five years had created major impact on the development of the village. Thus, it is necessary that community mobilization should be actively and regularly done in the village.

The contribution to the income and livelihood of the people due to the intervention conducted could not be assessed in a short period. However, it can be determined that millet contributes to very less or even null proportion to the income of the household. Though it was observed that some farmers have been successful in value addition to the mission.

Both on and off-farm activities are important for the people and should be taken into account for formulating future interventions.

The applications of the intervention in the past month have been able to generate a small rise in registration of farmers in the millet mission, countering the dropout rate. An establishment of a farmers' association will be in progress with the help of Panchayat officials and other higher authorities so that the income generated from agricultural and allied activities can increase. Establishment of a millet processing unit in the village that can handle at least 250ks of millets and will employ both men and women is taken into consideration.

The promotional activity regarding promotion of tribal culture was appreciated and will be conducted on a regular basis which will help in promotion of millet cultivation and also other sustainable agricultural activities.

Volunteers who will participate in the livelihood and awareness program also get the opportunity to train and work for millet café set up in the Keonjhar district office.

## Conclusion

The implications of the project and the future situation need to be discussed.

Regardless, it is extremely likely that government procurement will soon be completely focused on finger millet. There are a couple of motivations for this.

To begin with, finger millet production is much higher than that of other minor millets in almost all places. Second, finger millet is far less difficult and expensive to handle (other small millets require de-husking, while finger millet does not). Finally, finger millet gets burned through substantially more frequently than other minor millets throughout India.

Millet production in India is typically associated with limited scope production by limited asset number of farmers associated with it, so is the case which is seen in Kumundi who sell very little, if any, of their millet crop. A value premium or increasing the incentives would be required to encourage them to continue millet cultivation. Increasing the Minimum support price for the millets will help to encourage more millet cultivation. In certain cases, the benefit of increased MSP was only gained by those farmers who were only involved in millet cultivation and not the other crops. Hence, the MSP should benefit the farmers whether they focus on one crop or multiple crops.

Considering that supplying a higher producer cost for millets may have a few favorable repercussions on the millet mission's fundamental objectives, particularly those associated with biodiversity and, by and large, sustainable agriculture.

Particularly, the competition between the producing the cash crops and millets will increase. When farmers will realize that, the millet cultivation will require less time and effort, they will invest more in millet cultivation.

To focus on equal growth of other types of millets, the millet crops can be cultivated solely for commercial purpose unlike the finger millet, which is most of the time self-produced and self-consumed.

This application is observed in some of the tribal villages in the district of Koraput, Odisha, where the finger millets, foxtail millets and small millets are given equal importance. The millet variety like small millets and foxtail millets are lesser known as compared to finger millet. Yet, they are grown in abundance because all of the produce is grown for commercial purpose. Hence equal importance should be given to every millet crops. this will in return will increase the supply of millets in the market and also will help in the popularization of millet crops for cultivation.

Second and perhaps more importantly, higher finger millet prices may be used to spur innovation from new—that is, non-traditional—cultivators. In all likelihood, such new creation would occur on a larger scale and on more favorable terrains than millet cultivation and cultivation areas in different places of India.

Furthermore, if the government incentivize the millet crops and there will be a rise in millet farmers there is a reasonable chance that the government agencies will procure and support such new millet producers, especially if those cultivators would generally deliver larger amounts (which would add to a more productive assortment and building in acquisition) or if they are now served by government acquirement elements for promoting different yields. However since, millet is suitable for certain climatic conditions and topography it will benefit largely the traditional farmers provided they can produce in large quantities.

The only thing that needs to be taken care of is that it needs to be ensured that, only the indigenous and traditional variety of millet crops need to be incentivized. With the production of higher quantities, the Government should focus on increasing consumption. witnessing the cases of cash crops which are given priority importance for production, the production is higher yet the quality of yield obtained is compromised because of modifications and varietal selection in the original crops. thus, it is necessary to ensure that, these problems do not arise.

Most importantly the consumption at household level should be given prior importance. The market rate of the product should be decreased, so that the demand for these crops becomes higher. Special funds and schemes to should be established for millet-based enterprises.

The distribution through the PDS system should be increased. the annual distribution of millet at each household very low.

Processing of millets, readymade millet items and small-

scale businesses selling millet-based items will help in the popularization of millet-based items in rural areas, as observed in demand of urban areas.

Financial and technical assistance teams could be set up by the government for the promotion of millet cultivation and millet-based items in rural areas. The government could also collaborate with MNC that have established a wide rural

market distribution network for the promotion of millet-based food products. Companies like ITC and HUL can be approached for the same. Online portal for the marketing of rural goods should also be taken into consideration. thus, if the millet mission is successfully implemented in recent years, it will help to introduce more sustainable agricultural practices in the future.

<p>Conservation          Identification of seeds          Accessions          Establishments of seed banks          Training related to proper cultivation techniques</p>	<p>Cultivation          Participatory varietal selection          Quality seed production          Continuous research and experimentation on crop management</p>
<p>Consumption          Nutritional programs          Distribution through PDS          Increase in MSP          Support for small scale units of production</p>	<p>Commercialization          Value addition to crops          National food security act          Training related to supply chain management</p>

Table 8: Note of interventions done regarding promotion of cultivation and consumption under food security act in different villages of India

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## About the Author

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## Annexures



PIC 1 and 2

Interdistrict tribal meetings are conducted for discussions related to tribal issues, The tribal leaders are sitting in the panel and addressing the audience about the traditional culture and sustainable practices for the conservation of the environment





**IC 3**  
The social awareness meeting was conducted for the women, facilitated by the community resource person and addressed by FES official sitting in front.



**PIC 4**  
Another community meeting of women members of different SHGs discussing various government schemes and OMM registration for the next agricultural season



**PIC 5**  
Maghaparba, a local festival celebrated by the tribal community, had a small session relating to millet cultivation and consumption



**PIC 6**  
Different types of millets produced in the Keonjhar district exhibited in the Krishi Mela

## 4. Illiteracy on Using Digital Tools for SHGs

### An Action Research Project

Swapna Raut

#### Abstract

*This project focuses on women's lack of financial resources to run their enterprises, as well as poor marketing strategies and inadequate knowledge of pottery processing abilities. This work was carried out in Lalbag village using a variety of methodologies and procedures. Individual interviews, observation focus group discussions, questionnaires and documentary reviews reveal details of the information that are skillfully acquired, processed and presented. To ensure the availability of proper data, a random sampling procedure was utilized to choose respondents. Pottery is one of the viable and affordable sub-sectors in the Jaipur District that might offer income for underprivileged households. Despite its potential, the sub-sector is constrained by several production restrictions, limiting its ability to contribute to poverty alleviation. The findings demonstrate that women in Lalbag have limited access to financial resources due to a lack of information, government backing, financial institution constraints, bank conditions and a lack of collateral.*

**Key Words:** Action Research, Illiteracy, Digital Tools, SHG, Entrepreneurship

#### Introduction

In the early 10th century, the Somavanshi King 'Jajati Keshari' built the Jajpur district. The district gets its name from Jajpur, the district's capital. The Goddess Biraja and her place of worship, known as Biraja Khetra, have long been associated with the Jajpur district's history. The district of Jajpur was established on April 1, 1993. It previously belonged to the Cuttack district, which was divided into four districts. The district is bordered on the north by the districts of Keonjhar and Bhadrak, on the south by Cuttack, on the east by Dhenkanal and on the west by Kendrapada. Jajpur is a sub-division of the Jajpur district.

In the district, there are 10 Tehsils, 10 Blocks, 311 GPs, 1781 villages and 18 police stations. The district's economy is based on agriculture. Agricultural practices and mining are the mainstays of the district's economy. Jajpur district has made significant progress in terms of industrial growth in recent years.

In the Jajpur district, there are 3 lakh women organized into 25 thousand Self Help Groups. Women's SHGs in the district are involved in a variety of activities, including delivering

Take Home Rations under the ICDS program, reading and invoicing energy meters, pisciculture, handicrafts and weaving.

Terracotta and Pottery is one of the state's sanctioned crafts, largely practiced by traditional Kumbhakars and trained youths in nearly every district. In the state, about 10,000 terracotta artists create traditional, ornamental and utilitarian terracotta-based goods.

There are more than 40 Terracotta/pottery clusters in the state, with Sonepur (Subarnpur), Barapalli (Baragarh), Haldharpur (Keonjhar), Nuagaon (Khurda), Lunukua (Jagatsinghpur), Kusumi (Koraput), Chintamanipur (Balasore), Trisalaya (Bhadrak), Jajpur Town (Jajpur) among the most.

Name of the village – Lalbag

Name of the district- Jajpur

Name of the town- Jajpur Town

Name of SHG- Haragauri

Members in total- 10

#### Identification of the Challenge

SHG members of Lalbag village, Haragauri SHG in the Jajpur district of Odisha, have created a handcrafted terracotta and pottery unit. Many handcrafters employ natural materials, some of which are wholly indigenous, while others choose modern, non-traditional materials and even upcycle

industrial materials. A handcrafted item's particular artisanship is the most important qualification; anything created by mass manufacturing or machines is not considered handicraft goods.



## Challenges

Analyzing the Effects of Digital Literacy Education for SHGs  
Making Pottery: Opportunities and Challenges in Digital Literacy

In this era of globalization, the private sector is playing an increasingly important role in many emerging countries. Micro and small-scale businesses (MSEs) have emerged as an important component in economic development and

## Review of the Literature

This section includes a review of previous work on the empowerment of community self-help organizations by other researchers. The review is divided into two parts: theoretical and empirical. The emphasis in theoretical reviews was on describing the philosophy behind

## Theoretical Literature

In most parts of the world, pottery goods constitute an important aspect of indigenous peoples' visual culture. Pots are widely utilized for a variety of functions in traditional Africa and different types of pots are created in various groups for both domestic and sacred purposes.

Indigenous pottery is formed by molding malleable clay into objects and burning them at 37 degrees in an open fire or in pits to achieve a permanent physical and chemical transformation (Baba, 2009).

## Empirical Literature

The Ministry of Regional Government and Rural Development (2006)

This indicates that clay, the most important raw material in pottery manufacturing, is still plentiful in noteworthy Ewe settlements, allowing pots to be made. Clay winning and preparation, forming, decoration and firing, as well as smoking, are all part of the pottery production process.

## Failure to Develop Mindset (A Case of Ghana)

As a result, the concept of indigenous pottery activities as a way of life must be transformed into a lucrative commercial and industrial art occupation (Adutwum, 2013). Repackaging selected indigenous ceramics will aid in the transformation of the indigenous art business from a subsistence-oriented to a commercially appealing, sustainable and dynamic sector, which is essential for ensuring long-term equitable growth.

In the period AD 1200-1800, research in several Akan ancient

employment and this sector, with both its formal and informal components, has increasingly been a means of creating meaningful and long-term work opportunities, especially for individuals on the periphery of the economy, such as women, the poor and those with disabilities. Women's participation in the formal commerce sector is restricted. According to a recent study, women own and run 40 to 50% of businesses in emerging countries. empowerment on income-generating activities digitally. Empirical review, taking into account actual work done by others in various locations, describing techniques, results, experiences and lessons learned. It also describes the relationship between women pottery makers and the need of empowering them.

Material culture is created by communities all over the world for a variety of reasons. Both basic and complex societies are involved. One of the first technologies used by rural societies was pottery manufacture. Pots were employed as storage containers for their agricultural produce (Sharer and Ashmore, 1987). This industry has survived until the present day. As a result, pottery has been researched to learn more about cultural groups, how they adapt and manage the environment to fit their requirements and how they interact with others.

Pinching and coiling are the two most common shaping techniques. For many years, indigenous pottery has been the sole preserve of women, particularly the elderly (Majuk, Erim, Ajour, 2010; Rattray, 1927). As indicated by numerous researchers from diverse fields of study, the problem of pottery manufacture exists.

settlements such as Akyem-Kotoku, Manso, Dawu-Akuapem, Akwamu, AssinTwifo-Hemang, KwahuTwindorase, AdanseAhisana and Asante Mampongten has shown that pottery became more and more complex in style as society grew in population and complexity and as tastes became more sophisticated. (Cultural Commission of the United States)

## Absence of Technology

In September 2009, a case study was released that reflected recent findings that Kenyan potters must learn to think like businesses, producing new goods and promoting them widely. Matanda (2007), with support from Trust Africa, conducted a study of small-scale earthenware manufacturers in Kenya and found a strong link between entrepreneurial orientations - one's capacity for taking risks and being proactive, innovative, autonomous and competitive - and the ability to identify, enter and exploit new markets.

### **Lack of Information Needed to Tap into New Markets**

Training is required to gain a deeper understanding of the market. In this regard, the character of central Bantu pottery, which includes Meru, Embu, Kikuyu and Kamba, has led to the crafts' low economic performance among most central

Bantu villages. All of them make a similar form of simply utilitarian round-bottomed pottery, which is plain in shape, rough-in fabric and texture, poorly fired and has little to no decoration (Wandibba et al., 1989).

### **Poor Production/Local Product (A Case of Songo Mnara, Tanzania)**

A sandy paste can be found in almost all of the ceramics studied, either as a temper or as a natural feature of the clay. Grog was also a common nonplastic addition, appearing in bowls and jars regularly. In terms of manufacture, the majority of bowls and plates were oxidized, whereas jars and bowls frequently had grey or black pastes, possibly indicating low fire temperatures. Songo Mnara pottery is typically plain. Pottery is the art of shaping pots and other items out of clay and other ceramic materials and firing them at high temperatures to give them a hard, durable finish. Earthenware, stoneware and porcelain are the most common

varieties. Pottery is also the location where a potter creates such items (plural potteries).

Earthenware, stoneware and porcelain are the three basic types of clay-based pottery. These necessitate the use of increasingly specialized clay materials and higher firing temperatures. For various uses, all three are available in glazed and unglazed versions. All of them can be embellished with a variety of techniques. In many cases, the group to which a piece belongs is instantly apparent.

### **Problems of Development**

The study area's pottery sector is plagued by a slew of issues. The issues are not only many but also varied in nature. Even though some of the issues are critical, the industry is doomed unless they are addressed with adequate methods. The

following are some of the concerns that need to be addressed that the pottery industry in the study region is dealing with:

### **Problems Related to Raw Material**

One of the major weaknesses in the development of household-based companies is the inconsistency of raw material supply (Malegawekar, 1973). One of the greatest roadblocks to the development of the pottery industry is the inconsistency of raw material supply. The quality and amount of essential raw materials can sometimes have an impact on the quality and size of industrial units' output. Because of

their small size, lack of financial resources and weak bargaining power, craftsmen rely on middlemen to obtain raw materials on credit. Due to the huge margins of the middlemen, such a system results in greater costs. Furthermore, the unpredictable supply of some raw materials harms their production schedules and delivery times.

### **Lack of Diversification of Products**

The ceramic industry's poor growth might also be attributed to a lack of product diversification. During the slow season, craftspeople are obliged to stay at home.

### **Problems Associated with Marketing Mechanism**

A healthy market for pottery industry products is critical to the well-being of craftsmen and small business owners. However, there are several restrictions to marketing in this industry. For starters, because most of the unit lacks either cooperative marketing organizations or government agencies in significant numbers, selling finished products through middlemen has been a prominent factor.

Secondly, because the bulk of these sectors' products are inferior and do not meet the needed criteria, demand for their diverse products is mostly seasonal and limited to the locality. Third, mill competition, as well as inter-unit competition, is fierce. As a result, in the absence of any logical marketing organization, workers in various domestic industries are obliged to sell their wares to local traders or intermediaries, who profit disproportionately.

### **Lack of Research and Development Efforts**

To improve output or find higher-value alternatives for many of the products, adequate research and development efforts are required. Despite its promise, the pottery industry in the study region was unable to flourish because of a lack of the following:

### **Information Gap**

Information void in the ceramics industry, especially in supporting women in production processing through the use of technology to generate money for group members and the community as a whole. The decision to pursue the project was influenced by various factors. Members of the Pottery Group are interested in this project because it will improve

their livelihood and generate income, as well as be a significant component in economic development and employment. Through pottery production, women in Jajpur town will be able to pay their children's fees through this project.

### **Gender Gap and Internet**

In terms of mobile phone ownership, there is a gender divide. In India, only 65% of women own cellphones, compared to 84% of men. According to the same report, 78% of respondents (males and females) use their mobile phones to make calls. Only 35% of females can send or receive SMS, compared to 46% of males. Only half of the people with a mobile phone internet connection, including males and

females, surf the internet, use social media, or download and utilize various mobile applications. About 57% of people (both men and women) use the internet to make video calls. The data clearly shows that both males and females have low internet connectivity and even lower utilization of internet-based applications, indicating that both males and females have weak digital literacy abilities.

### **Technology Gap**

Including more girls in programs or passively placing computers in schools, libraries and resource centers will not be enough to close the technology gender gap. Building skills and altering mindsets are key to closing the technology gender gap. As a result, it is critical to train not only

youngsters but also individuals of all ages to close this enormous gap. It is critical to identify and upgrade certain skills that will lead to the usage of ICT-enabled programs and services and, in turn, have an impact on women's standing in society.

### **Barriers to Digital Literacy**

Women confront several challenges when it comes to gaining and maintaining digital literacy. Some of the obstacles are related to societal gender disparities, while others are due to socioeconomic and cultural hurdles, as well as a lack of infrastructure support for digital literacy. Various types of barriers are described in the next section. In developing countries, internet penetration is barely 40% and in the least developed countries, it is only 15%. Gender disparities are

one of the major reasons for regional inequalities, according to the paper. Women's access to ICT is limited by a variety of causes, including technological infrastructure challenges, socially and culturally created gender norms that define and limit women's and men's ability to participate on an equal footing. Women frequently lack the financial resources, educational levels and equitable access to ICT goods and services that males do.

### **Barriers in Using Phone**

This gap represents an opportunity to teach millions of Indian citizens how to use their mobile phones to better their education, career possibilities and access financial and healthcare information. Many people in India still encounter pricing, network quality and coverage restrictions when it comes to owning and utilizing mobile phones. To participate

equitably in the global knowledge economy, citizens must be enabled to use digital devices and resources to enhance their own lives and communities. Assisting in the development of evidence suggesting if families perceive increased income or other opportunities as a result of using digital technology, gender inequalities in their utilization may narrow.

Number of Smartphone Users in India in 2015 to 2020, estimated 2025

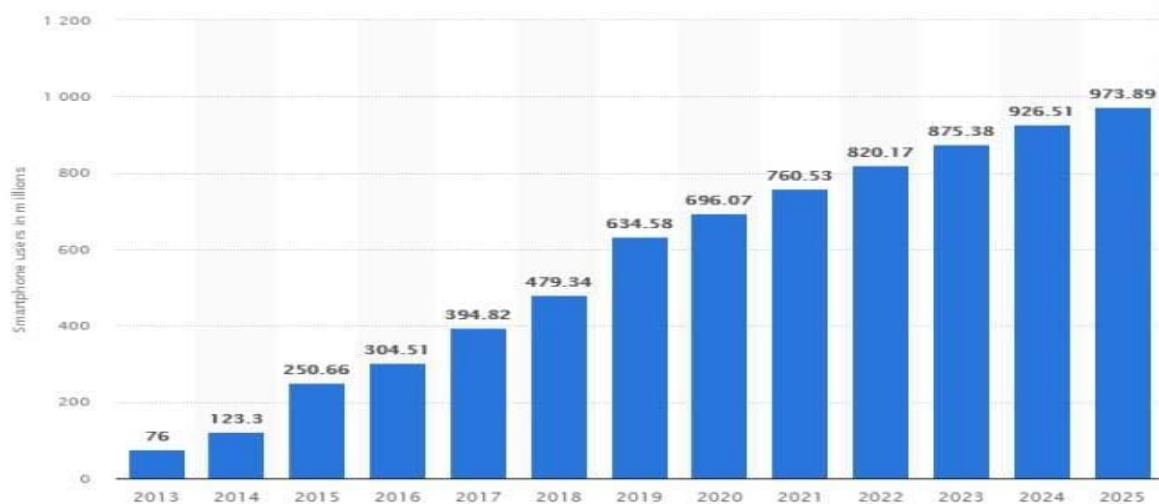


Figure 1: Estimated users of Smartphones

Another goal of the study is to design and execute a need-based training module to teach women how to use it. The final goal was to examine the impact of training on digital literacy skills as well as action-based initiatives available to women and their impact on women empowerment. To accommodate the diverse needs of women, a multi-media training module was devised and field-tested. Data were obtained from women across the specified slums and

villages using quantitative and qualitative approaches from 8 women in an SHG in Jajpur town. The study found that contextual training based on a thorough examination of women's Practical and Strategic Gender Needs is highly received by them with eagerness and passion when delivered in a safe, secure and familiar atmosphere. To assist women, it is critical to give them affordable access to digital devices and support services such as internet connectivity.

**Accessibility:** Women are less likely to have access to reliable network coverage, handsets, electricity, agents and identification documents than men. As a result, it is critical to give women access to both hardware and software.

**Affordability:** Women and men must be able to afford to purchase equipment such as handsets, tariffs, data plans and transaction fees.

**Usability and skills:** It is critical to improving device usability, as well as women's ability and confidence to use mobile phones.

**Security:** Women feel protected when they use a mobile phone, which could involve data security.

**Relevant:** Mobile products and services must cater to the needs of women.

### Objectives of the Action Research

The Specific objectives of this community need assessment was

- To digitally determine the primary sources of revenue in the SHG.
- To assess the economic opportunities and constraints that SHG members face in the manufacturing of pottery.
- To investigate the major issues that members of the pottery production SHG have identified.
- To examine the favorable elements that contribute to long-term pottery production in the women community through digital tools (smartphones).
- To determine the most appropriate intervention for improving the SHGs pottery production initiative which includes online platforms.

### Identification of the Challenge

The majority of women in Lalbag work in small businesses, primarily producing pottery but they face numerous obstacles in running their businesses, including a lack of

funding and access to loans, as well as traditional technologies. These issues have an impact on the village's social, economic and traditional aspects.

There are also challenges with dispute resolution when village members are at odds. The group has major problems, including obtaining a low-wage income to support their families, little support from community leaders and insufficient grant and loan funding. In light of those difficulties, I decided to work on them to give thoughts on how to improve the situation. The group's president and secretary are both elected from the same SHG group's members. Data were gathered through focus group

discussions, which were very important, improve data quality, present ideas and provide their experiences on knowledge regarding their background on opportunities, obstacles and how to solve those challenges related to pottery manufacturing. Participants were having discussions in a social setting, which was highly encouraged by the facilitator. Other considerations included technical aspects of the examined topic, as well as difficulties, possibilities and accomplishments within the village.

### To Implement the Action Plan

The project was implemented based on a community needs assessment conducted as part of the participatory assessment process. This entailed gaining an understanding of the members of the community's income-generating activities.

The community analysis was to cover factors such as the administrative structure of the society, population characteristics, economic activities, social stratification and the leadership patterns in the community and so forth.

The project's implementation plan shows how the project was carried out to meet the project's outputs, objectives and ultimate goal.

The following major stakeholders were involved in the project's implementation: community development agenda, community Economic Development (CED), student Ministry of Labour, Empowerment, Youth, Elders, Women and Children, village council Ministry of Trade, Industries and Marketing, Zanzibar Business and Property Registration Agency (BPRA) Ministry of the constitution and legal affairs and human resource.

### Implementation Plan

Objective	Outputs	Activity	Input	Responsible	Time frame
To increase the amount of money made by pottery production for the Haragauri group	Haragauri group created pots and had access to it.	Conduct training to motivate group members to improve product quality.	1. Hire a facilitator 2. Group members 3. Transportation facilities 4. Stationeries	Group community members Surveyor	10 days
		To raise community awareness through the use of			
		To provide instruction on ceramic product processing technologies and value addition to pottery producers digitally			
Increased customers awareness on accessibility to the market by	Pottery market awareness raise and accessibility to the market and more customers	1. To conduct training on awareness-raising to the market to the group members and using digital tools such as smartphone.	Group members	facilitators	
		Organize field visits to learn more from other groups on using new technology in the production of the pottery products	SHG Group members		

	Appropriate technology and quality product on pottery production sensitized.	To conduct sensitization meetings to the community on increased availability of modern tools and equipment			
To sensitize community members on entrepreneurship education	Group members were skilled in pottery production	Conduct training on entrepreneurship knowledge in pottery products	SHG Group members		
		To acquire basic training and experience to the best market and profitability of the pottery product	SHG Group members		

### To Study the Outcomes of the Intervention Planned

There is a need for interaction with this group to ensure that they must compete on this competitive advantage to grow their business. Based on the survey findings, it is reasonable to assume that the Haragauri SHG women's group can continue their entrepreneurial operations if their income is increased, hence promoting economic development. Various uncoordinated programs and actions aiming at assisting the sector with low impact are included in the various policies. Consequently, several gaps have appeared. Developed, making it unable to address the sector's key restrictions. This has made it

impossible to capitalize on existing opportunities for SHG development and it has limited the government's ability to capitalize on the exciting potential of SMEs to drive growth. The purpose of the evaluation is to determine the effectiveness of a program, to demonstrate its influence, to identify a project's strengths and limitations and to promote successful interventions. hence, both formative and summative assessments will be there. The project indicators for monitoring have been prepared and the indicators will be used as a benchmark to assess if the project objectives are being met.

### Social Intervention

The project's social intervention is critical, the social intervention is between women group members and consumers, as well as other shareholders such as wholesalers and retailers in the Haragauri SHG community, who are genuinely given a realistic opportunity to participate and own the implementation processes.

and other raw materials. Additionally, the community group has decided to contribute some money to the group's implementation and proceedings.

### Financial Aspect of Sustainability

People's contributions in terms of material and human contributions are the key elements of project sustainability and the group members have set 550 as the starting capital for purchasing equipment such as clay soil

### Digital Intervention

SHGs (Self-Help Groups) for women in rural India are an important and effective tool for promoting women's empowerment, social mobilization and financial inclusion. Lately, a growing variety of digital tools have emerged, promising to accelerate women's empowerment, increase the efficacy of existing projects, provide avenues for knowledge improvement and provide new opportunities.

Objective	Output	Activities	Indicators	Source of data	Methodology	Responsible
To enhance income-generating through pottery production to Haragauri group	Access pottery product to Haragaur group produced	To increase pottery products and increase customers and income among pottery producers digitally	Number of group members and community enhanced income through pottery products using various digital tools	Group activity reports, surveys	Interview, field works, surveys, telephonic interviews and group members	Group members
	To sensitize the	Number of communities	reports Interview and survey	observation on Group	Interview, field works, surveys,	Group members

	community using the product	sensitized Group activities		members	telephonic interviews and group members	
	To conduct training on pottery product processing technology and added value to pottery producer	Number of customers buy the products	reports Interview and survey	observation on Group members	Interview and observation on	
To sensitize community members on entrepreneur education	Group members were skilled in pottery production	To increase pottery products and increase customers and income among pottery producers	Number of group members and community skills and increased income through pottery product	Group activity reports	Interview and observation on	
		To conduct training on pottery product processing technology and added value to pottery producers.				
		Conduct training on entrepreneurship knowledge in pottery products.				
		To acquire basic training and experience to the best market and profitability of the pottery product				
Increased group awareness on accessibility to the market	Pottery market awareness raised and accessibility to the market and more customer	To conduct training on awareness-raising to the market to the group member	Access to regional and domestic markets	Training report	Interview and observation	group members, surveyor
To sensitize and train group members on pottery production	Group members trained and sensitized on pottery production	To organize one-day training to 8 group members on quality pottery products				interview and observation

and appropriate technology in processing quality	and processing					
			Number of group members and community members engaging in pottery production and processing and the use of better equipment/tools	Group activity on	report Interview and observation	Group member, trainer
		Organize field visits to learn more from other groups on using new technology in the production of the pottery products	Network to the 3 groups Organized and group improved technology y to the product	Group activity on	report Interview and observation	Group member, trainer

While being aware of the risks, one can speculate that the benefits of digitally empowered women will spread to other women in their social network. Technology-enabled solutions will eventually deliver on their promise of democratizing access to information and possibilities, especially as smartphones become more widely used. to gather evidence to address this question, which is critical in understanding the true impact of technology on women's social and economic empowerment in India and abroad.

## Hypothesis

Any issues or opposition originating from the selection of women for training were investigated with the assistance of a local councilor. Designing a need-based capacity-building program was difficult since most women had inadequate literacy abilities and had little exposure to digital literacy and related training. It was required to determine whether the capacity-building program improved the impoverished urban women's digital literacy skills.

### *The study's hypothesis is as follows:*

HO: There was no difference in the SHG group's digital literacy scores before and after training.

HA: The pre-training and post-training digital literacy ratings of the SHG women group were significantly different.

A pre and post-training schedule was created to collect information on women's awareness, knowledge and skills in mobile-related digital literacy. The change in digital literacy as a result of the capacity-building program was examined using frequencies and percentages. To see if the changes between pre and post-training ratings were significant, a Chi-square analysis was utilized.



## **Actions Planned to Address the Challenge**

The goal of participatory monitoring was to keep track of the project's goal, actions carried out and outcomes. Also, to keep track of project inputs, analyses whether the action plan was followed and whether project team members were kept up to date on progress, obstacles and lessons learned during the project's implementation.

## **Participatory Action Plan for the Project**

According to the project's participatory monitoring report, the initiative was designed to achieve one key goal: to ensure that group members are well empowered through training, appropriate technology and processing, as well as the provision of pottery technology. The technique for achieving the aforementioned goal was participatory monitoring, in which all essential actors in the monitoring chain, including the group members and facilitators.

The following are some of the most significant outcomes of action monitoring activities:

The initiative managed to organize two sensitization sessions for community members, facilitators and village leaders on how to use the product more efficiently and how to improve the availability of contemporary tools and equipment.

The intended audience's involvement was largely satisfactory during the meeting, with around 80% attendance. In addition, the project was able to hold two training sessions for the eight group members as scheduled.

Each person was represented by the other hand, with three people now trained in pottery manufacturing and processing, well-equipped with pottery technology, processing tools and equipment, a market recognized and networking created. Group members go on field trips to meet with various organizations and stakeholders to build capacity and experience on various topics connected to pottery production and processing for women in Lalbag. The monitoring assessment's indicators suggest an 82% improvement in pottery manufacturing, as well as improved community livelihood and income-generating activities digitally with whole sellers and retailers.



## **Implementation of Action Research Steps**

The implementation process was done in a single day with different sessions


Objectives are as follows -

- To Introduce the learners to smartphone/ ordinary phone buttons.
- To train the women in making and receiving phone calls.
- To learn about adding and deleting contacts
- To enable the learners to read, send and reply to messages using SMS
- To enable the learner to use the WhatsApp application
- Usage of Google search
- Usage of Bhim application
- Usage of Online Registration System application


### Criteria of the Action Research Steps





Objectives		Criteria	Activity	Details
<p>. To Introduce the learners to smartphone/ ordinary phone buttons.</p> <p>2. To train the women in making and receiving phone calls.</p>		<p>To get familiar with the phone which is used</p>	<p>Registration – Ice Breaking – About the training – Functions of Smartphone-</p> <p>Exercise:</p>	<p>Registration of women participants Games to know each other innovatively – Introducing the participants to the training and its objectives. Introduction to smartphone A Smartphone is a cell phone that can do more than just make and receive phone calls and text messages. It can access the Internet and execute simple software programmers such as a word processor. Users can interact with the computer via a touch screen. Along with them. Thousands of smartphone apps are available. (software programs), which include both personal and corporate applications that can all be used on a phone.)</p>  <p>Ask participants to identify different buttons on the smartphone.</p>
<p>3. To learn about adding and deleting contacts</p>		<p>To get familiar with the phone which is used</p>	<p>Adding a contact</p> 	<p>Adding a contact – Tap the Contacts button on your phone's Home or application screen. The Contacts list will be displayed. Tap the Add Contact or + button to create a new contact. The page Add Contact will display. You will be able to fill out topics. Tap on a field box to begin filling it out. The onscreen keyboard will appear, allowing you to type in the necessary information. Fill in the name and save Delete a Contacts: - Tap the Contacts button on your phone's Home or application screen</p>


			Exercise:	<p>The contact list will be displayed. Choose the contact you want to delete/remove from the list. Select the three dots icon.</p> <p>A new menu bar emerges on the screen. Select Delete.</p> <p>Another pop-up window appears Go to the edit option OR click Ok</p> <p>If you scroll down far enough, a delete option will appear; press on it to delete.</p> <p>Remove a contact from your list.</p> <p>Add your trainer's contact number to your phone</p> <p>Make a phone call to your trainer</p> <p>Delete your trainer's number</p>
4. To enable the learners to read, send and reply to messages using SMS			<p>Reading of text messages</p> <p>Receiving and replying to text messages</p> <p>Sending and receiving text messages</p> <p>Test your skills</p>	<p>Text Messages: How to Read</p> <p>-Tap the message button -An whole list of messages will show -Tap the specific message to read it - Read and comprehend the message</p> <p>What is the best way to respond to a text message?</p> <p>Tap the Message button on your phone's Home or application screen.</p> <p>Open the chat to which you wish to respond</p> <p>The conversation screen displays, displaying all previous conversations</p> <p>You type your message in the supplied text box and click Send.</p> <p>To send a new message, press and hold the message button on your phone's home screen. A screen will be seen with all of the conversations; click the pencil icon to send a new message. A new screen with a keypad will display. - Enter the contact information for the person to whom you want to send the message. -Type your message in the message box provided and click send.</p> <p>Send a new message to your trainer saying 'Hi' Reply to the message sent to you by the trainer</p>
5. -To enable the learner to use the WhatsApp application		WhatsApp instantly imports all of your phone's contacts	Functions of WhatsApp application	<p>Introduction</p> <p>WhatsApp is a smartphone communication service that can be downloaded for free. It sends</p>

		<p>and displays information on who among your contacts is using the app. All of the tools are simple to use. Friends can see your location, see your photos and see your status. Friends can use WhatsApp on internet-enabled devices to chat with each other without spending any money</p>		<p>messages, photos, audio and video across the internet. The service is quite similar to text messaging services; but, because WhatsApp sends messages over the internet, it is substantially less expensive than texting.</p> <p><b>Downloading WhatsApp</b>  Go to the Google Play Store (if it is already installed on your phone) and search for WhatsApp - A screen pops, prompting you to type WhatsApp in the box provided - On the menu that appears, select WhatsApp Messenger and then Install. The installing screen will appear, with the proportion of the app that has been downloaded displayed.  The icon for the program appears on the home screen once it has been downloaded.  -Click on the WhatsApp symbol on your phone's home screen to bring up a new screen. Continue by clicking Agree. A new screen displays, prompting you to input your cell phone number - After you enter your phone number, you will be taken to a verification screen where you must enter the OTP (One Time Password) you received on the number you entered.  - Following the verification, you must now write the name you wish to appear on your profile as well as a display photo. Then select Next.  <b>Reading a WhatsApp message</b>  -Tap on the WhatsApp icon -A new screen will display with a list of saved contacts -Tap on any contact whose message you want to read - The new screen will open up the message.  <b>Replying to a WhatsApp message</b>  - When viewing a person's message, touch on the box that says "Type a response" - When the keypad displays, type the message you want to send - To send your message, click the green arrow.  <b>Sending a fresh message through WhatsApp</b>  Tap on the WhatsApp icon - A new</p>
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			<p>Exercise:</p>	<p>screen will appear with a list of saved contacts - Select the contact you want to send a message to -A new screen will appear with the person's name on top and you can type the message in the box by clicking on it -And then click on the send arrow and the message will be sent to the person - Once the message is sent and you see a double tick, it means the person has read it.</p> <p>Once the message has been sent and you have received a double confirmation, If you see a tick next to a message, it signifies the recipient has received it but hasn't seen it yet. When the tick's color changes to blue, it implies that the recipient has received the message you sent to him or her.</p> <p>How to Create a WhatsApp Group – On your phone's home screen, select the WhatsApp symbol - Your chat window will open - Select the icon in the upper right corner - A new menu appears, with many possibilities. Tap the option to create a new group. Select the contacts you want to establish a group with from your list. -Once you've done that, hit the green arrow in the bottom right corner of your screen and select the contacts you want to make a group with.</p> <p>Using WhatsApp to make video calls On your phone's home screen, select the WhatsApp symbol. Your chat window will open. Open the window chat of the person you want to videoconference with. On the right-hand side of the contact person's name, click on the video icon. Your video call will begin shortly.</p> <p>How to send photos from the picture gallery using What's App On your home screen, click on the Gallery button. Select a photo from</p>
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				<p>your gallery by holding down the mouse button on it for a few seconds. -A menu of options is displays at the top of the screen. Select the option to share. A new pop-up window displays, displaying the various options for sending the image Click on the send option to transmit the picture. -Select the WhatsApp icon and then select the contact you want to share the picture with.</p> <p>Form a group of 4 friends and name the group. (e.g. FRIENDS) -Type a message in the new group formed by you and send the message. - Send a picture from your gallery to your friend's group</p>
Usage of Google search		Helps to navigate information, images, videos and maps all under one platform	<p>Using Google</p> 	<p>Introduction</p> <p>It looks for information about (someone or something) on the internet. Google is a search engine that allows you to find information on the internet.</p> <p>Search for information on Google: - Click on the Google symbol -Tap on the box provided and a keyboard will display — Fill in the blanks with the information you're looking for. The screen will display information such as what to do during heavy menstruation cycles, headache cures, videos on home remedies for healthy hair, needlework and nutritional meals.</p> <p>Google Image Search</p> <p>Fill in the blanks with the search terms you want to find. Click on the images of blouse designs, Mehendi patterns and rangoli, for example and the blouse designs will appear as shown in the figure. To open the design, click on the image you want to open.</p> <p>Google video search</p> <p>type Mehendi songs into the YouTube search box.</p> <p>When the video appears, click on the one you wish to watch and the video will begin to play.</p>
			The function of YouTube application	<p>Introduction</p> <p>The sole purpose is to see videos of different themes</p>

			 <p>Exercise:</p>	<p>Video search through YouTube  Tap YouTube icon on the home screen 1. -Tap the search button in the upper right corner of your screen. It looks like a magnifying glass 1. -Type in your search. To watch a video, tap on it. To rewind or fast forward 10 seconds, double-tap the left or right sides of the video area. To play or pause the video, select the center of the screen.  -To skip to the next video in the list or return to the video you were viewing before, tap the next or previous buttons.  -Search the list of schools near your area from Google -Look for images of your interest -Look for healthy recipes via YouTube</p>
Usage of Bhim application		<p>All in one for all bank accounts  No Internet Connectivity Required:  There is no internet connection is needed for using the BHIM App to transfer money from one bank account to another. To do so, dial *99# from a mobile phone, which will bring up a welcome screen with seven options, including sending money, checking your balance and viewing transaction history. As a result, a non-smartphone user can utilize the BHIM software to conduct any transaction from</p>	<p>Using Bhim application</p>   	<p>Introduction  It is a government program that allows you to safely transfer money from one bank to another.  How to Use the Bhim application?  Go to the Google Play Store  A screen will display where you must type Bhim App in the box provided -  Click on install -A new screen appears. -Click on the Bhim App -  Click on install A new screen appears. Select the Accept option. After the application has been installed, click open.  The application's icon will display on the home screen after it has been installed. When you click on the icon, a new screen will emerge, asking you to verify your mobile number  You type in the OTP (One-Time Password) and then click the next button. A new screen shows when the cellphone number has been verified, explaining how the application works. Read them and then move on to the next step.  You must now create a pin/password and confirm it. After that, click the tick mark on the lower right-hand side of the screen to confirm. Choose the language</p>

		anywhere. Authentic, a non-smartphone user can also do any transaction from anywhere. Authentication & Security		you're most familiar with after you've confirmed the pin/password and click next. Once you've completed the above steps, you're ready to utilize the app and conduct transactions by selecting the bank, account and money transfer Note: Some other applications for online transactions are: Paytm, Tez, Hike messenger
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**Outcomes of the Action Research Plan are as follows: -**

- The learner will be able to read, reply and send a fresh message through SMS
- After the training, you will be able to: - The learner will - Understand various functions of WhatsApp - Be able to read, reply and send a fresh message - Independently form a group on WhatsApp - Be able to exchange pictures, messages on WhatsApp
- The participants will be able to learn: -How to navigate Google -How to search information and see videos on YouTube -How to look for different portals using Google
- The learner will learn: -How to use the BHIM app for various purposes. Such as Money Transfer, make a financial request, Pay & Scan, Business Transactions, Characteristics, Language, Bank account, User Blocking, Privacy:
- The number of group members and the community's income increased as a result of the pottery goods. Several seminars on raising awareness and sensitization on pottery production were held, as a consequence of which the community upgraded technology and digitalization to generate profit and enhance living standards.
- Intelligence (as in artificial intelligence as the sole method to add and extract meaning from ever more data and as the only means to exploit data and information in an Internet and inter-device environment),
- Speed (with speed being a customer experience and even competitive benefit),
- A holistic security approach (with information and data as assets),
- The need to digitize and capture paper-based data closer to the source (digital transformation necessitates digitization and thus scanning) to go paperless (paper slows down digital transformation),
- An increasing focus on accuracy, quality and outcomes

**Process of Implementation of the Study**

The project was carried out collaboratively and cooperatively including a variety of stakeholders. The implementation can be separated into four dimensions, each of which has its own set of challenges. community group members' awareness raising, community capacity building includes education and training on various digital tools.

Ten community members from Lalbag Haragauri SHGs women group members were trained on appropriate technology in producing pottery products, as well as marketing skills and improvement of quality products and suitable technologies using various digital tools and applications, in collaboration with community leaders and other stakeholders.

The project's success will be aided greatly by the training often group members in entrepreneurial skills. Different training approaches were used, such as group discussion, study visits and lectures and the members were also given the necessary skills to handle the ceramic production project. The community has increased the availability of modern tools and equipment as a result of the sensitization meetings, motivating the group to boost product supply. Collaboration with many parties contributed to the effective completion of the project. In addition, to ensure that ceramic makers have access to a stable market. Monitoring of activities was also carried out and these accomplishments are based on an evaluation process that will be carried out on a bi-annual and annual basis.



## **Data Collection and Analysis**

### **Data Collection Methods**

During this survey, both primary and secondary data were collected. Primary data was gathered using questionnaires, semi-structured interviews and observations, while

secondary data was gathered using various documents such as SHG member profiles, household budget surveys, census documents and other key documents.

### **Questionnaires**

This is a survey tool that collects data from a broad sample of people. It was used to determine alternatives and studies of the respondents on the challenges that community members participating in pottery production face, as well as the use of digital tools for the term and other community members. It covers a varied range of topics and has no bias on either the survey or the respondent's side.

comprehend the situation and content of the pottery production using digital tools for promotion and marketing.

### **Focus Group Discussion**

Data were gathered through focus group discussions, improved data quality, provided ideas and provided their experiences on knowledge about their background on opportunities, challenges and using digital tools to earn profit even during the pandemic period and how to overcome those challenges.

### **Interview**

Interviewing is one of the data collection procedures that involves gathering information in a face-to-face setting. The interview was conducted separately for each responder, using semi-structured questions.

### **Documentary Review**

This method was used in the collection of secondary data and information such as community profile as well as district profile. Community plans were used to review issues related to the socio-economic status of the study area. Other reviews regarding technical aspects on particular researched topics, challenges, opportunities and achievement within the village were identified.

### **Observations**

The survey engages the target population and observes them physically without taking part in the business directly. The researcher was able to

## **Reliability and Validity**

Triangulation was used to test the reliability of the findings. The aim was to maximize reliability and come up with the same findings. There were as well as the careful sampling of the study population as a result women in Lalbag, Jajpur town become influenced and become more and motivated before and after data collection exercise. Also, the questionnaire used was very interested in the Lalbag, Jajpur women group due to their corporation showed.

## **Data Analysis Methods**

The community quantitative data from questionnaires were analyzed utilizing forms and statistical tools in this CNA and the results were shown in a graph and tabular style to make meaningful interpretation possible. The results of the CNA in Lagbag village are shown below, organized by technique and kind of data collection and assessed quantitatively or qualitatively. Closed-ended questions were evaluated and the results were provided in tabular form, followed by table elaborations. And the closed-ended questions where each responded aired out his/her thoughts were also analyzed but findings were presented as elaborations.

The sample used was very interested because it increased the researcher's ability to draw reliable and valid data Triangulation was used to maximize validity such as the use of multiple methods including Focus Group Discussions, semi-structured interviews and reviews of secondary data. The different study population was studied in the Women SHG group.

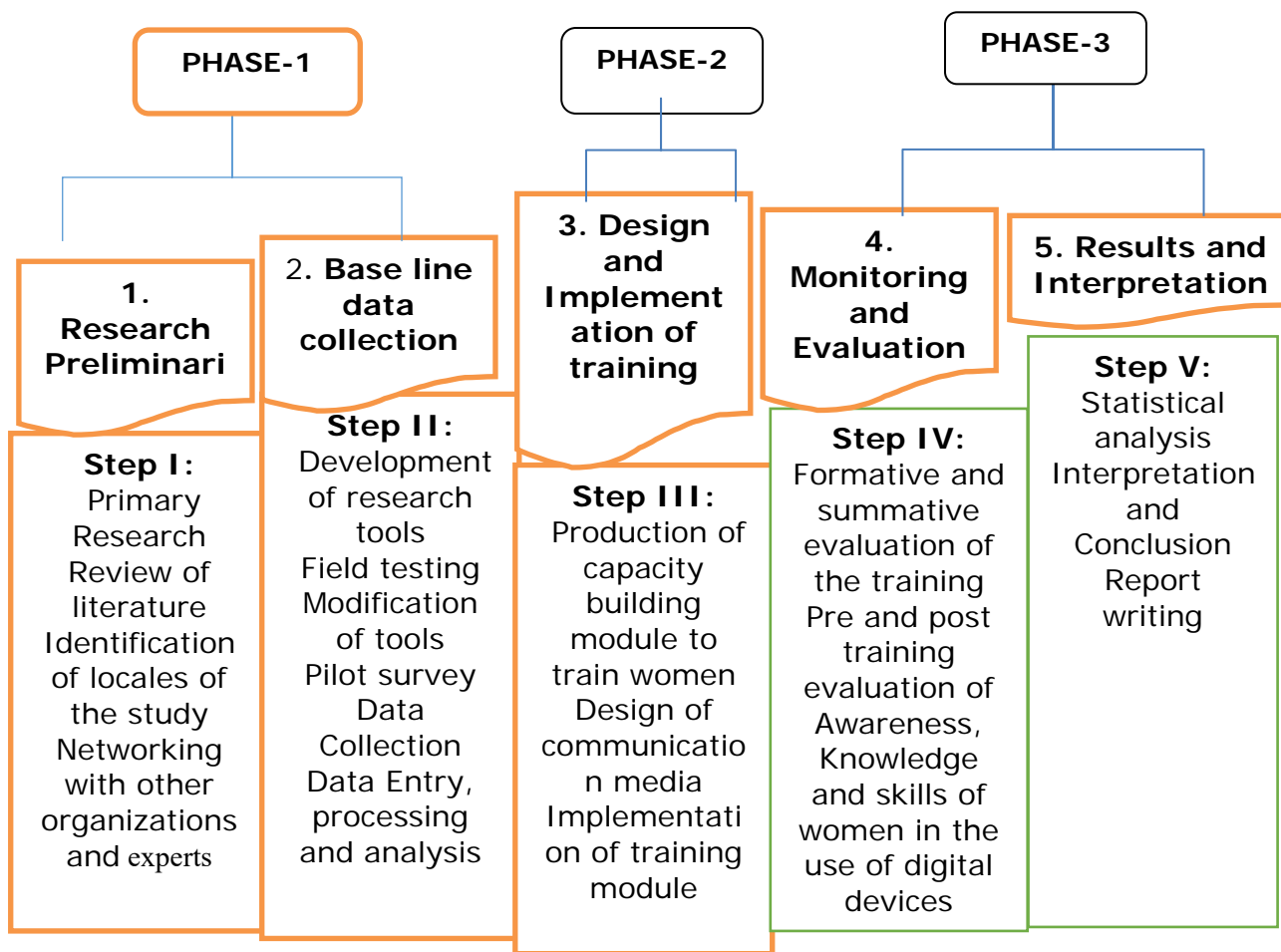
## **Methodology**

The study was agreed out in three phases. The first phase involves the exploratory component of the study consisting of the collection of baseline data concerning women's SHGs group awareness, access and use of digital technologies and devices among families across SHGs members in Dist-Jajpur. The barriers faced by women in digital usage, training opportunities available and usage of them were also investigated. The second phase of the study encompassed the development of a contextual and need-based training module for women, to enable them to use digital tools that

enabled initiatives of importance to them. After pre-testing, the module was imparted to about 10 women from SHG communities in Jajpur. Suitable communication aids were designed and pre-tested for the purpose.

The third phase of the study involved the testing of the hypothesis with respect to the potential impact of the training module on the uptake of internet and digital equipment-based programs and initiatives by women. Other

training programs for SHG women conducted by different organizations were also identified for their impact assessment to get a more holistic picture of the impact of training and capacity-building activities on women. It was envisaged that the study will help create evidence of gender-based differentials in the access to and usage of ICT-based services and initiatives it also enabled to examine the impact of suitable training on uptake of ICTs among women from lower socio-economic strata in society.



The information from Table 1 revealed that 20% of the respondents out of 10 are in the age group more than 36 while the age group of 27-32 of respondents age is 10% out of 10 also 33-36 were only 70% and this implies that most of the group members are in the position to engage in their livelihood activities as pottery production.

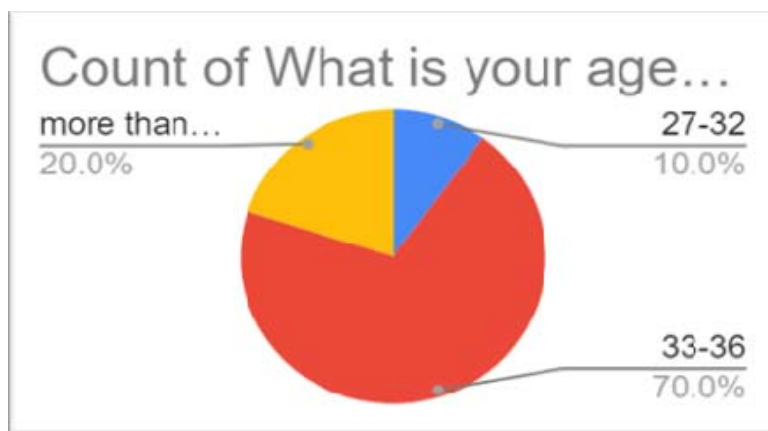


Table 2: Gender

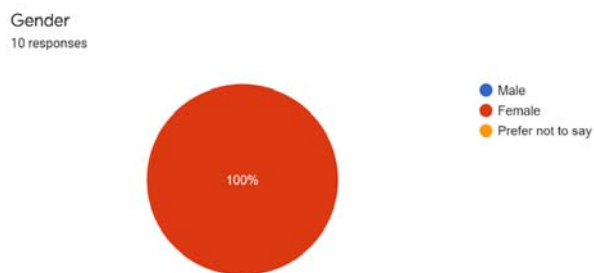
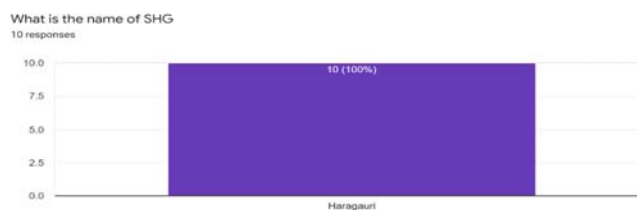


Table 4: Name of SHG



Here as we were taking the survey for women Haragauri SHGs, Lalbag, Jajpur Town so 100% of women were involved while interacting and taking the survey.

Name of the SHG is Haragauri

Table 3: Are they from SHG

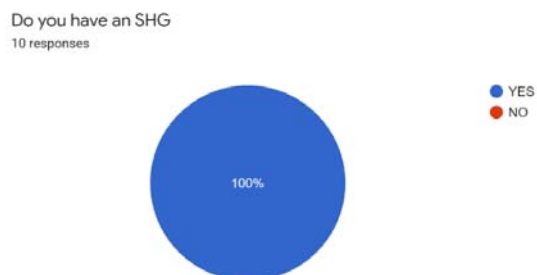
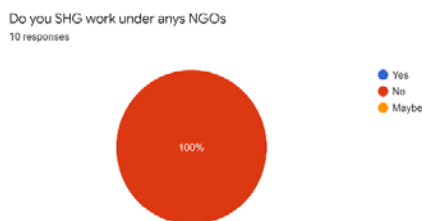


Table 5: Do they work under any NGO



No, the SHG group does not work under any NGO

Yes, they all were from Haragauri SHG group, village-Lalbag, Dist- Jajpur, town; - Jajpur Town

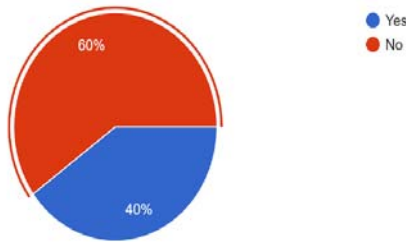
Table 6: The annual income of SHG family members



Collecting data on the income of families was an arduous task as both men and women were hesitant in sharing income-related information. The effort was made to collect data on appropriate income of the families. About 80% of families had income less than 15,000 a month out of which a large majority (52%) earned Rs 6,000/- to 15,000/- per month. 43% of families had income greater than 15,000/-. Of these, 21% earned between 16,000 and 20,000/-. About 14% families had income between 21,000 - 30,000

Table 7: Any monetary help from the Government

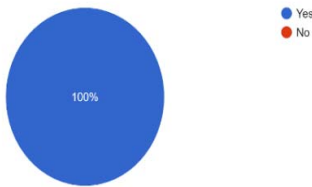
Have you got money from government to get benefits of a smartphone  
10 responses



They sometimes receive money and sometimes do not, 60% of the women said no while the other 40% said yes according to the survey.

Table 8: Own a smartphone for personal use.

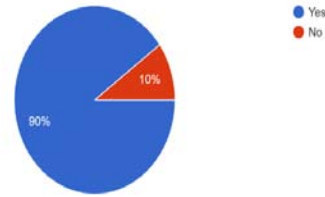
Do you have Smartphone at home/use it personally  
10 responses



Yes, all the members in that SHG own a smartphone for personal use.

Table 9: Any training taken in digital tools.

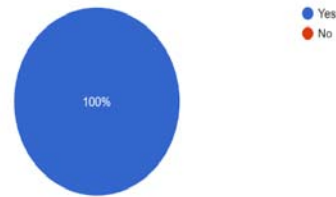
Have you ever taken training on digital tools from NGOs or other organisations?  
10 responses



Yes, around 3 years ago one NGO came and told us how to use a smartphone. as we were not having phones at that time not able to understand the practical implementation of it.

Table 10: Using the Internet daily.

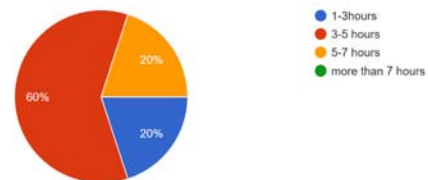
Do you use the internet daily on a general basis?  
10 responses



The SHG members uses the internet on a Daily basis

Table 11: Time sent on using the internet after the outbreak of covid

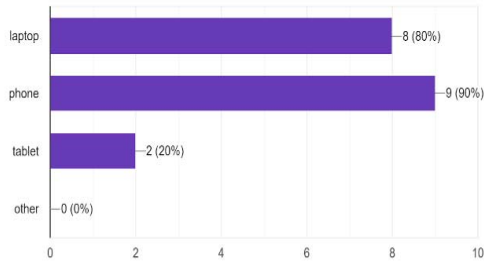
How much time do you spend on using the internet after the outbreak of covid 19?  
10 responses



60% of members use digital tools 3-5hours, 20% of them 5-7 hrs and 20% 1-3hours. no one of them spent more than 7 hours, due to household chores and children also do online studies from their mother's phone.

Table 12: what digital tools do you use?

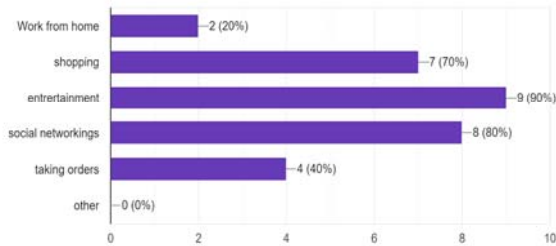
What is your preferred digital tool?  
10 responses



The majority use a phone then they want to use a laptop and two of them use a tablet according to a survey.

Table 13: Main reason of using the internet

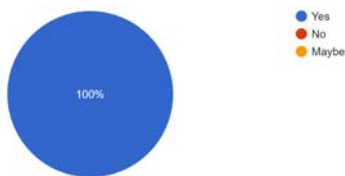
What do you use the internet for?  
10 responses



Here, from the survey majority uses the internet for entertainment purposes, then social networking through Facebook and WhatsApp. Then members use shopping from flip kart and amazon, then taking orders and lastly work from home that is used for online classes for children.

Table 14: Have you transacted money during covid

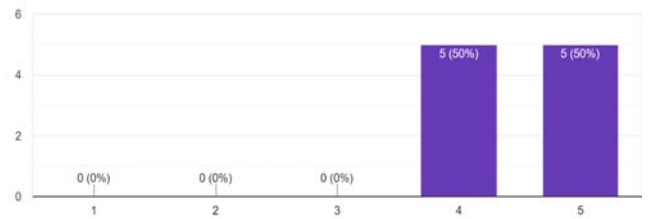
Do you find time spent on the internet during covid for online transactions?  
10 responses



Yes, all the members in the SHG have some of the other online transactions.

Table 15: Can you trust in transacting money online

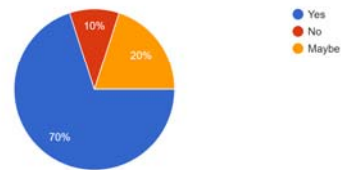
On a scale of 1 to 5, how much do you think you can use the internet for money transitions?  
10 responses



The result of this survey is 50-50, where 50% trust online transactions and the rest 50% do not trust doing transactions digitally.

Table 16: Has your business been affected during the pandemic?

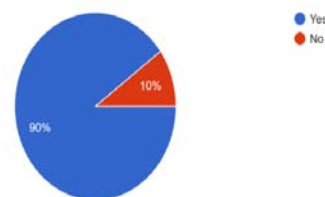
Do you believe that your business has been affected during the lockdown due to covid-19?  
10 responses



70% have agreed that due to the pandemic their business is highly affected as they were not getting enough money and work to perform. 20% said no as they have their kitchen garden and dairy to work on and do income which has not majorly affected their livelihood. 20% said maybe as they went through the pain but not much affected due to Covid-19.

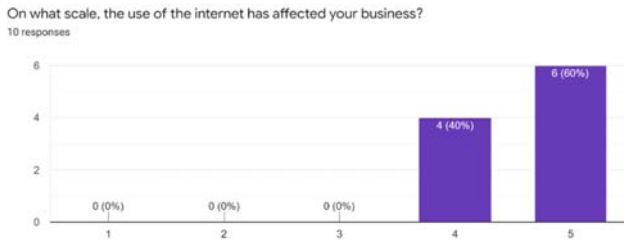
Table 17: Experienced profit and loss

Have you experienced profit or loss?  
10 responses



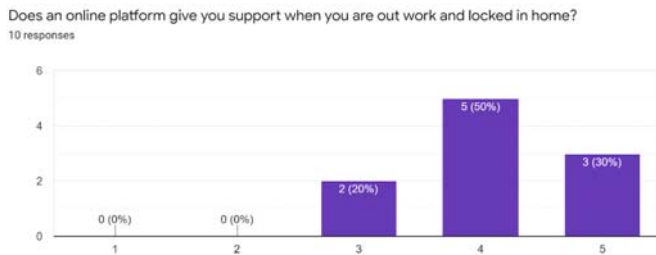
90% of women in SHG have experienced both profit and loss during the pandemic and the rest 10% have not experienced any.

Table 18: Has the internet affected your business?



80% said they sometimes depend on online platforms to perform; in fact, they use social networking channels to keep themselves engaging. while the other 40% are satisfied with the effect of internet usage.

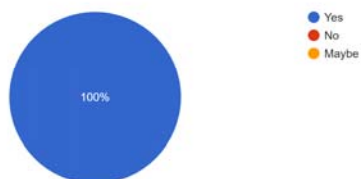
Table 19: Does online Platform provide any support.



Here, according to the survey, 50% of the members are satisfied and agree that online platforms support you. The other 30% of the people strongly agreed on the point while the rest 20% of the women from Haragairi SHG group remained neutral.

Table 20: Does social connection help you a lot during your business.

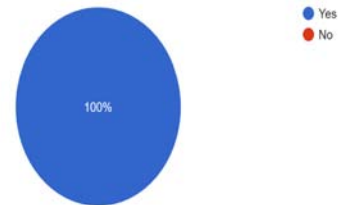
Do online Social Connections make you feel like giving hope to business



All the women replied yes as villagers know about their pottery business and they are quite famous in that area for beautiful designs and artwork. Moreover, the business is spread by word of mouth

Table 21: Does the news on Covid-19 make you feel anxious?

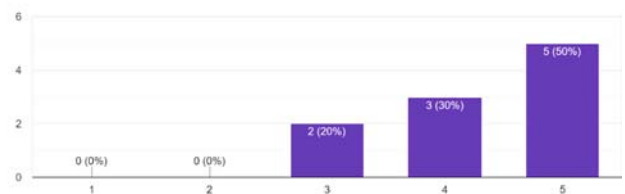
Heavy influx of Covid related news on various forums of the business has increased Did the constant updates on covid made you feel anxious



All the members here during the survey were anxious about the constant updates they received from various social media platforms about the novel COVID 19 viruses. The escalating number of deaths reported, the increase in the number of people affected by the virus constantly and the non-availability of vaccines made people think about a quick revival of the situation and normality in their lives.

Table 22: Do you feel pressured while using digital tools

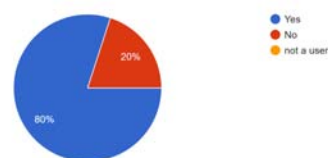
People tend to comprehend and retain information better while learning and working from a traditional social setting. Do you feel pressurized ...and meetings offline to know more on digital tools?



50% of the people feel pressured as they do not have much idea on usages of digital tools. and meeting traditionally is good and more productive according to women in SHG. 30% of the people are quite confident in using the phone and other digital media. 20% of them stayed neutral out of 10 members

Table 23: A victim of Fraudulence?

During Covid there has been an increase in online transactions leading to malpractices and theft. Do you use online apps for financial transactions? If you have ever been a victim of such fraudulence?

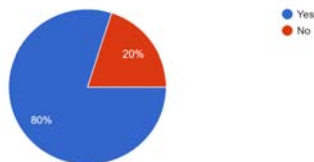


Despite using the internet daily, people were able to

concentrate on other works like playing outdoor games, reading books, watching television etc. Also, there is no anxiety among the majority of people about not frequently checking notifications on their devices. This indicates minimal addiction to the internet

Table 24: Any negative impacts on individual

Amid lockdown people have been off platform extensively. Has it given you any negative impact on you (individual) or your groups ?  
10 responses



Yes, no usage over the phone is hampering individual health.

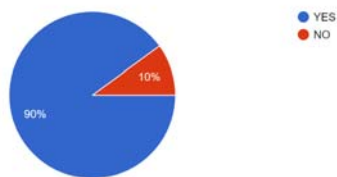
Comments received during Pre-Survey. Any comments if you want to say (challenges faced)8 responses hampered my business need training for using phones. Hopefully, training will help for online transaction digital tool uses. Online transaction of money. Hoping to learn more in this training phase happy to learn happy to know more about the platform we are working on thank you for helping.

### Post- Survey Analysis

Experience with Field-based Practical Classes

Table 1: attended the training?

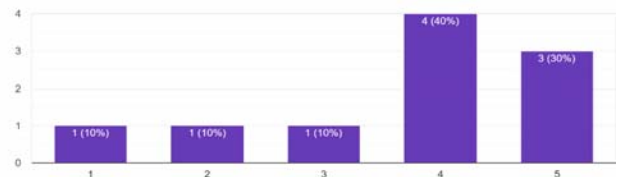
1. Have you completed field-based practical classes during course?  
10 responses



90% of them has attended the meeting from Haragauri SHG

Table 2: fieldwork completed by them

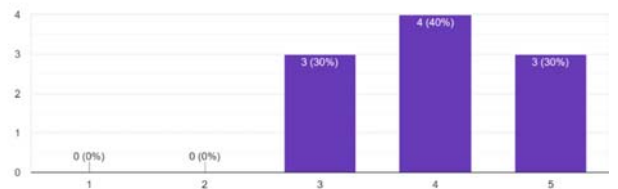
2. Amount of fieldwork completed outside for SHGs?  
10 responses



As per the survey, 40% of the people has given above-average answer

Table 3: Field-based survey is an important component.

3. Do you believe that field-based practical classes are an essential component of science education?  
10 responses

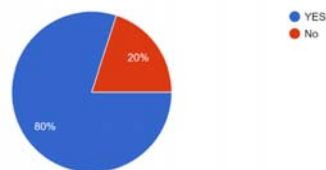


Maximum is above average rating and 30% stayed neutral while during the survey and they were too afraid of Covid.

Use of technology in practical-based teaching

Table 4: owns any digital tools?

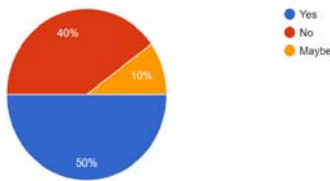
4. Handheld devices owned?  
10 responses



Yes, 80% of SHG members own a digital tool such as smartphones or jio phones.

Table 5: Did they use devices during the training procedure?

5. Have any of these handheld devices been used in practical classes in your training?  
10 responses



50% of the women used their digital tools during the training procedure.

Table 6: have you got any learnings from the practical training provided?

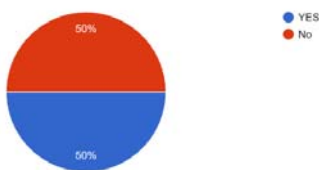
6. Short answer Have you been required to access online resources during field-based practical classes? If so, did this improve your ability to learn?  
10 responses



Yes, all the members attended the training and happily learned about the process which was taught and they said it was very helpful during the project.

Table 7: Do they know about QR codes?

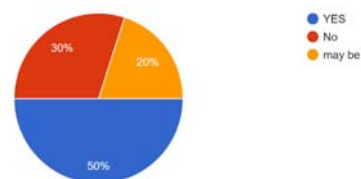
7. Knowledge of QR codes?  
10 responses



50% of the women heard about QR codes and others do not have any knowledge of them.

Table 8: Have learned about QR codes in past?

8. Previous use of QR codes in practical classes during training?  
10 responses



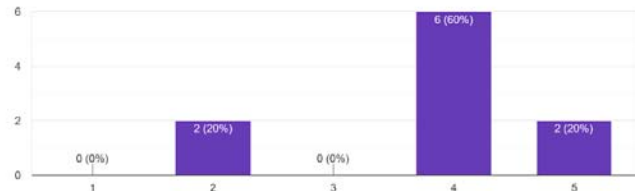
50% said yes as they heard about it before and they

explained it is used only for transaction purposes.

Experience of the survey in the project

Table 9: Have ever QR codes has enhanced ability to learn

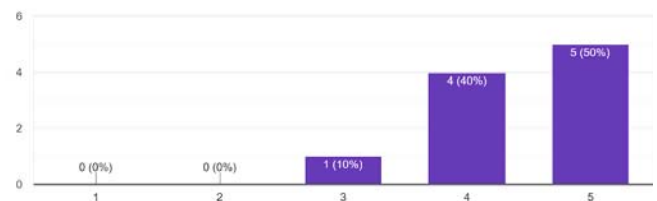
9. Did the QR codes and online resources enhance your ability to learn?  
10 responses



60% said yes as we can transfer the money in just one click by scanning.

Table 10: does give access online improve with practical engagements.

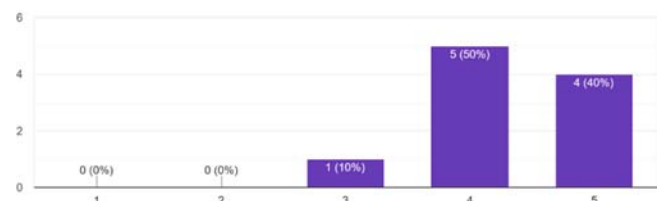
10. Did access to online resource improve engagement with practical material?  
10 responses



Yes 50% of the people have experienced that online improves the practical engagements

Table 11: online recourses contain all the information

11. Did the online resources contain all relevant information for the practical?  
10 responses

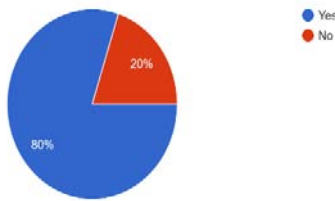


50% of the members have believed that online is relevant for all practical relevant



Table 12: Do you use digital devices for scanning QR codes?

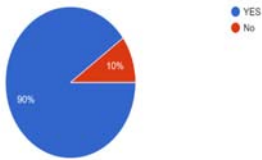
12. Type of handheld device used to scan QR codes during the practical  
10 responses



Yes 80% of the people agreed to scan in QR codes

Table 13: phone screen was easy to use

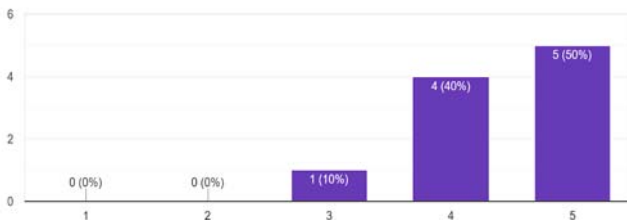
13. If using a phone, was the screen large enough?  
10 responses



90% of people were very happy to use their phone, while the training process.

Table 14: have you enjoyed the most

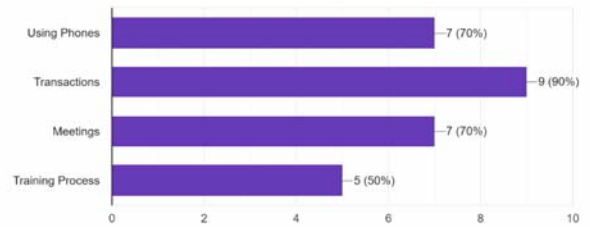
14. Your enjoyment during practical?  
10 responses



50% were very happy to attend and keen to learn more.

Table 15: while training process what fascinated you the most

15. Factors contributing to your enjoyment?  
10 responses

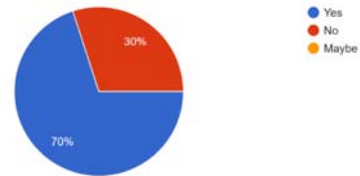


The transaction was the main factor the using phones and attending meets were other and training process was also enjoyable.

Use of QR codes in practical teaching

Table 16: should we use QR codes in more numbers

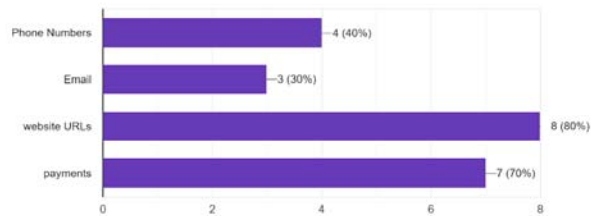
16. Should QR codes be used more widely in practical classes?  
10 responses



Yes, QR codes should be used more as the majority stands and it is easy to use.

Table 17: how the QR codes should be used?

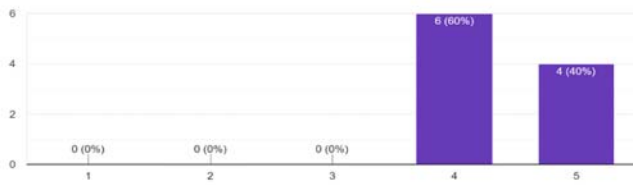
17. How should they be used?  
10 responses



The majority were website URLs then payments, then phone numbers and lastly emails

Table 18: any other modern technologies should be used?

18. Should other aspects of modern technology be incorporated into practical classes?  
10 responses

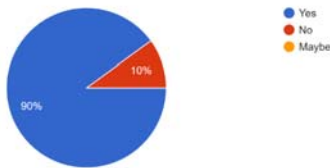


The response was above avg. hence training on other digital tools can be imparted among the people.

The impact of those digital tools

Table 19: does the intervention of digital tools will affect livelihoods

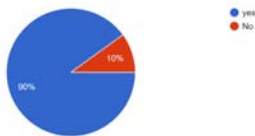
Does the impact on digital tools will affect your livelihoods  
10 responses



Yes, the majority agreed that intervention of digital tools will help to sustain their livelihoods in a better way

Table 20: Does the impact of digital tools helped in improving their business?

The impact of those digital tools in improving their business.  
10 responses



## Findings

Findings related to Pottery Handcrafters Units and their profit maximization using digital tools

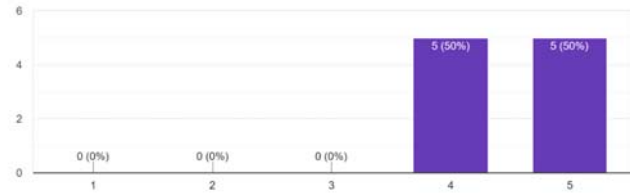
60% of 10 participants were motivated by hereditary factors, 20% of 7 participants were motivated by a good profit factor, 15% of eight participants were motivated by training in this line, 5% of six respondents were motivated by a lack of alternative employment and 10% of four respondents were motivated by other factors.

65% of respondents have their workshop linked to their home, whereas 35% have their workshop in a separate shed. The fact that a greater majority of respondents have their workshop in a separate shed is underlined.

Yes, the majority agreed to the planning and procedure of the intervention.

Table 21: Rate the impact on digital tools post-training

Rate the impact of Digital tool innervations  
10 responses



All the Responses were above average

Comments Made by SHG members post-survey

Tell me an instance of how digital tools have impacted you after the training period 10 responses

- Yes, we got to know more about QR codes and use of it
- felt good to know so important things
- happy to learn so many things
- Felt good to learn a lot of things
- Training programs helped me to learn a variety of new things related to technology. Thank you
- thank you for this training opportunity
- knew many new things from this training
- thank you for helping us in our livelihoods works
- so, enjoyment learnings
- looking forward to more these types of enjoyments and engagements

## Conclusion

47.4% of respondents have used borrowed funds for their business, 36.8% have used owned funds for their business and 15.8% have used both owned and borrowed funds for their business. The majority of the firm was started using borrowed funds, according to the responses.

The research also found that because women in Jajpur lack access to resources to manage their enterprises, they take advantage of taking items on credit from their suppliers, despite payment issues, resulting in conflict between women and suppliers. This technique, on the other hand, is beneficial to them.

They have adapted to technology and training on digital tools helped them, to use the technologies more productively.

Women in Jajpur women's informal businesses see access to resources as a critical element in growing their firms. The outcomes of this study demonstrate that women at the Jajpur SHG have limited access to bank and microfinance resources. Lack of knowledge about how and where they can get resources, a lack of government support, difficulties with financial institutions, particularly banks, a lack of collateral and banks taking a risk due to the small size of their businesses are all factors that influence their inability to get resources. In addition, they are unable to run their enterprises.

It was also found that women in Jajpur are looking for new ways to get credit and save money to keep their companies afloat. The informal practice is circular, with women forming groups of 10 members. Each member contributes some amount of money, which they distribute in a rotating fashion. This was the method they discovered for obtaining credit for themselves. Insufficient revenue to meet basic needs, as well as a lack of relevant and acceptable understanding of business and income-generating activities among Jajpur residents. Intervention in pottery manufacturing, processing and production tools is needed, among other things, to improve this alternative of living. According to the survey's findings, it is clear that raising pot productivity without enhancing tools, skills, technology and equipment is challenging for pottery producers. As a result, the goal of this project is to close the knowledge gap in pottery production, particularly in terms of supporting women in production processing through the use of technology, to produce money for group members and the community as a whole.

### About the Author

Swapna Raut is an MBA in Rural Management graduate from Xavier Institute of Management University, Bhubaneswar, Odisha. A highly motivated and active MBA student with an interest in CSR, development, human resources and research, she has worked on live projects for Lets Endorse. She has conducted this Action Research Project as part of her internship at MGNCRE.

\*\*\*\*\*

Various factors influenced the project selection. Members of the Pottery Group are interested in this project because it will improve their lives and generate revenue, as well as serve as a vital component in economic development and employment. Through pottery production, women in Jajpur will be able to pay their children's fees. Not only that, but by employing this product (local pots), village group societies benefited from this project. Jajpur women's organizations play an important role in poverty alleviation and economic growth.

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## Annexures

### Annexure 1

Questionnaires of Haragauri SHG Community Livelihood Improvement through interventions of Digital technologies.

#### Pre-Survey

What is your age group?

18-22

23-27

27-32

33-36

more than 36

Gender

Male

Female

Prefer not to say

Do you have an SHG?

YES

NO

What is the name of SHG- Your answer?

Do you SHG work under any NGOs

Yes

No

Maybe

The annual income of the family?

less than 5 Lakhs

5-10

10-15

15-20

<20

Have you got money from the government to get the benefits of a smartphone?

Yes

No

Do you have Smartphone at home/use it personally?

Yes

No

Have you ever taken training on digital tools from NGOs or other organizations?

Yes

No

Do you use the internet daily on a general basis?

Yes

No

How much time do you spend using the internet after the outbreak of covid 19?

1-3hours

3-5 hours

5-7 hours

more than 7 hours

What is your preferred digital tool?

laptop

phone

tablet

other

What do you use the internet for?

Work from home

shopping

entertainment

social networking's

taking orders

other

Do you find time spent on the internet during Covid for online transactions?

Yes

No

Maybe

On a scale of 1 to 5, how much do you think you can use the internet for money transitions?

Strongly Disagree 1 2 3 4 5  
Strongly Agree

Do you believe that your business has been affected during the lockdown due to covid-19?

Yes

No

Maybe

Have you experienced profit or loss?

Yes

No

On what scale, the use of the internet has affected your business?

Strongly Disagree 1 2 3 4 5  
Strongly Agree

Does an online platform give you support when you are out of work and locked in your home?

Strongly Disagree 1 2 3 4 5  
Strongly Agree

Do online Social Connections make you feel like giving hope to business

Yes

No

Maybe

The heavy influx of Covid related news on various forums of the business has increased Did the constant updates on covid made you feel anxious

Yes

No

People tend to comprehend and retain information better while learning and working from a traditional social setting. Do you feel pressurized and exhausted trying to process information from long hours of video sessions and meetings offline to know more about digital tools?

Strongly Disagree 1 2 3 4 5  
Strongly Agree

During Covid, there has been an increase in online transactions leading to malpractices and theft. Do you use online apps for

financial transactions? If you have ever been a victim of such fraudulence? \*

Strongly Disagree 1 2 3 4 5  
Strongly Agree

Yes  
No  
not a user

10. Did access to online resources improve engagement with practical material?

Amid lockdown people have been using OTT platform extensively. Has it given you any negative impact on you (individual) or your groups?

Strongly Disagree 1 2 3 4 5  
Strongly Agree

Yes  
No

11. Did the online resources contain all relevant information for the practical?

Any comments if you want to say (challenges faced)- Your answer

Strongly Disagree 1 2 3 4 5  
Strongly Agree

**Post-Survey**

Experience with field-based practical classes

1. Have you completed field-based practical classes during the course? \*

YES

NO

2. Amount of fieldwork completed outside for SHGs? \*

None 1 2 3 4 5 Substantial amount

3. Do you believe that field-based practical classes are an essential component of science education? \*

Strongly Disagree 1 2 3 4 5  
Strongly Agree

Use of technology in practical-based teaching

4. Handheld devices owned? \*

YES

No

5. Have any of these handheld devices been used in practical classes in your training?

Yes

No

Maybe

6. Have you been required to access online resources during field-based practical classes? If so, did this improve your ability to learn? \*

Yes

No

Maybe

7. Knowledge of QR codes? \*

YES

No

8. Previous use of QR codes in practical classes during training? \*

YES

No

maybe

Experience of the survey in the project

9. Did the QR codes and online resources enhance your ability to learn? \*

Strongly Disagree 1 2 3 4 5  
Strongly Agree

Strongly Disagree 1 2 3 4 5  
Strongly Agree

Strongly Disagree 1 2 3 4 5  
Strongly Agree

Strongly Disagree 1 2 3 4 5  
Strongly Agree

12. Type of handheld device used to scan QR codes during the practical? \*

Yes

No

13. If using a phone, was the screen large enough? \*

YES

No

14. Your enjoyment during practice? \*

Strongly Disagree 1 2 3 4 5  
Strongly Agree

15. Factors contributing to your enjoyment? \*

Using Phones

Transactions

Meetings

Training Process

Other:

Use of QR codes in practical teaching

16. Should QR codes be used more widely in practical classes? \*

Yes

No

Maybe

17. How should they be used? \*

Phone Numbers

Email

website URLs

payments

Other:

18. Should other aspects of modern technology be incorporated into practical classes?

Strongly Disagree 1 2 3 4 5  
Strongly Agree

The impact of those digital tools

Does the impact on digital tools will affect your livelihoods\*?

Yes

No

Maybe

The impact of those digital tools in improving their business. \*

yes

No

Rate the impact of Digital tool innervations

Strongly Disagree 1      2      3      4      5  
Strongly Agree

Tell me an instance of how digital tools have impacted you after the training period - Your answer

### Annexure 2

#### Pictures

Tool in which pottery is made



Freshly made pottery

Making of Pottery



Burning place of products

Potter



storing house of pottery



#### Other Products

Place where the wholesaler keeps the products



Products for Sale



Some more SHG members



Mobile Usage Training given to SHG member



With SGH members and wholesaler in that area



With Haragauri SHG members



Surveying in Progress



## 5. Marketing Strategy of Honey in Walely Village (Manipur) in the Local Market of Ukhrul with Effective Price

### An Action Research Project

Ashis Kumar Mohanty

#### Abstract

*This Action research project brought out different marketing strategies of Walely villagers. The several learning outcomes included knowing about the loopholes in the rural market, major parts that require to be upgraded for the rural areas, ease of doing business, key roles of technology, education, market knowledge, financial awareness, and different innovative strategies for products. These things are highly important to convert the traditional practice of livelihood to a modern technique adoption and in a sustainable way without harming nature. The ARP also helped in learning coordination required to successfully drive a sales force and this is how big giant corporate fields do to retain a top position in the market. The supply chain Management system in the village Walely was way too behind when it comes to the Honey business. Practical knowledge of Supply Chain Management works for profits. The Walely village now eagerly waits to sell their goods on Amazon and Flipkart once the pandemic situation is over. They also got a vast idea about how online selling of their product will boost their livelihood. People in the village now got adequate financial knowledge, got an idea about basic measurement units, and how to build a strong position in the market communication and connection with the sellers.*

**Key Words:** Action Research, Rural Markets, Entrepreneurship, Supply Chain Management

#### Introduction

Khamasom Walely is a village situated in the north of the Ukhrul district. The Khamasom clan was formed by a group of four villages. The villages are Khullen, Walely, Khuno, Khangkho. The village is around 38 kms from Ukhrul city. This village is on the top of the hill, which is around 5500 ft above sea level. Around the hill on which this village is situated, there are other hill ranges. Shihai Khuno is a village near Walely. It is around 1.5 km from this village and towards the south direction of the village. Besides this hill range, there is a river which is also the main source of irrigation for cultivation. The river is almost 8-10 kms from the village Walely. The houses in this village are made up of timber and tin. All the people here belong to Christian Community. People are hardworking and most of them are cultivators. Other than that, they are engaged in hunting, collecting forest-produce, and honey cultivation for their livelihood. The unique thing Khamasom is famous for is the Snake flower which blooms in May.

This village was declared as the **Honey Bee Village** in March 2021. People have been rearing honey for the last two decades. As this village is filled with many flower species it is very good for honey cultivation. There is also a community hall for various meeting purposes with the Village Authority Council and the people of the village. There is also one Government Primary school, one private high school and Anganwadi. The climate in this village is like a typical hilly area. The maximum temperature here is about 26-27 degrees Celsius and the minimum temperature falls to 0 degrees Celsius in winters. The precipitation in this village is also good. The meaning of livelihood is securing the necessities of life.

Also, it is defined as a set of activities essential to everyday life that are conducted over one's life span. Most people of Walely are engaged in cultivation as their primary livelihood. Except for cultivation the other livelihood options with which they are engaged are Hunting, Fishing, Opium poppy Plantation, cutting woods, Collecting Forest produce, Shop business, Livestock rearing, Honey bee cultivation and driving Shaktiman Trucks. Most people have their lands and some of them have taken the charge of others' lands. Some of them have migrated to Ukhrul or other places of India to enhance their livelihood. They are associated with mechanic works, BPOs, companies, Salesman job in showrooms, and as working staff in hotels at metros.

The agricultural produce they get here is Paddy and Maize. Most of them have their own fields on the hill ranges. In Tangkhul dialect, they say "Athang Lui Meikathot" as mentioned by the village headman. They do this process in October. They slash the trees in October month and then from December to February they burn the slashed plants on the field. After that, they start sowing the paddy seeds in March-April. They harvest again in October and November. When it comes to Maize cultivation, they have different annual phases of seed sowing and harvest. Maize is only used for the livestock. They feed it to the chickens and ducks. The people of Walely also have great skills in Honey Bee cultivation. They have been making a great quantity of honey in the last two decades. In March 2021, the village was declared as the Honey Bee village of Manipur. The village people organized a grand meeting where the Inner Manipur and Outer Manipur MPs



and one MLA came to make the declaration. The village people were given a Honey bee Hive for free from the ICAR. They were given insightful ideas by the ICAR employees. The MP mentioned that the declaration of this village as the Bee village was initiated by the Government's drive "One Village, One Product".

A few of the villagers own sugarcane field. They only grow sugarcane for their own consumption. They do not grow it for a profitable business. The farming of the sugarcane is done in the backyard of their homes. As the headman mentioned

### Identification of the Challenge

There are a lot of challenges that I have found throughout the whole process. The primary challenge that came across was the language problem. People in the village Walely converse in the Naga-Tangkhu language. So, it is not easy to communicate with them. The people of that area do not know other languages other than the Tangkhu language. They are not comfortable with Hindi and English languages. Some people can speak Hindi as they have worked outside Manipur, basically in Delhi for many years to earn money. They can understand Hindi. But the number of these of people is very less in the village. So, for the purpose of the survey questionnaire, I must keep the village headman in conference with the respondents. He translated my questions to the Tangkhu language and then the answer of those respondents was being translated back to Hindi by the headman of the village.

Another challenge that I faced was that the people were not very frank to share their details about honey cultivation. They are the primitive tribal community and they have never been so close to the other organizations or institutes or any individuals seeking data of their life or livelihoods. So, after much convincing and after me revealing all the detailed purposes of my action plan research, they were comfortable enough to share things with us. Also, after knowing the organization MGNCRE under which my project is going on, they asked whether MGNCRE is going to give some financial assistance in the Honey culture purpose. They asked "How will they help us in boost our income in our livelihoods?" These types of questions were mostly asked by the respondents.

In recent times, a challenge of a new type emerged. The new challenge was the pandemic. People of the village Walely were locked in the village. So, they couldn't step into any new kind of activities to enhance their income. So, this pandemic has brought the biggest challenge to the village people. Also, it was quite hard to collect responses from the village people regarding the action research of the honey village. Because I have a talked with a person, who is the headman of the village.

doing the sugarcane farming in hilly areas far or from home will be a loss as the kids of the village will eat most of them. So, for the better security of the sugarcane produce, they are farming it in their backyard now.

Even the people grow banana plants for their use, not for the market sale. They also use the shoot of the banana plants to make salads. Even they use the shoot to prepare the food for the pigs. They mix Paddy, shoot of banana, pumpkin and boil them to prepare a paste-like dish known as "Hokzat" in Tangkhu Dialect.

The headman worked as a translator for me, to translate my questions in Hindi to the Tangkhu language. But due to this pandemic people of the village didn't prefer anyone to come to their house and interact with them. So, it was quite hard to collect responses from the village. The pandemic also created trouble for the village people since all the mode of transportation was blocked for that period. Also, this pandemic has brought them new lessons to learn. Not only for them, but also the entire whole world has had to see the virtual mode or the online mode of everything. So, the village people also gave a thought to their business to shift it into an online mode. But the main thing was, in the village, there has been network issues, even now people still do not have smartphones in their houses. Even electricity was a problem. During my stay in Walely for 45 days, I have observed this electricity problem. There was a 12-day long power cut due to some problem in the local transformer. So, electricity is also a challenge for them, because if they switch their business to online mode then electricity should always be available to see and check the orders, they get alongside the deadline to deliver their order to the customer. This challenge can be solved by giving the people of Walely some proper workshop on the mobile application usage. Also, they can sell their assets through big giant online shopping sites. But first, they need to see how it works and how to control things over there.

Again, one challenge was that most of the people in that village are illiterate, so people in that village do not have much idea about the SI units and metrics of measurement. They use to measure the liquids by using their own measurements. But some of them have also idea about liter, milliliter. So again, this measurement knowledge is much essential if they are going to expand their business into the market label. The method they use to sell their honey till now is that they were using a liquor bottle and the bottle was filled with honey and the bottle full of honey comes with a price of 500-600 rupees. And what I found was that the bottle was around 1 liter. The price they were charging was not fixed. It was variable, people can bargain to reduce the price of the honey. COVID-19

pandemic is the biggest challenge that the village people faced. Since people were not allowed to step outside of the village. They are also being prohibited to the market area. So

## Review of the Literature

- Khamasom Walely Village was declared as Honey Bee Village on March 5, 2021, by Lok Sabha MP Dr. R K Ranjan, in the Ukhrul district in the presence of District Collector Joseph Pauline Kamson, IAS and Mayanglambam Khelendro, Vice President of the Apunba Imagi Machasing (AIMS), Manipur. ICAR Research Complex organized the program along with NEH Region Manipur Centre (KVK-Ukhrul); The Apunba Imagi Machasing (AIMS), Manipur and Khamasom Walely Village Authority, Ukhrul District, Manipur. The program was inaugurated with Introduction by K.Vareiyu, Principal, Yang Academy, Khamasom Walely and Dr. Atom Sunil Singh, Director, AIMS, Manipur. A memorandum was also submitted to open a National Slope land Honey Bee Research Institute at Khamasom Walely Village. MP RK Ranjan also expressed that establishing a National Honey Bee Research Institute would pave the way to revolutionize the village's economy from subsistence to sustainable farming. The Indian Council of Agricultural Research (ICAR) has given one bee box to every household and gave the villagers proper training in Honey Bee farming for two days. After successful cultivation, The Indian Council promised to provide more bee boxes to villagers. If they can be inspired to use honey bee cultivation properly, they can quickly get an extra source of income from selling the products in Ukhrul.

Explanation behind calling Khamasom Walely as Honey Bee Village is the center of seven cluster villages, to be specific Khamasom Khayangkho, Khamasom Phungdhar, Khamasom Phungrei in the North; Sihai Khullen, Sihai Khunou and Sihai Kahaophung in the South. Normally, Khamasom has the rare distinction of being enriched with a Virgin Forest that empowers the accessibility of blossoms consistently, which satisfies the essential condition for the honey bee venture's prosperity. Every household keeps a lot of variety of flowers in front of the home as decoration and village people have planted many bloom plants next to the street. Khamasom Walely Village is topographically, socially, financially reasonable to be announced as a honey bee village.

- Given the favourable agro climatic conditions and rich agro-horticultural resources, Manipur has great potential for the bee keeping venture and the sector is fast developing in Manipur. Realizing the potential of this sector, many budding entrepreneurs have started taking up bee keeping venture. 'With costumers' demands on the rise, Bee Keeping

this is the biggest challenge that the village people have faced in the current times.

becomes a lucrative business in Manipur. Surprisingly, a landless farmer can fetch good income equally as that of a farmer who cultivates one Hectare of paddy field just by taking up honey bee farming with 15 Bee boxes. One can take up bee farming successfully as it requires less time, investment, manpower and infrastructure. With some small wooden Bee boxes costing Rs 1200 to 1500 a piece and a honey extractor with filtration facilities costing Rs 5000 or so, one can initiate bee farming venture, said Aheibam Tarakishor, vice president Manipur Bee Keepers Federation, an NGO which is taking up various welfare and development activities for the bee farmers. A notable point here is the cost of honey bee hive which is quite expensive for the rural people of Manipur. So, the people of Manipur found that there should be some subsidy in honey culture which will be entertained by the state agriculture department. The people of Manipur also expect some help from the National Bee Board which have different schemes to provide technique assistance and some workshop to the village people

- The ministry of agriculture, currently renamed as Ministry of Agriculture & Farmers Welfare, Government of Republic of India, shaped the National Bee Board within the year 2000 on Gregorian calendar month 19. the most aim of NBB is that the complete development of apiculture by promoting Scientific apiculture in India to extend the productivity of crops through impregnation and increase the honey production to increase the financial gain of Beekeepers or honey farmers. The board conjointly promotes beekeeping, honey and different bee product trade in the country and regulate domestic and export market of honey and other allied products. The Board is allowed to ascertain or promote State Bee Boards all told major apiculture States to coordinate the activities of the Board in various States. Meanwhile, the govt. of Republic of India has approved a replacement central sector program over the years 2018-19 and 2019- 20 entitled "National apiculture & Honey Mission (NBHM)" for two years for the general promotion and development of scientific beekeeping as a mission to realize the goal of "Sweet Revolution" within the nation by giving a lift to the capability building and training, special specialize in women, input support for the promotion and production, setting Integrated apiculture development Centers (IBDCs) different infrastructure, digitization or online registration, process of honey, worth addition, market support and so forth.

- Other than the financial problem, people of Manipur also face the transportation problem in their respective village. Since the connection between the rural part of Manipur to the urban area is not so wider and best. Often some of the

road connectivity is good but most of the part is not good at all. So, people have also pledged different board members to understand their transportation problem. Roads are there under PMGSY (Pradhan Mantri Gramya Sadak Yojana) but the condition of the roads are pathetic. So, people also do not prefer to buy two wheelers in that area. Because of the condition of roads, they also bear lots of maintenance cost of bike ride in that road. Studies also found that not having transportation facilities also implies the mis-connection of village people to the local market. The market near to Walely is about 40 kms from the village. Only a Mahindra Camper is available in that village to transport passenger and goods to the local market. The 40 kms long road take 3 hours to cover which is due to the bad road connectivity of the village. So, the only middlemen are those who have better transportation facilities from village to the city Ukhrul. Even people of the village travel from the village to the city via the old truck known as Shaktiman Truck.

- The gap that is in every aspect. There is financial gap, alongside marketing strategy gap (critical situations). To address the gap there has been major joint workshops for the villagers and ICAR (India Council of Agriculture Research). The workshop continues in those village where people seek help of government officials. The tribals of the village are given free honey bee hive which cost around 1200-1500 rupees. The bee hives are given by the different co-operative banks alongside the help of the ICAR. People also have a major problem in marketing those honey collection.

Although different NGOs are there, which have been associated with the village people to figure out the solution of their livelihood related problems. They have also noticed that the major problem the village people are facing is related to the transportation of their goods. Basically, transportation doesn't mean the frequent availability of vehicles, but it is the factor that how the time management happens and how timely, the delivery of the honey is functioned to the market. Since it will be a burden for them to avail loan to buy vehicle and continue their honey transportation business to the market. So, we found certain gap or lacunae which must be covered by some sort of action plan or permanent solutions. The major gap is the reach between the rural village people to the market, for the sale of their goods.

The gaps have been studied in various studies before. But till now there have been no clear evidences of proper plan execution. These gaps are the main reason why the village people fail to address their products to sell in the local market. There is also a literacy gap. That is, people in the rural area of Walely do not know much about the advanced techniques or better techniques of earning more money from the honey culture. They stick to the old and primitive

techniques which have been there from the olden days and what their ancestors used to follow. So, there should be some workshop from different agriculture universities, some hybrid model acquiring entrepreneurs who can show a new method of cultivating honey in an advanced mode.

- There has been a need of an action research because many organizations and institutions have observed the problem the village people are facing related to the honey culture. So, by having action research the people find many solutions to their problems. There is need of action research plan, because most of the problems are hidden. Even people who involved in the bee culture they do not have any idea how to find out the solution to their problems. So based on various questionnaire we can do research where we can find the problems which have been there for long time and let the honey collectors earn more through their livelihoods. Action research plan is also required because based on the same problems, other villages can also adopt the policies or plans that have been followed in the typical village. Basically, the action plan would create a prototype for the other honey collectors in the entire district. Also, if the action plan worked so efficiently then it can be implemented on the nationwide honey culture programs. Action research is also needed in a project so that new and advanced methods of doing the same livelihood option can be found. There will be responses of the farmers and the village people who are engaged with the honey collection. So based on their real-life experience they can share their idea along with feedback to make the action research more successful. Action research will create prototype for other people who are willing to step into the business of honey. There will be clear view of loss, profit, marketing strategy, policies, government schemes, aids, business development strategy. These are the major things one can get when he/she will go through the action research of the typical program.

- If anyone needs to start Honey Bee cultivation in India, govt. is prepared to assist. The govt. has fashioned many boards for providing facilitate and steering to the Bee farmers however among all the National Bee Board (NBB) is the outstanding one. Several beekeepers are benefited by the schemes and loans of NBB. National Bee Board also provides coaching to those who have an interest in cultivation Business. The govt. is additionally providing 35% grant to the cultivation Business in India. The reserved class candidates can ought to invest 5% from their own pockets. The government might provide rupees ten hundred thousand under the Prime Minister Employment Scheme, to start out cultivation as a regular business for those people who do not fulfill the academic qualification.

- Among numerous banks, IDBI Bank is giving loan for industrial cultivation in India. They named it as 'Bee Keeping Madhu Makshika' This Bank offers loans to farmers and non-

farmers too. Farmer should utilize this loan quantity only for fitting the units for honey production. Bee farmer will get the grant for this loan from the govt. bodies like DRDA, KVIC and KVIB. The farmer needs to repay this loan at intervals five to seven years in quarterly or half-yearly installment according to his convenience. SHGs and NGOs can also apply for this loan. IDBI Bank is providing eleven months gestation for this loan. Canara Bank is additionally offering loans for cultivation (Apiculture) per the rules of the bank. One can approach the bank directly for the loan details to the nearest region commercial bank (PNB) also offers a loan for cultivation for trained little and marginal farmers and agricultural laborers. Reimbursement of the loan may be a most 5 years along with the gestation period. Local regional state co-operative agricultural developing bank conjointly offers loans for cultivation or apiculture. Someone with beekeeping expertise will get a loan. If needed Punjab agricultural university can give the training. Insurance is compulsory. The loan ought to be repaid over five years interval. The individual can begin with a minimum of ten boxes. Loans are provided as per the rules set by the bank.

- In the year 2019, the honey market in Asian nation was of rupees 17.3 billion. Currently, India is one amongst the leading honey markets globally that has created a heavy group action. Moreover, the demand for honey in India is enlarging by developing customer's preference for natural and healthy alternatives of artificial sweeteners, rising heedfulness with regard to the benefits of honey and increasing presence of various flavoured honey. India is one of the numerous exporters of honey. Major destinations enclosed the USA, Saudi Arabia, UAE, Morocco, Bangladesh, Canada, So on. The government is additionally serving to within the selling of honey. As a result of often the foremost necessary stage wherever the bee farmers face difficulty. The national bee board has launched various schemes to assist the beekeepers for marketing their honey products. Contemporary and native honey is often extremely valued than foreign honey and various beekeepers sell their honey to the customers. Some sell honey in farmers' fairs and to local honey shops. Several of the beekeepers of rural areas sell their honey in villages and city markets in no matter containers are available. In poor places, this may well be in drinking bottles. Containers for selling honey is ideally clear thus purchasers will see the item. Honey is an item that sells counting on its looks, packaging and also the information provided on the label. This is often sometimes all the data that the patron must persist in final whether or not to get the item or not. Thus alluring, informative and effective labelling is critical for attracting consumers.

### **Objectives of the Action Research**

- To identify the challenge which have been

obstructing the farmers to earn money through their livelihoods. The basic need of starting the honey business, how the honey culture can be more profitable, expert advises, advanced techniques, large scale collection of honey, impacting the other honey farming persons by enhancing the honey business. Letting the people buy organic, pure honey at affordable price, market availability of their own honey, selling their product without any middleman. These are some key challenges that should be addressed through the action research of any specific livelihoods, here in case of honey culture.

There are some other challenges in the selling of the produced honey like, people of Naga Tribe have their own Tribal Tangkhul language and the nearest market which is in Ukhrul is a town and urban area. People living in Ukhrul talk in Manipuri language. So, the problem here is most of the tribal people find it difficult to communicate in the market, though many of the village people are now very much fluent in Manipuri also. So, language is one sort of challenge that is the objective of the action research plan.

- To also implement the action plan there should be also the action research through which based upon the study or action or the research we can have a plan to the livelihood skill development. Action plan cannot be formed by only viewing the culture or farm situation or by having secondary research. It completely depends on the primary research of the researcher. So, action plan is the second objective of the action research. Basically, when we start action research what we have intention is our mind is to find out the solution of all those people and what they are actually facing challenges in bee culture. So, a well-prepared action plan is the objective of an action research.

- Third objective of the action research is to find out how aware the people of the village are regarding their livelihood, be it financial, technique wise, market strategy. In India most of the farmers do not have the actual knowledge of having a financial record of their livelihood so that they can estimate their own loss and profit. That is the reason why farmers are getting worse day by day in their profession. They should be properly financially educated so that they can have a rough idea about the finance behind their livelihood options. So, by going through action research, we can have a clear idea about the financial literacy of the honey farmers. Most of the farmers only know how much money they can invest in a bee hive so that they can start their honey cultivation. Again, we can estimate their knowledge about the local market, basically what is the demand, what should be the supply, how to impact customers by packaging, labelling their product. So, to get a fair idea about the village people's perception about the market and the financial knowledge we have to do the action

research and every livelihood related action research must have the same objective.

The research ends when the conclusion starts. So, when the action plan is implemented after that there are many outcomes in every dimensions. So, the fourth objective of this action research is that it brings all the outcomes and analyses it well after the action plan is implemented.

- Another objective of the action plan is that it creates a prototype for the other farmers who are willing to start the honey bee business. This will act as a blueprint which one can follow to start new bee culture, if the action plan is efficient enough then only one can accept this type of prototype.

### **Hypothesis**

I have seen the village very closely. I have noticed the honey culture that is being carried out by the village people. Several times, I have discussed the problem of the village people in honey bee culture. They said that there are many problems that they confront while doing the honey bee culture. So, the hypothesis that I have taken for this action research is they all have resources. The climate here is also favorable for the honey culture. So, the problem that lies here in the marketing part and packaging part. Also, some people conferred that money is also a factor that is creating obstacles from getting high income from the honey culture. They mentioned that they are investing like 3000-4000 rupees for the starting of the honey bee culture. So, as mentioned in very previous research and studies I also have assumed that the environmental condition is not a challenge here. So, grouping challenges and availability into two. We have good environmental conditions, a good climate, traditional knowledge of honey culture, safe place for honey culture. These come under availability. Whereas there are some factors that come under challenge like financial assistance, advanced techniques, multiple beehive farming, marketing strategy, connection to the market, packaging of their honey, price fixation of the product. The people in the village are doing this honey culture from their ancestor period. So, they have a fair idea about the duration of honey cultivation. The time and environment which is best supposed for the honey cultivation. So, in the hypothesis part, we can assume that they have adequate knowledge to initiate a honey culture. But the thing is the way they are taking the honey culture forward is not the exact way that should be done. People here face many problems related to the marketing of their produced goods. So, keeping eye on this problem we must find many ways for their marketing part. We can also keep an assumption that they have a good idea about the honey they are producing is mostly acceptable and most demanded in the Ukhrul market. The village people also can explain the

medicinal properties of the honey they are producing. They even ensure the purest form of honey rather than those of the company-made and filtered or refined honey. They produce their honey as raw and organic to the people. The only challenge that the people of village Walely faced was marketing their product in the local market. The mode of transport facility was not convenient for them to send their produces into the market. Most of the people either consumed the honey by themselves or else they used to sell them produces in the village only. Whenever one family finds a shortage in honey consumption for his/her family then only they use to buy honey from other people of the village. Other than that, most people do not favor buying honey in rural villages. But the demand for Yang honey is more in urban areas like Ukhrul, Imphal because people in those cities do not have the provision to cultivate honey. And, they know about the Yang honey which is more medicinal properties than that of the other company made or big brand honey. The village people in the previous year have been delivering their honey to a middleman from Ukhrul who was taking more commission for the selling of honey. But as the village people do not find this mode of transportation of honey profitable so they discarded this mode of delivering their produces. I have considered making a middleman among those village people only who have good connections in the village so that there shouldn't be maximum commission charges. The previous people used to take more commission for the road transportation charges. As the road from village Walely to Ukhrul is 40 kms and it is totally in bad condition. So, the previous middleman was charging a hefty amount for the transportation of product from the village Walely to the town. It would be better for the village people if they voluntarily decide a person among themselves who will take care of the delivery of the product. Honeybees are usually thought of as floral generalists, exploiting a wide range of flowers for their nectar and pollen. Honeybees sometimes collect food from wind-pollinated plants, like pollen cattails, or from extrafloral nectaries. Honeybees collecting sugary fluid from soda cans or from unscreened kitchens may be viewed as pests. Within this overall pattern of generalist foraging, though, individual worker bees can remain quite faithful to a given plant species.

A few interesting points about how honey bees help in collecting honey is discussed. This was also a part of my hypothesis. A small subset of foragers works as scouts for a colony. The mechanism for determining which bees scout and how many bees scout is poorly understood. These bees, when they find nectar or pollen, dance upon return to the nest and recruit other bees to the same food source. As noted above, some foragers specialize in pollen collection, others in nectar and some collect both types of food. Another class of foragers collects water, which on hot days

is brought into the colony and evaporated for cooling; without evaporative cooling extreme temperatures would quickly melt the comb wax. In times of severe forage shortage in the surrounding landscape, honeybee colonies send out few scouts, low activity may conserve food reserves. Honeybee foragers can range up to several kilometers from their nest, but most of the foraging activity from a given colony is concentrated within a few hundred meters of the nest. Honeybees are not territorial on flowers, so bees from many colonies can forage in the same area without direct aggression occurring at flowers. This contrasts with some stingless bees, which are highly territorial at flowers. Honeybees are efficient pollinators; the fidelity of a given bee to a plant species results in effective cross-pollination. Flowers with open corollas and accessible nectaries, such as apples, are easily worked by honeybees, while honeybees have difficulty with deep, narrow corollas, such as honeysuckle, or complicated flowers, like alfalfa. The manipulability of honeybee behavior and their broad range of acceptable flowers make them the prime agricultural pollinator in many ecosystems.

### **Actions Planned to Address the Challenge**

The action plan was made to address all the challenges which is purely based upon the research and survey on the village people. But before that, there are certain assumptions that will address the challenges that people faced. In order to solve their problems with regards to the marketing of their honey we have decided to keep a middleman. The middle man which we have decided is the resident of that village only. The person has a Mahindra Camper. He usually goes to the market which is 40 kilometers from the village Walely. The duty he does is take people from village town and also help people to get commodities from the town. For this purpose, he charges a certain amount of rupees which is not fixed. As the charge depends on the weather and also the price of petrol at that particular day.

Then we also have planned to increase the number of hives. Since the people of village Walely were only rearing honey for their own consumption or usage, to sell their honey in the market they have to rear a large amount. Rather than keep continuing the old amount. So, in order to increase the number of beehives, they have ordered the local carpenter to build some extra hives of the same size as the earlier ones. The older one is capable of holding 4-5kgs of a beehive. So, in order to increase the quantity of honey, they should focus on more hives, with proper techniques and processes. Now coming to the price fixation part, people of that village were not aware of the real price of Yang Organic Honey. Because they had less knowledge about the market. But now since they are planning to sell their honey in the market, they have targeted to get maximum benefits out of it. So, the plan is to fix a price so that there will be no internal competition

or fights over the price. Because some people of the village only use to sell at a very cheap price to the local people so as to earn anything. But since now the demand has grown in the market, they need not be worried about selling the honey. Keeping a fixed price will also lead to generating more quantities of honey among all those villagers. In simple words, it will motivate the people of Walely to produce more honey so as to meet the market expectations.

Now coming to the packaging part, since they were facing challenges in packaging their product the middle man suggested packaging the honey in the used soft drink bottles with no labels on them. So, the idea was well accepted because they have no clue how to order glass jars or any other container for honey marketing. And another factor is that currently they are not having much produce of honey. As the rearing process has already ended in the month of February-March and most of the honey has been consumed by the people of the village Walely by themselves. So, they are trying to sell the rest of the honey as much as possible. For the next year when the new season of honey rearing will start, they have planned to order glass jars with a label on them bearing the name of Walely Village. Another factor that also prohibited them to go for attractive packaging is that they do not even know how the people will respond to the honey. So, it is worthless to invest extra money on the packaging part. This is what I got to know to form them. So, they are planning an interesting packaging phase in the next year.

The communication challenge that I have noticed, is that things will be managed by the middle man only. He has great command over four languages, he knows English, Hindi, Tangkhul, Manipuri also. So, he assumed that since the honey cultivators cannot get to the market directly and also in case it is required to visit the market, then he will assist them in connecting with the market people. In any case, it is not required to visit the market always. The only time when a village honey cultivator will have to visit the market is the time when their community or group requires to collect feedback from the shop owners or the honey sellers.

Other than that, if in the future they want to sell their own honey by connecting to the market by themselves then only should learn how to communicate. Because in my view, once they succeed in the market, they might not need the middle man who helps to reach the market. So, till now, it is fine. The middle man is going to be the best media for the village people to the market. Then we should come to the store and inventory management challenge. This challenge can be solved by some of the few below-mentioned action plans. People in their homes didn't find any suitable place for the storage of the honey they have reared. So, in order make market demand fulfil and even if they are going to make

more hives in the future. So, they will need more space for the storage of more quantity of Honey. If the market demand increase, the village authority council has also decided that they will build a separate storehouse for the honey. There will be a register note which will be maintained by a person who belongs to the VAC (Village Authority Council). They can easily access the data about their stored honey and also the amount which has been delivered to market with proper information about the date also.

Regarding the Transportation challenge the headman of the village Walely Mr. Vassum Haorei has told that, If the business grows at a fast speed and also the demand for Yang Honey increases day by day in the city market then they are going to buy a new transportation vehicle by the collective contribution of all the honey cultivators. The vehicle will only be used for honey transportation purposes. In the future, they will send the honey to the packaging unit and also from there, they will send it to the distributors through their own vehicle. And also, they have thought that if by God's grace the business growth touches the sky height then they will also buy an automatic packaging unit for their village, which will bring more employment in their village and also the youth of the village will be independent enough rather than going to the outside state for livelihood options.

To face the pandemic challenge, they were advised to pack the honey with proper hygiene, unless and until it is free to move the market do not go for the sale. So, they are given some instruction about health and hygiene also.

### **Implementation of Action Research Steps**

Step-by-step procedure has been carried out in implementing the actions to address the challenge In Khamasom Walely total no of household are 138 and out of 138 houses, approximately 50% of them live in Ukhrul, Manipur, or any other state for various reasons. Out of those, 50% of households in 17 houses are bee-keeping. They usually keep bees in their home only. They keep the bee box inside the house close to the wall and make a hole on the wall so that the bees can get inside the box outside of the house. These bees usually become energetic in the spring with the warm weather and flowering of plants. Mostly from April to May, they harvest Honey. Usually, in a year, they get 10 kg to 20 kg of Honey and also the cost of Honey is around Rs.700 to Rs.800 per Kg. The demand for this hilly area's Honey is very high in Manipur, but the villagers do not do bee-keeping for commercial use.

A bee box contains just one queen bee and many numbers of worker bees and drone bees. While all bees in a hive effort together to make the pack healthy, the queen honey bee is the most vital in the hive for many reasons.

Queen honey bees are enormous individuals in most colonies and complete numerous significant activities in the hive. The queen is responsible for laying a consistent supply of eggs to develop and keep up the hive's population in sufficient numbers. The queen also produces pheromones that control and coordinate many of the behaviors of her colony. Each queen has her distinct pheromone profile, which allows her territory to identify her, guard her and meet her requirements to keep the hive safe and robust. The lone guys found in the hive, drones perform just one undertaking during their lifetime: mating with new queens. When a drone reaches sexual maturity at about two weeks of age, he begins taking mating flights. These flights usually take place in spring and summer afternoons and last approximately 30 minutes. Newly matured queens and drones from several hives typically join in these flights. In most instances, the queens mate with multiple drones and store the drones' sperm in an organ called the spermatheca. The queen will then use this stored genetic material to fertilize her eggs for the rest of her life. The queen will, at that point, utilize this stored genetic material to treat her eggs for the rest of her life.

Working bees are present in a large number in the hives, and, as their name suggests, they do the entirety of the work expected to keep the colony fed and healthy. During their first days as full grown-ups, laborers will, in general, perform tasks inside the hive, like cleaning and covering cells. As they develop, working bees start to perform more functions inside the pack, including taking care of the queen and developing brood, drawing out new comb and managing food stores. In general, the most established and most experienced laborers will play out the riskiest tasks: guarding the hive against interlopers and foraging outside the hive for pollen and nectar.

The implementation of the action plan was done slowly with various steps. Firstly, the village headman had a talk with the honey cultivator about my action research plan of me. Then it is natural that many of them didn't understand the purpose of the action plan and they are not ready to share any data with me. But after a few days initially, I only had a talk with the village headman. And he also sometimes got irritated by my repetitive calls. So, then I asked about his free time. And this process took a long time. But the village chairman told me that since many of them do not know either Hindi or English language so he will be there as a translator. Even the village headman asked me whether I am going to publish all the responses on any other platform or for commercial studies. I explained about the MGNCRE action plan internship. Since many of the honey cultivators had asked the same question to the village headman that's why he asked the same to me. Since people are not ready to share the data with me so it was quite a time-taking and long process for the data collection part. I assured them about the

usage of the data collection and they somehow agreed on a little to share the data. I have collected all the data through the telephonic interview, where in every call Mr. Vassum the headman was present. He navigated me and the respondents. Some of them gave wrong answers and irrelevant answers. Some of them kept asking about any government scheme is going launched or not for the honey cultivation. So, it was quite the hardest part for me to ask questions to the respondents. So, in the action plan, the toughest work was to go through the survey questionnaire.

I had to go through some of the previous research work done on the honey cultivation of Walely to get an idea about how to start and how to write. But it is truly shocking that there are no such research papers including the honey bee culture of the Manipur village "Wally". It is due to that the north-east Tribal villages are not in limelight. So, I got some idea about looking at the NBB (National Bee Board) official site. Again, in the Southern part of India, there have been some studies and implementation for people cultivating honey in their village. Since the geography and vegetation, climate, culture and process are way too different from north-east India to south India so it was hard to link those studies in it. But the theme and aim of the action plan were the same. So, I could connect the different theories to it.

Then in the next part, I also prepared some basic questions, so that I can guess about the knowledge of the village people regarding honey and the honey cultivation process. Based on the responses to the questionnaire I have gone through the action plan. Since the questionnaire contained 14 questions it was quite a time taking to collect the responses. Then there was another questionnaire. The first one was the Pre-intervention questionnaire and the second one was the post-Intervention questionnaire. The intervention here was mentioned about the action plan that has to make for the marketing of honey for the village people. So, people are requested to give their responses to the questions.

The next step was we (The headman, Mr. Yuimi [The man who is having a vehicle] and me) had a discussion about the marketing of the honey. The biggest challenge at the present time that was mentioned by Mr. Yuimi is the pandemic. Since the lockdown is continuing in Ukhrul town so it was quite difficult for him to let his vehicle into the town. But there was a certain time limit for the movement of the public.

## **Process of Implementation of the Study Data Collection and Analysis**

The data collection part was the hardest part for me in this action plan. People are not ready to share their financial and agricultural data with me. But somehow, I convinced the headman and he then convinced the village people. The headman also contacted some of their relatives so that it would be easy to collect the data. Even after they gave their response still, they

### **● How did the action benefit the community / SHG / Farmers / Rural Enterprise?**

The action will ensure doubling the income of the honey be cultivators the village. Ensuring the marketing of their overall produces into the market. The major benefit the village people got was, they were not knowing anything about the market since they are not regular visitors to the market. Since then, Mr. Yuimi Haorei joined in this initiative, he gave a lot of benefits to the village people. People were not aware of the market. Even they were fearing loss and cheating from the vendors or the shop owners. So, since Yuimi has much experience in the market behavior, he helped the village people to help a lot. The action only helped the village people to join the market with a price fixed for the transport. The action plan also requested the headman of the village to construct a storehouse for the honey storage. They are also guided by different ideas and schemes of the Government to avail financial help. People are now also financially aware to do their business.

●The connection between village suppliers to the market was the prominent thing which this action plan focused on.  
●Financial awareness was also the second aspect of the action plan. People who are involved in the honey rearing business didn't have any idea about the increase in the financial value of their products. And this action plan provided the theme of getting higher profit from the market.

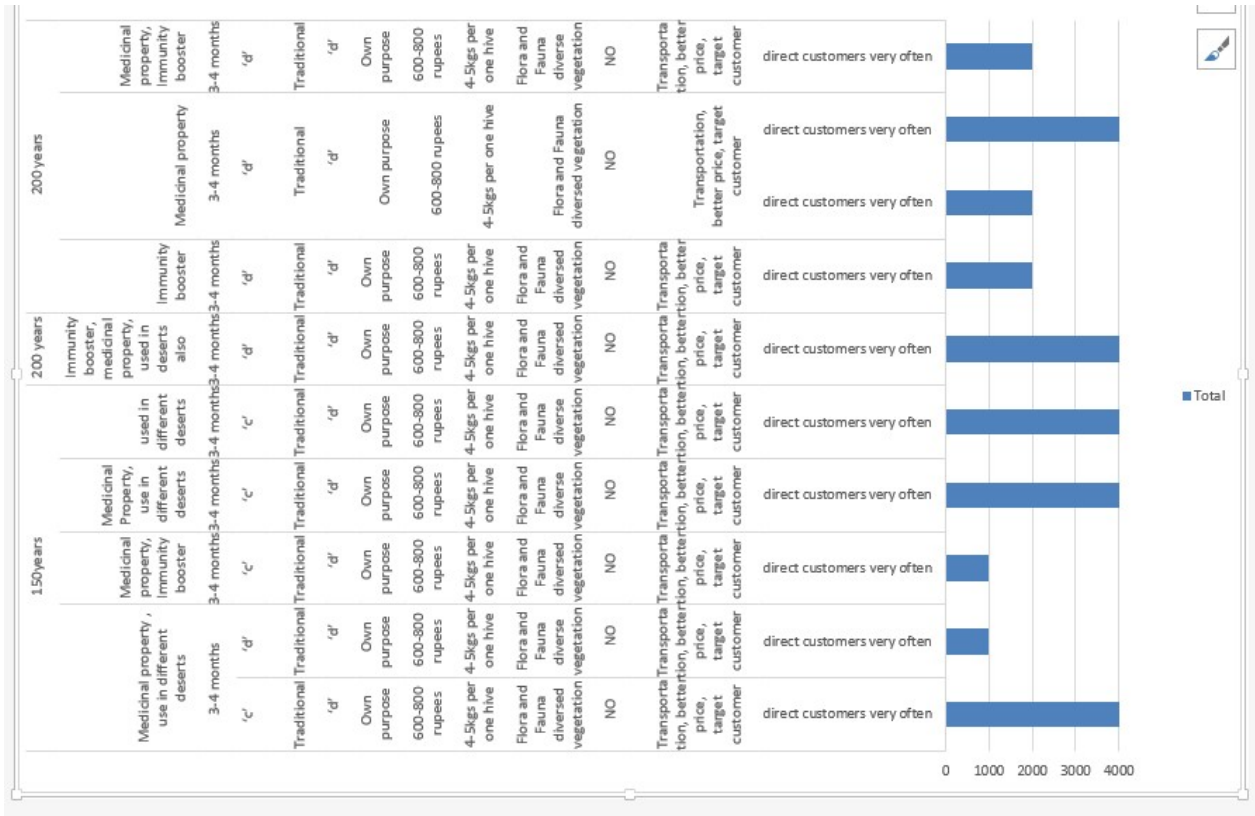
●First of all, since it was a quick action without any prior information. So many of them have already consumed the honey they have produced this year. So, the people who are having less much amount of honey. They packed it into the soft drink bottles. They contracted with the middle man Yumi. So that they cannot change the middle man prior to any information. So, then Yuimi took that honey to the market but at first, Yuimi has to convince some sellers to keep the honey as trial. And the seller then informed that the supplies Yuimi has brought that seeks another quantity. Thus, they got to know the demand of the product.

Then Yuimi collected the money then the VAC calculated the average profit they got from the marketing of their product into the nearest market. Even they were known that there should be some profit but still they do not have any idea how they can generate maximum profit from the limited amount of honey they have. The only thing they wanted that is communication, connection, transportation to the market of their products.

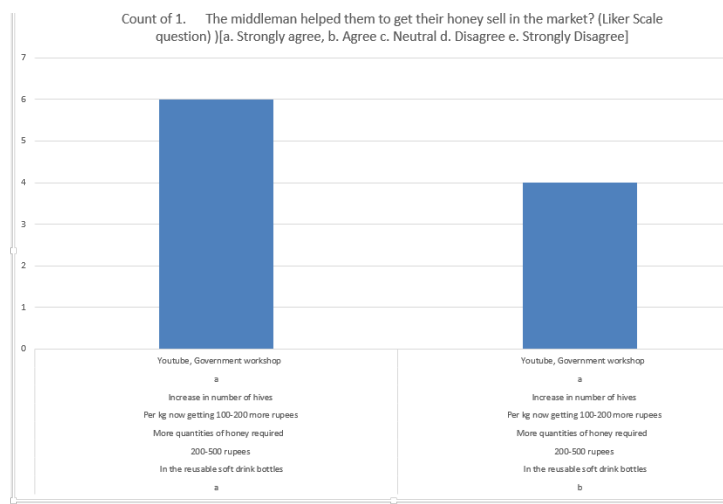


warned me to not use this for commercial purposes other than studies and internships. Which I promised them to be sure about that. Firstly, we collected data from the pre-intervention questionnaire part. Then we implemented the action. Since most of them are out of honey storage so some of them are ready to go with the action.

The analysis part was done and it was found that many people got maximum profit than those they are getting in the previous years. I have also made two charts which depict the growth of their finance in terms of an older and newer versions of growth.



The above pre-intervention chart shows the average money they got throughout all other previous years. They are having an expensive transportation system since people are fearing to adopt the transportation procedure for their goods. Instead of that, they were selling their honey to the nearby villages at very low prices at the time of emergency.



The above chart is the chart of the post intervention of the action plan questionnaire. Where the village people also noticed that there is a sudden increase in the price of 1 kg of honey. Which is like 100-200 rupees per kg. Whereas they have generated around 500-1000 rupees more. They also knew about the market demand of the Yang Honey in the local market.

- Now the fear of being cheated decreased of the village people. They also trusted the middle man and now getting less transportation charge rather than the hefty one in the previous years.

- Storage is an issue for them which the headman is trying to change by assisting them with an inventory house for all the local people, where there will be a VAC member to maintain the smooth operation of the inventories and inflow and outflow of the stored goods

**Respondent No.1 :- Mr. Yuimi Haorei, 36, M Pre-Intervention**

1. For how many years have the people and their ancestors been practicing honey culture (Apiculture)?  
200 years

2. What are the three major benefits you get from the honey culture? Medicinal property, Immunity booster

3. How many months does it require to collect honey from the culture? 3-4 months

4. Do people have adequate knowledge in honey culture to maximize their profit? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]  
'd'

5. Are people in Walely efficient enough to market their honey in the Ukhurul Market? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]  
'd'

6. What sort of techniques are being followed in the honey culture? (Traditional or Advanced)  
Traditional

7. Are you using the honey for your own purpose or commercial purpose too? Own purpose

8. Price of honey in the local market? 600-800 rupees

9. Amount of honey you are getting in a year? 4-5kgs per one hive

10. What type of vegetation is required for honey cultivation? Flora and Fauna diverse vegetation

11. Have you received any schemes from the Government to promote your honey business? NO

12. What maximum profit have you earned form selling honey? 2000

13. What is the problem you are facing in marketing of your honey in local market? Transportation, better price, target customer

14. To whom you sell your honey in the market? direct customers very often

**Post-intervention**

1. The middleman helped them to get their honey sell in the market? (Liker Scale question) [a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]  
"a"

2. How you can package your honey for the market? In the reusable soft drink bottles

3. What are the transportation costs to send it (honey) to market?  
200-500 rupees

4. What feedback are you getting from the shop owners? More quantities of honey required

5. What more profit in rupees did they get as compared to the previous sell within the village? Per kg now getting 100-200 more rupees

6. What plan you have made to boost their profit by taking the help of the middleman for selling in Market?  
Increase in number of hives

7. Do you like to sell your honey in the e-commerce store? (Liker Scale question) [a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]  
"a"

8. From where do you think that you will get help to sell your honey in the e-commerce platform?  
Youtube, Government workshop

**Respondent No. 2 :- Mr. Theikhaninj Haorei, 45, M Pre-Intervention Questionnaire**

15. For How many years have the people and their ancestors been practicing honey culture (Apiculture)?  
150 years

16. What are the three major benefits you get by the honey culture? Medicinal property, Immunity booster

17. How many months does it require to collect honey from the culture? 3-4 months

18. Do people have adequate knowledge in

honey culture to maximize their profit? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree] 'd'

19. Are people in Walely efficient enough to market their honey in the Ukhrul Market? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree] 'd'

20. What sort of techniques are being followed in the honey culture? (Traditional or Advanced)

Traditional

21. Are you using the honey for your own purpose or commercial purpose too? Own purpose

22. Price of honey in the local market?  
600-800 rupees

23. Amount of honey you are getting in a year?  
4-5 kgs per one hive

24. What type of vegetation is required for honey cultivation? Flora and Fauna diverse vegetation

25. Have you received any schemes from the Government to promote your honey business? No

26. What maximum profit have you earned form selling honey? 2000

27. What is the problem you are facing in marketing of your honey in local market?  
Transportation, better price, target customer

28. To whom you sell your honey in the market?  
direct customers very often

Post-intervention

9. The middleman helped them to get their honey sell in the market? (Liker Scale question) ) [a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree] "a"

10. How are you able to package your honey for the market?  
In the reusable soft drink bottles

11. What is the transportation cost to send it (honey) to market?  
200-500 rupees

12. What feedback are you getting from the shop owners?  
More quantities of honey required

13. How much profit in rupees did they get as compared to the previous sale within the village?  
Per kg now getting 100-200 more rupees

14. What plan you have made to boost their profit by taking the help of the middleman for selling in Market?  
Increase in number of hives

15. Do you like to sell your honey in the e-commerce store? (Liker Scale question) ) [a.

Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree] 'a'

16. From where do you think that you will get help to sell your honey in the e-commerce platform?  
Youtube, Government workshop

Respondent No. 3:- Mrs. Hopeson Jelly Kasomwo, 38, F Pre-Intervention Questionnaire

29. For How many years have the people and their ancestors been practicing honey culture (Apiculture)?  
150years

30. What are the three major benefits you get by the honey culture?  
used in different deserts

31. How many months does it require to collect honey from the culture? 3-4 months

32. Do people have adequate knowledge in honey culture to maximize their profit? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree] 'c'

33. Are people in Walely efficient enough to market their honey in the Ukhrul Market? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree] 'd'

34. What sort of techniques are being followed in the honey culture? (Traditional or Advanced)  
Traditional

35. Are you using the honey for your own purpose or commercial purpose too? Own Purpose

36. Price of honey in the local market?  
600-800 rupees

37. Amount of honey you are getting in a year?  
4-5kgs per one hive

38. What type of vegetation is required for honey cultivation?  
Flora and Fauna diverse vegetation

39. Have you received any schemes from the Government to promote your honey business? No

40. What maximum profit have you earned form selling honey? 4000

41. What are the problemss you are facing in marketing of your honey in local market?  
Transportation, better price, target customer

42. To whom you sell your honey in the market?  
direct customers very often

Post-intervention

17. The middleman helped them to get their honey sell in the market? (Liker Scale question) ) [a. Strongly agree, b. Agree c. Neutral d. Disagree e.

Strongly Disagree]

'b'

18. How are you able to package your honey for the market?

In the reusable soft drink bottles

19. What are the transportation costs to send it (honey) to market?

200-500 rupees

20. What feedback are you getting from the shop owners?

More quantities of honey required

21. What more profit in rupees did they get as compared to the previous sell within the village?

Per kg now getting 100-200 more rupees

22. What plan you have made to boost their profit by taking the help of the middleman for selling in Market?

Increase in number of hives

23. Do you like to sell your honey in the e-commerce store? (Liker Scale question) ][a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'a'

24. From where do you think you will get help to sell your honey in the e-commerce platform?

Youtube, Government workshop

Respondent No. 4:- Mr. Ramneichan Haorei, 30, M Pre-Intervention Questionnaire

43. For How many years have the people and their ancestors been practicing honey culture (Apiculture)?

150 years

44. What are the three major benefits you get by the honey culture?

Medicinal property , use in different deserts

45. How many months does it require to collect honey from the culture? 3-4 months

46. Do people have adequate knowledge in honey culture to maximize their profit? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'c'

47. Are people in Walely efficient enough to market their honey in the Ukhrl Market? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree] 'd'

48. What sort of techniques are being followed in the honey culture? (Traditional or Advanced)

Traditional

49. Are you using the honey for your own purpose or commercial purpose too? Own Purpose

50. Price of honey in the local market?

600-800rupees

51. Amount of honey you are getting in a year? 4-5 kgs per hive

52. What type of vegetation is required for honey cultivation? flora and Fauna diverse vegetation

53. Have you received any schemes from the Government to promote your honey business? No

54. What maximum profit you have earned form selling their honey?

4000 rupees

55. What are the problems are you facing in marketing of your honey in local market? Transportation, better price, target customer

56. To whom you sell your honey in the market? direct customers very often

Post-Intervention

25. The middleman helped them to get their honey sell in the market? (Liker Scale question) ][a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'a'

26. How are you able to package your honey for the market?

In the reusable soft drink bottles

27. What are the transportation costs to send it (honey) to market?

200-500 rupees

28. What feedback are you getting from the shop owners?

More quantities of honey required

29. What more profit in rupees did they get as compared to the previous sell within the village?

Per kg now getting 100-200 more rupees

30. What plan you have made to boost their profit by taking the help of the middleman for selling in Market?

Increase in number of hives

31. Do you like to sell your honey in the e-commerce store? (Liker Scale question) ][a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'a'

32. From where do you think that you will get help to sell your honey in the e-commerce platform?

Youtube, Government workshop

Respondent No. 5 :- Mrs. Mayonmi Haorei, 36, F Pre-Intervention Questionnaire

57. For How many years have the people and

their ancestors been practicing honey culture (Apiculture)?

200 years

58. What are the three major benefits you get by the honey culture?

Medicinal property

59. How many months does it require to collect honey from the culture? 3-4 months

60. Do people have adequate knowledge in honey culture to maximize their profit? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'd'

61. Are people in Walely efficient enough to market their honey in the Ukhurul Market? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree] 'd'

62. What sort of techniques are being followed in the honey culture? (Traditional or Advanced)

Traditional

63. Are you using the honey for your own purpose or commercial purpose too? Own Purpose

64. Price of honey in the local market?

600-800 rupees per Kg

65. Amount of honey you are getting in a year? 4-5 Kgs per hive

66. What type of vegetation is required for honey cultivation?

Flora and Fauna diverse vegetation

67. Have you received any schemes from the Government to promote your honey business? No

68. What maximum profit you have earned form selling their honey?

2000 rupees

69. What are the problems you are facing in marketing of your honey in local market?

Transportation, better price, target customer

70. To whom you sell your honey in the market?

direct customers very often

Post-intervention

33. The middleman helped them to get their honey sell in the market? (Liker Scale question) [a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'b'

34. How are you able to package your honey for the market?

In the reusable soft drink bottles

35. What are the transportation costs to send it (honey) to market? 200-500 rupees

36. What feedback are you getting from the shop owners?

More quantities of honey required

37. What more profit in rupees did they get as compared to the previous sell within the village?

Per kg now getting 100-200 more rupees

38. What plan you have made to boost their profit by taking the help of the middleman for selling in Market?

Increase in number of hives

39. Do you like to sell your honey in the e-commerce store? (Liker Scale question) [a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'a'

40. From where do you think that you will get help to sell your honey in the e-commerce platform?

Youtube, Government workshop

Respondent No. 6 : Mr. Vassum Haorei, 58, M Pre-Intervention Questionnaire

71. For How many years have the people and their ancestors been practicing honey culture (Apiculture)?

200 years

72. What are the three major benefits you get by the honey culture? Immunity booster, medicinal property, used in deserts also

73. How many months does it require to collect honey from the culture? 3-4 months

74. Do people have adequate knowledge in honey culture to maximize their profit? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'd'

75. Are people in Walely efficient enough to market their honey in the Ukhurul Market? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree] 'd'

76. What sort of techniques are being followed in the honey culture? (Traditional or Advanced)

Traditional

77. Are you using the honey for your own purpose or commercial purpose too? Own Purpose

78. Price of honey in the local market? 600-800 rupees per KG

79. Amount of honey you are getting in a year? 4-5 Kgs per hive

80. What type of vegetation is required for honey cultivation?

Flora and Fauna diverse vegetation

81. Have you received any schemes of Government to promote honey business?

No

82. How maximum profit have you earned form selling honey? 4000 rupees

83. What are the problems you are facing in marketing of your honey in local market?

Transportation, better price, target customer

84. To whom you sell your honey in the market?  
direct customers very often

Post-intervention Questionnaire

41. The middleman helped them to get their honey sell in the market? (Liker Scale question) ][a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'a'

42. How are you able to package your honey for the market?

In the reusable soft drink bottles

43. What are the transportation costs to send it (honey) to market? 200-500 rupees

44. What feedback are you getting from the shop owners?

More quantities of honey required

45. What more profit in rupees did they get as compared to the previous sell within the village?

100-200 Rupees more per Kg

46. What plan you have made to boost their profit by taking the help of the middleman for selling in Market?

Increase in number of hives

47. Do you like to sell your honey in the e-commerce store? (Liker Scale question) ][a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'a'

48. From where do you think that you will get help to sell your honey in the e-commerce platform?

Youtube, Government workshop

Respondent No. 7: - Mr. Themreisung Haorei, 44, M  
Pre-Intervention Questionnaire

85. For How many years have the people and their ancestors been practicing honey culture (Apiculture)?

200 years

86. What are the three major benefits you get by the honey culture?

Medicinal property

87. How many months does it require to collect honey from the culture? 3-4 months

88. Do people have adequate knowledge in honey culture to maximize their profit? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'd'

89. Are people in Walely efficient enough to

market their honey in the Ukhrul Market? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree] 'd'

90. What sort of techniques are being followed in the honey culture? (Traditional or Advanced)  
Traditional

91. Are you using the honey for your own purpose or commercial purpose too? Own Purpose

92. Price of honey in the local market?

600-800 rupees per KG

93. Amount of honey you are getting in a year?  
4-5 kgs per hive

94. What type of vegetation is required for honey cultivation?

Flora and Fauna diverse vegetation

95. Have you received any schemes from the Government to promote your honey business? No

96. What maximum profit you have earned form selling their honey?

4000 rupees

97. What are the problems you are facing in marketing of your honey in local market?

Transportation, better price, target customer

98. To whom you sell your honey in the market?  
direct customers very often

Post-intervention

49. The middleman helped them to get their honey sell in the market? (Liker Scale question) ][a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'a'

50. How are you able to package your honey for the market?

In the reusable soft drink bottles

51. What are the transportation costs to send it (honey) to market? 200-500 rupees

52. What feedback are you getting from the shop owners?

More quantities of honey required

53. What more profit in rupees did they get as compared to the previous sell within the village?

100-200 rupees per Kg

54. What plan you have made to boost their profit by taking the help of the middleman for selling in Market?

Increase in number of hives

55. Do you like to sell your honey in the e-commerce store? (Liker Scale question) ][a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'a'

56. From where do you think that you will get

help to sell your honey in the e-commerce platform?

Youtube, Government workshop

Respondent No. 8 :- Mrs Chenreiphi Haorei, 31, F Pre-Intervention Questionnaire

99. For How many years have the people and their ancestors been practicing honey culture (Apiculture)?

200 years

100. What are the three major benefits you get by the honey culture?

Immunity booster

101. How many months does it require to collect honey from the culture? 3-4 months

102. Do people have adequate knowledge in honey culture to maximize their profit? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'd'

103. Are people in Walely efficient enough to market their honey in the Ukhrl Market? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'd'

104. What sort of techniques are being followed in the honey culture? (Traditional or Advanced)

Traditional

105. Are you using the honey for your own purpose or commercial purpose too? Own purpose

106. Price of honey in the local market? 600-800 rupees per Kg

107. Amount of honey you are getting in a year? 4-5 Kgs per hive

108. What type of vegetation is required for honey cultivation?

Flora and Fauna diverse vegetation

109. Have you received any schemes from the Government to promote your honey business? No

110. What maximum profit you have earned form selling their honey?

2000 rupees

111. What are the problems you are facing in marketing of your honey in local market? Transportation, better price, target customer

112. To whom you sell your honey in the market? direct customers very often

Post-Intervention Questionnaire

57. The middleman helped them to get their honey sell in the market? (Liker Scale question) ) [a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'a'

58. How are you able to package your honey for the market?

In the reusable soft drink bottles

59. What are the transportation costs to send it (honey) to market? 200-500 rupees

60. What feedback are you getting from the shop owners?

More quantities of honey required

61. What more profit in rupees did they get as compared to the previous sell within the village?

100-200 rupees more per Kg

62. What plan you have made to boost their profit by taking the help of the middleman for selling in Market?

Increase in number of hives

63. Do you like to sell your honey in the e-commerce store? (Liker Scale question) ) [a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'a'

64. From where do you think that you will get help to sell your honey in the e-commerce platform?

Youtube, Government workshop

Respondent No. 9 :- Mr Ningham Haorei, 30, M Pre-Intervention Questionnaire

113. For How many years have the people and their ancestors been practicing honey culture (Apiculture)?

150 years

114. What are the three major benefits you get by the honey culture? Medicinal Property, use in different desert

115. How many months does it require to collect honey from the culture? 3-4 months

116. Do people have adequate knowledge in honey culture to maximize their profit? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'c'

117. Are people in Walely efficient enough to market their honey in the Ukhrl Market? (Liker Scale question)[a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'd'

118. What sort of techniques are being followed in the honey culture? (Traditional or Advanced)

Traditional

119. Are you using the honey for your own purpose or commercial purpose too? Own Purpose

120. Price of honey in the local market?

600-800 rupees per Kg

121. Amount of honey you are getting in a year?

4-5 Kgs per Hive

122. What type of vegetation is required for honey cultivation?

Flora and Fauna diverse vegetation

123. Have you received any schemes from the Government to promote your honey business? No

124. What maximum profit you have earned from selling their honey?

4000 rupees

125. What are the problems you are facing in marketing of your honey in local market? Transportation, better price, target customer

126. To whom you sell your honey in the market? direct customers very often

Post-intervention Questionnaire

65. The middleman helped them to get their honey sell in the market? (Liker Scale question) ) [a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'b'

66. How are you able to package your honey for the market?

In the reusable soft drink bottles

67. What are the transportation costs to send it (honey) to market? 200-500 rupees

68. What feedback are you getting from the shop owners? More quantities of honey required

69. What more profit in rupees did they get as compared to the previous sell within the village?

Per kg now getting 100-200 more rupees

70. What plan you have made to boost their profit by taking the help of the middleman for selling in Market?

Increase in number of hives

71. Do you like to sell your honey in the e-commerce store? (Liker Scale question) ) [a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'a'

72. From where do you think that you will get help to sell your honey in the e-commerce platform?

Youtube, Government workshop

Respondent No. 10 :- Mr. Hormi Kasomwo, 33, M

Pre-Intervention Questionnaire

127. For How many years have the people and their ancestors been practicing honey culture (Apiculture)?

150 years

128. What are the three major benefits you get by the honey culture? Medicinal Property , use in different desert

129. How many months does it require to collect honey from the culture? 3-4 months

130. Do people have adequate knowledge in honey culture to maximize their profit? (Liker Scale question) [a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'd'

131. Are people in Walely efficient enough to market their honey in the Ukhurul Market? (Liker Scale question) [a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'd'

132. What sort of techniques are being followed in the honey culture? (Traditional or Advanced)

Traditional

133. Are you using the honey for your own purpose or commercial purpose too? Own Purpose

134. Price of honey in the local market?

600-800 rupees per Kg

135. Amount of honey you are getting in a year? 4-5 Kgs per Hive

136. What type of vegetation is required for honey cultivation? Flora and Fauna diverse vegetation

137. Have you received any schemes from the Government to promote your honey business? No

138. What maximum profit have you earned from selling honey? 1000 rupees

139. What are the problems you are facing in marketing of your honey in local market? Transportation, better price, target customer

140. To whom you sell your honey in the market? direct customers very often

Post-Intervention Questionnaire

73. The middleman helped them to get their honey sell in the market? (Liker Scale question) ) [a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree]

'a'

74. How are you able to package your honey for the market?

In the reusable soft drink bottles

75. What are the transportation costs to send it (honey) to market? 200-500 rupees

76. What feedback are you getting from the shop owners? More quantities of honey required

77. What more profit in rupees did they get as compared to the previous sell within the village?

Per kg now getting 100-200 more rupees

78. What plan you have made to boost their profit by taking the help of the middleman for selling in Market?

Increase in number of hives



79. Do you like to sell your honey in the e-commerce store? (Liker Scale question) ) [a. Strongly agree, b. Agree c. Neutral d. Disagree e. Strongly Disagree] 'a'

- o) 2
- p) 3
- q) 4
- r) 5

80. From where do you think that you will get help to sell your honey in the e-commerce platform?

Youtube, Government workshop

**Questionnaire:-**

Where do you buy honey for your own consumption? \*

- a) Malls
- b) Local Shops
- c) Direct from Honey collectors
- d) Bee Farms
- e) Online Sellers

What do you check first when you buy honey from anywhere? \*

- f) Price of Honey
- g) Quality of Honey
- h) Price and Quality of Honey

What are your thoughts on Honey quality from different sellers? \*

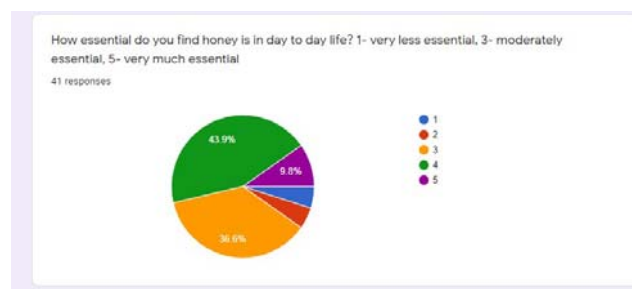
- i) Big brands have best quality honey
- j) Honey collectors sell best honey at doorsteps
- k) Rural communities or groups sell best quality honey

Would you prefer to buy honey from the Tribal Community of Walely, Manipur? \*

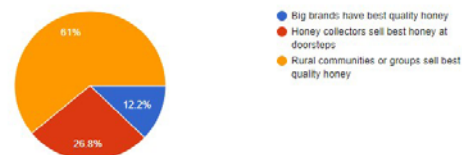
- l) Yes
- m) No

How essential do you find honey is in day-to-day life of a person? 1- very less essential, 3- moderately essential, 5- very much essential \*

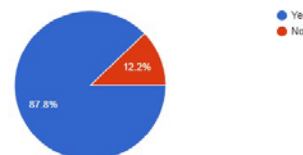
- n) 1



What is your thought on Honey quality about different sellers? 41 responses



Would you prefer to buy honey from the Tribal Community of Walely, Manipur? 41 responses



**Findings**

The rural people are yet to be well educated about the e-commerce website so that they will be able to sell their products online. The rural people also need to be financially aware so that they can also manage their livelihoods in their way with no external agencies and no middleman.

The connectivity should be better in the rural parts so that the goods and other accessories can be transferred to the

urban market from the rural region. If we see much of Indian rural areas, they have issues related to the communication between the urban and transportation to the urban area. The people must write a plea to the Ministry of Road and Transport department to look into the transportation in their respective districts.

To bring the village Walely in limelight I have conducted a survey from my own with the help of my batchmates and my junior batch. The village people are eager to grow their product selling through online websites. People also in that

village are eager to know about how this online business works. The ground report was that inadequate knowledge of rural people was hampering their business and marketing their products in the local market.

## Conclusion

People in rural areas are still way behind the urban areas even in this 21st century. We need to make them aware of all the dimensions of marketing, finance, inventory management, livelihood skill development, and online mode of doing business.

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## About the Author

Ashis Kumar Mohanty, pursuing MBA in Rural Management in Xavier Institute of Management University Bhubaneswar, has also completed his M.Sc in Electronic Science from Berhampur University. He holds a bachelor's degree in Physics from Khallikote Autonomous College, Berhampur, Odisha. After completing M.Sc, he joined a private coaching institute for 17 months as a lecturer of physics. He has worked with 'HCL Foundation' as an intern for 60 days in the role of Educational Instructor for the urban slums of Delhi, Nodia. He has worked for 2 months as an intern with 'LetsEndorse' in association with SIDBI as a consultant to the rural people who were planning to start new business. He has also worked for 3 months for the 'Youth empowerment Foundation' as a fundraiser for empowering the youth in India belonging to the backward region of India. He has completed 2 months as Brand Ambassador of 'Tutedude' online education platform, started by an IIT Delhi alumni. He has conducted this action research project as an intern at MGNCRE.

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**Annexures**



Figure 1. :- Showing the bee hives that are being prepared by the local carpenter



Figure 4. :- The Village authority Council with some of the honey cultivators



Figure 2. :- There was a workshop for the village people for acquiring advance techniques of bee keeping



Figure 5. :- Declaration of Khamasom Walely as honey village by the Member of Parliament from Manipur and MLA of Manipur

Figure 3. :- The picture of Yang Honey they used to prepare



Figure 6. :- Workshop on Honey Cultivation



Figure 7. :- The black line below the house with the hole is where the bee hive is kept.

## 6. Impact of COVID-19 on Small Scale Fishermen of Balarampur Village of West Bengal

### An Action Research Project

Mehfoozur Raheman

#### Abstract

*Action Research is an intervention that will help the small-scale fishermen of Balarampur village in increasing their income and in doing more efficient business. The role of the trader here is important as he is the one who is helping out the fishermen and the fishermen need to build a healthy relationship with him so that as time passes by, they can take his help in developing other fish ventures. This action research will also give the fishermen ideas and build them strong to move forward. The trader along with the fishermen helps to avoid the problem of middlemen or the fishmongers who buy the catch at a much lower rate from the fishermen.*

**Key Words:** Action Research, fishermen, trader, income

#### Introduction

According to Census 2011 information the location code or village code of Balarampur village is 341501. Balarampur village is located in Kharagpur I Tehsil of Paschim Medinipur district in West Bengal, India. Midnapur and Kharagpur are the district and sub-district headquarters of Balarampur village respectively. As per 2009 stats, Arjuni is the Gram Panchayat of Balarampur village.

There is no previous published record regarding different fish species found in fish markets of Kharagpur town. The place is internationally renowned due to the first Institute of Technology of India. Due to the largest railway establishment in Kharagpur town, an influx of population is always there from different states. As such their food preference and cultural practice are different. The present survey is relevant to depict fish preference of the town dwellers and the socio-economic status of market associated people.

The total geographical area of the village is 152.98 hectares. Balarampur has a total population of 1,133 people. There are about 245 houses in Balarampur village. Kharagpur is the nearest town to Balarampur which is approximately 11km away.

Fish is a vital part of the regular diet and a cheap source of protein for people. India was the second-largest fish-producing country in the world in 2008-2010, 2012 and in 2017 ranked third (Barange et al. 2007). India has a coastline of 7 516 km, an Exclusive Economic Zone (EEZ) of 2.02 million km<sup>2</sup> and more than 1 billion people (nearly 20 percent) live in the coastal areas. Export earnings from fish and fishery products total about USD 7.2 billion in 2017, with shrimps contributing over 65 percent (Barange et al. 2007). An effective marketing system makes fish available to consumers at the right time and in the right place (Goswami et al. 2002). Transformation of

socioeconomic condition of marketing people is only possible when intra and interlinkage from producer to consumer function efficiently (Goswami et al. 2002 and Ghorai et al. 2014). It is a chain of various systems involved in marketing (Alam et al. 2010). As fish and fishery products are highly traded commodities, fish production has a necessary part of its marketing process to complete the entire cycle of fishery management. West Bengal is the only state of the country, where fish are cultivated in every kind of water body i.e., brackish water, fresh instead of sweet water, sewage water, marine water, etc. Fresh water and marine fish marketing play an important role in the economy of West Bengal as well as in India. Kharagpur is one of the major towns of Paschim Medinipur district of West Bengal, India, sometimes called mini-India because inhabitants of this town belong to different religions and from almost all states of India. Kharagpur gets a very good facility for its topographical position. Communication facilities on road and railways are well connected and fish markets are situated near the Kharagpur Railway Station and also at the side of the national highway. To transport fish over larger distances from Digha and adjoining areas of Belda, Panskura, Mecheda, Bhogpur, Moyna, etc and also from other states are well connected by road and railways. Two types of fish are found here as ice preserved fish and live fish. Normally Shol (*Channa striatus*), Pangus (*Pangasius pangasius*), Koi (*Anabas testudineus*), Shingi (*Heteropneustes fossilis*), Magur (*Clarias batrachus*) etc. are transported here as a life form. Preserved fish are carried to the market in iceboxes or cages but live fish by drum or tray. In Kharagpur landing facilities belong to municipal authorities. There are well-landing facilities in Kharagpur fish markets such as sheds, packing sheds, landing terminals and proper drainage facilities. It is the place where the demand for both fresh water and marine fish exists side by side. Traditionally places, where buyers and sellers are brought together to purchase or sell fish, are referred to as fish

markets. A total of 13 fish markets are established in Balarampur and Kharagpur town and a few markets are present surrounding the Kharagpur town. In Kharagpur total number of wholesalers is 50 to 60. Over 400 people are associated with the trading as day labourers and they get Rs 300-1000 per day for their work support. They are not only the people of Kharagpur, they belong to different districts of West Bengal that are involved in the fish marketing channels. Historians claim that in the 16th century, Kharagpur was still a small village surrounded by dense forests. The village was on

### **Brief Introduction about the Challenge**

I will be working on the marketing of the fish which are being caught by the fishermen of Balarampur village near Kharagpur West Bengal. Here in the village the fish which are caught are being bought by fishmongers at a reasonable price and not

### **Review of the Literature**

West Bengal is endowed with all kinds of fishery resources, plenty of rivers, water estuaries, lakes, ponds, bays, etc. There exists the most suited agro climate for aquaculture of fishes. It is a gift of nature to the people of Bengal. The people of this state also have high consumption habits of fish. 80% of people of the state consume fishes-urban people consume more than rural. There are popular sayings in Bengali that 'Sujala Suphala Sasya Shyamala Bangla' and 'Mache Bhate Bangali' mean that West Bengal is an ideal place for fish farming having large natural resources and the people of West Bengal are fond of fish hereditary. Fishes also have a universal taste with continuous growth in global market demand. Moreover, there are huge abundant and diversified resources that remained untouched due to lack of infrastructure and technological facilities. This sector has the unlimited unharnessed potentiality of development.

According to FAO, aquaculture can make a significant contribution to global food security and economic growth if it is developed and practiced in a sustainable manner and 60% of fish food will come from aquaculture by 2030. Out of 2, 76,202 ha area under ponds and tanks only 2, 20,000 ha i.e., 79.65% are presently used for aquaculture which means 20.35% remains unused. Moreover, out of 5, 91,476.71 ha total inland water resource only 2.87000 ha water area are brought under aquaculture which means 51.48% remains unused (Jhingran V.G. 1991). The fish production of West Bengal is increasing over the years but the productivity of the fishery sector shows a very slow enhancement over the years due to lack of high-quality fish seeds in the proper ratio, lack of marketing infrastructure, socioeconomic and environmental constraints (Roy, 2008) and again most farmers used to follow traditional technology due to the absence of fishery extension services (Singh, 2001). Due to legal problems among owners, rivalry, theft, lack of renovation of existing ponds, etc. have kept large

high rocky barren land. The only inhabited settlement near Kharagpur was Hijli. Hijli was a small island village on the banks of the Rasulpur River, in the delta of the Bay of Bengal. It developed into a port town in 1687. Hijli was also a province and it existed until 1886. It covered parts of Bengal and Orissa. It had important towns like Tamluk, Panskura and Debra, along with the Kelghai and Haldi rivers on the north, south and east sides bounded by Bay of Bengal and Kharagpur, Keshiary, Dantan and Jaleswar on the west.

regularly which creates a problem for the fishermen. Traders buy the fish from this community and pay them the price by weighing the fish. This will be the action research project.

numbers of potential water bodies unproductive which could have played an important role in bridging the gap between demand and supply. Farm to farm differences in aquaculture practices is also considered important factors contributing to the variations in productivity. There is a huge difference in the size of the fish farms, species cultured, stocking density, fish seed procurement, nursery management, feed and feeding management, pond preparation, harvesting frequency, mode of fish marketing, source of information on aquaculture, fish seeds and treatment of diseases, etc. (Abraham et al., 2010).The Covid-19 related study aimed at analysing the challenges in marketing and selling fish products faced by traditional merchants during the pandemic crisis.

Many studies proved that more marketing and selling of basic needs face various challenges caused by economic difficulties since the outbreak of Corona Virus 2019. It is common to find the improvement of fishermen's incomes as an objective of fisheries management systems, especially in the case of developing countries. Yet, it remains very difficult to find cases where such an objective has been attained. The purpose of this paper is to consider the reasons for the widespread failure to achieve a sustainable improvement in fishermen's incomes and to make policy proposals designed to improve the chances of achieving this goal in the future. The conclusions reached seem likely to be especially relevant to develop countries, but may also apply to developed countries with regions that are dependent on fishing. Previous studies of small-scale fishermen's incomes elsewhere have been based on fishing inputs as well as socioeconomic or demographic factors. Studies identifying factors that directly or indirectly relate to income can rarely be found here. These factors could be as diverse as the application of good fishing practices, knowledge gained from extension services, or the geographic location of the fishermen. Moreover, understanding the social,

demographic, cultural and economic situation in a particular area is crucial to fisheries management and planning. The availability of four-wheel-drive trucks can improve efficiency by providing good support during operations. The relationship between income and exploitation level is straightforward if the argument above is accepted. Fishermen's incomes in excess of opportunity income levels, at the margin, will attract extra fishermen to the fishery. As fishing effort increases, both catch and revenue per unit of effort (RPUE) will tend to decline. Fishing is a risky business. Not only do fishermen face the highest rate of work-related fatalities of any industry, with a fatality rate more than they face high financial risk as a result of high year-to-year variation in their income. In this article, we focus on the latter form of risk.

High annual variation in income is a problem that is common to a variety of occupations dependent on natural resources and there has been extensive study of income risk-coping mechanisms, particularly for farmers in developing countries. In the study conducted it was found that the unemployment was lower of 31% in fishing as compared to non-fishing (41%) and fishing-related activities (75%). Hence, this indicates that there is scope for amplifying inland fishing by providing appropriate training programs to patronize the social profile. At the same time, non-fishing activities like agriculture have an inevitable role in livelihood and generating higher economic returns when compared to fishing and fishing-related activities. While presenting consumption patterns, education was

### **Role of Trader**

The demand for fish in rural areas of West Bengal is increasing over time with the increase in purchasing power and standard of living. Although the state has registered high growth in fish production, the supply in the countryside is shrinking due to deceleration in areas arising out of situations like rural rivalry, litigation, theft, breaking of joint family, etc. The traditional system of fish production has failed to meet the growing demand, resulting in excessive dependence on commercially managed, organized fish production units, locally known as 'series' and on the supply from other fish producing States. The production as well demands fish in West Bengal is the

### **Role of Aquaculture**

The nutritional requirement is very crucial in a developing country such as India where malnutrition and starvation are the major problems faced by millions of rural dwellers. The low protein intake is an indication of a shortage of high-quality protein food in the diet of Indians. Despite the increase in the major sources of animal protein such as livestock and poultry industries, the problem of protein deficiency still continues unabated. The protein deficiency in the diet is equally associated with the inability of the fish farming industry to supply the required quantity of fish. The situation causes poor

accounted higher percentage than food, social ceremonies, clothes, health, transport, etc, the excess amount was saved in the institutional and non-institutional organizations. A review of relevant literature indicates that fishermen's income in a region is affected by a number of factors. Such variations can arise for several reasons, such as the number of fishermen in each region, the number and distribution of the villages in each region, the sharing of the resources between regions, the nature of the seabed in different regions, fishing habits of fishermen, available fish species, offshore distance to be travelled, market infrastructure, consumer habits, equipment used in fishing, availability of ice and fuel, activities of the extension service departments, the age and experience of the fishermen, the socioeconomic conditions of fishermen, types and nature of preferred buyers.

Furthermore, the role of demographic and socioeconomic variables (i.e., age of fishermen, literacy, relationship with the crew, boat ownership, partnership in other boats, income sharing and alternative sources of income) in determining income is important to explore. It is also important to explore the relationship between fishermen's income and their participation in the extension activities of the government. Although it has been observed that a passive attitude towards participation among fishermen's groups reduces the chances of success for fisheries regulations, whether this applies vice versa has not been taken into consideration.

highest in the country. The domestic demand for fish in West Bengal is high because almost all the people of West Bengal consume fish. One such trader accepted our request and visited the village to help the fishermen and help them in their livelihood. The trader has actually resolved the issue of bargaining with the fishmongers whom the fishermen used to sell before the intervention of the trader. The trader comes collects the fish and provides the fishermen with the money as per the weight of their catch. The trader can also help these fishermen by providing them with ice boxes for storage or also help in the fishing equipment.

health, low efficiency, low productivity, poor standard of living and a decline in the contribution of the fishery industry contribution to the Gross Domestic Product (GDP). By producing fish through aquaculture this problem may be overcome in West Bengal. A large number of rural employments are generated in aquaculture. Small-scale fish farming requires less capital and more labour. The woman workers may easily be engaged in fish farming. Fishermen are not only directly employed in fish farming but also some other alternative occupations like net making, marketing of fish seed

and fishery product, transport, etc. Many rural people may get employment in the production and distribution system. Since fish is a perishable commodity proper marketing channels should be established. Hence to reduce pressure from agriculture aquaculture may be the alternative occupation for generating income and employment for a large number of

### **Objectives of the Study**

The below were the things which were to be achieved after implementing the action:

- Increase in the income of the fishermen
- Avoiding irregularity in the selling process
- Avoiding any clash between trader and fish mongers who previously collected fish

### **Hypothesis of the Study**

After the discussion and finalization of the implementation of the action I decided to set a goal which I plan to achieve after the end of this action research which is as below

- The benefit of the fishermen from the village of Balarampur in terms of monetary and developing a connection with the trader and also making the fishermen self-sufficient.

### **Problem Identification**

- Decrease in income of the fishermen in the village of Balarampur
- They only sell their fishes to fish mongers who take the fishes in a cheap rate
- There is no other alternative of selling of fishes so the fish mongers play monopoly

### **Methodology**

The present study was performed to assess the socio-economic status of inland fishermen in Theni province, India. The primary and secondary data were employed. The primary data was collected from 12 respondents. Secondary data sourced the published data from the Department of Fisheries, Government of West Bengal. The percentage analysis and tabular analysis were done in Microsoft office 2010.

poor people. Due to supply chain management, some rural infrastructures like connecting roads for the transport of fish, markets for selling/buying fish, cold storage and electricity connection may be developed. The rural development may bust up purchasing power and standard of living of rural.

### **Both Primary and Secondary Survey**

- There would be a questionnaire-based survey done among the fishermen regarding the problems and income
- Based on the survey there will be an introduction of trader into the village
- Post the implementation of the intervention planned, a survey would be conducted again to know the progress and improvement in the income of the fishermen.

### **Actions Planned to address the Challenge**

After going through several papers and visiting the villages several times and assessing the conditions I decided to plan an action to address the challenge which was faced by the fishermen of the village. First, I had to convey my plan to the fishermen and took their views and convinced them that the action will fetch better results. I had planned to

- Introduce the concept of trader who will be visiting the village every day and collect the fish in bulk which are being caught by the fishermen of the village.
- The fishermen will be paid their hare of money by the trader after weighing the quantity of fish caught by each fisherman
- There would be no intervention of any third party here and this would be a direct communication between the fishermen and the trader
- This would help in getting the fishermen their fair share of money and their catch would not be wasted.

### **Implementation of Action Research Steps**

The below steps were implemented as planned for action to face the challenge identified

- The trader was first identified and explained him the problem of the village, he then paid visit to the village one fine day and had a talk with the fishermen and took a look at the whole fish catching procedure.
- He would visit the village everyday early in the morning and collect the fishes

- The fishes would be weighed for each fisherman and the money would be given then and there according to the weight.
- The rates provided by the trader were pretty much as the market rate and the fishermen were satisfied.

- They didn't have to sell it in much lesser price to the fish mongers who would bargain from them and buy their catch.
- Down the line the fishermen could also approach the trader for ice boxes for storage of their fishes.

### Process of Implementation of Study

During the implementation of the action, a proper process was followed and with it, I had some checkpoints which we ticked during the process. First of all, the village was identified and I visited the village twice before talking regarding the issue with the fishermen. Then after that, a detailed discussion was made along with the fishermen and their problem was understood. After understanding their problems several solutions were provided to them after discussion and after several discussions, the trader model implementation was finalized. Then the next task was to approach the trader and convince him to visit the village to collect fish. After approaching four traders one agreed to visit the village and after talking with the fishermen and finalizing the tasks, he was assured to start the process from the next day. A pre-implementation survey was conducted

among the fishermen and their responses were recorded which is mentioned in the data collection part. After the survey, the implementation process was started. Every day early morning the fishermen used to catch the fish and then the trader visited the village to collect the fish. During the collection of fishes, they were weighed with the weighing machine and according to the weights, each fisherman was paid then and there according to the market rates. The whole process right from catching and selling and getting the money was around 5 hours. Once the payment was done to the fishermen by the trader the trader took the fish and sold it in the market or exported it. Post the implementation and following this process for 10 days another survey was taken which was called the post-implementation survey and again the details were collected from the fishermen regarding the initiative, we have also mentioned this in the data collection part.

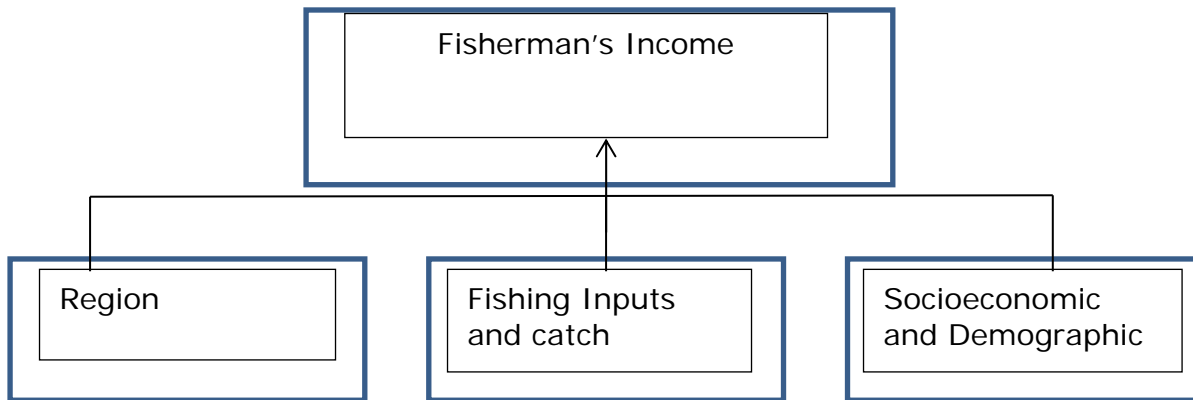


Fig 1- Framework of Fishermen's knowledge

### About the Trader

Fish cultivation, starting out as a pastime, has evolved into a successful aqua-industry. The fish-keepers, who form the backbone of this industry, have given it the status of the world's second most popular hobby of selling or exporting.

### Data Collection and Analysis

The primary data was collected from 10 fishermen of the village. They were interviewed according to a set of questionnaires prepared and their responses were analysed.

From the below responses taken from the fishermen we could find the following things:



- Fishing is the main occupation of this village and it is being carried out from years and generations in case of some families.
- The best season to do fishing as mentioned by the fishermen is from October till March.
- From the 11 respondents we found that only one fisherman had his own land which he used for fishing and also rented it with others and rest all of them used to fish in the rented land and paid a yearly fee ranging from 6000 to 8000.
- The income generated by the farmers ranges from 9000 till 10000.
- The fish mongers try to bargain and take the fishes at a much lower rate from the fishermen
- There is no storage facility like ice boxes for fish storage.

Order	Family	Scientific name	Local name	Iucn	Use	Rs/Kg
Cypriniformes	Cyprinidae	1. <i>Amblypharyngodon mola</i> (Hamilton,1822)	Mourola	LC	Food Ornamental	300-400
		2. <i>Puntius sarana</i> (Hamilton,1822)	Punti	LC	Food Ornamental	150-250
		3. <i>Puntius sophore</i> (Hamilton,1822)	Punti	LC	Food Ornamental	150-250
		4. <i>Puntius chola</i> (Hamilton,1822)	Punti	LC	Food, Ornamental	150-250
		5. <i>Labeo rohita</i> (Hamilton,1822)	Rohu	LC	Food	200-300
		6. <i>Labeo bata</i> Day, 1878	Bata	LC	Food	150-300
		7. <i>Labeo calbasu</i> (Hamilton,1822)	Kalbose	LC	Food	200-250
		8. <i>Cirrhinus mrigala</i> (Hamilton,1822)	Mrigel	LC	Food	150-200
		9. <i>Catla catla</i> (Hamilton,1822)	Katla	NE	Food	250-350
Clupeiformes	Clupeidae	10. <i>Gudusia chapra</i> (Hamilton,1822)	Khaira	LC	Food	120-200
Osteoglossi formes	Notopteridae	11. <i>Notopterus notopterus</i> (Pallas,1769)	Phulai	LC	Ornamental Food	150-230
Perciformes	Anabantidae	12. <i>Chitala chitala</i> (Hamilton,1822)	Chital	EN	Ornamental, Food	200-300
		13. <i>Anabas testudineus</i> (Bloch,1792)	Koi	DD	Ornamental, Food	200-400
	Latidae	14. <i>Lates calcarifer</i> (Bloch,1790)	Bhetki	NE	Food	200-350
		Ambassidae	15. <i>Parambassis ranga</i> (Hamilton,1822)	Chanda	NE	Ornamental, Food
	16. <i>Chanda nama</i> Hamilton,1822		Chanda	LC	Ornamental, Food	120-200
	Ophiocephali formes	Nandidae	17. <i>Nandus nandus</i> (Hamilton,1822)	Bheda	NT	Food
18. <i>Channa punctatus</i> (Bloch,1793)			Lata	LC	Food	100-150
19. <i>Channa striatus</i> (Bloch,1793)			Shol	NE	Ornamental, Food	150-250
Siluriformes	Bagridae	20. <i>Mystus vittatus</i> (Bloch,1794)	Tangra	LC	Ornamental, Food	200-250
		21. <i>Mystus cavasius</i> (Hamilton,1822)	Tangra	LC	Food, Ornamental	150-250
		22. <i>Mystus tengara</i> (Hamilton,1822)	Tangra	LC	Food, Ornamental	200-250
	Clariidae	23. <i>Clarias batrachus</i> (Linnaeus,1758)	Magur	LC	Ornamental Food	250-300
Masta cembeliformes	Pangasidae	24. <i>Pangasius pangasius</i> (Hamilton,1822)	Pangus	LC	Food	160-200
	Siluridae	25. <i>Wallago attu</i> (Bloch and Schneider, 1801)	Boal	NT	Food	200-300
	Heteropneustidae	26. <i>Heteropneustes fossilis</i> (Bloch,1794)	Singi	LC	Ornamental Food	300-600
Masta cembeliformes	Mastacembelidae	27. <i>Mastacembelus armatus</i> (Scopoli, 1777)	Pankal	NT	Ornamental Food	150-200
		28. <i>Macrognathus pancalus</i> (Hamilton,1822)	Pankal	LC	Food	170-200

Fig 2- Varieties of Fish

Order	Family	Scientific name	Local name	lucn	Use	Rs/Kg
Perciformes	Carangidae	1. <i>Megalaspis cordyla</i> (Linnaeus,1758)	Mackrel	LC	Food	150-180
		2. <i>Selar boops</i> (Cuvier, 1833)	Kankurda	NT	Food	140-200
		3. <i>Decapterus macrosoma</i> Bleeker,1851	Pepsi fish	NT	Food	140-160
	Trichuridae	4. <i>Trichiurus lepturus</i> Linnaeus,1758	Rupa pati	LC	Food	150-180
	Polynemidae	5. <i>Polynemus paradiseus</i> Linnaeus,1758	Tapse	LC	Food	200-250
	Serranidae	6. <i>Daysciaena albida</i> (Cuvier,1830)	Vola	LC	Food	150-250
		7. <i>Epinephelus coioides</i> (Hamilton,1822)	Bol	LC	Food	160-180
	Stromataeidae	8. <i>Pampus chinensis</i> (Euphrasen,1788)	Pomfret/Boul Chanda	NE	Food	250-350
Clupeiformes	Clupeidae	9. <i>Pampus argentius</i> (Euphrasen,1788)	Pomfret	NE	Food	300-600
		10. <i>Tenualosa ilisha</i> (Hamilton,1822)	Ilish	LC	Food	350-800
	11. <i>Raconda russeliana</i> Gray,1831	Kuna phasa	NE	Food	120-150	
	Engraulidae	12. <i>Setipina taty</i> (Valenciennes,1848)	phasa	NT	Food	130-150
Dussumieriidae	13. <i>Dussumieria acuta</i> Valenciennes,1847	Chala	LC	Food	120-140	
Mugiliformes	Mugilidae	14. <i>Rhinomugil corsula</i> (Hamilton,1822)	Bhangon	LC	Food	250-350
		<i>Mugil parsia</i> Hamilton,1822	Parse	NE	Food	200-250
Rajiformes	Dasyatidae	15. <i>Himantura bleekeri</i> (Blyth,1860)	Trygon	VU	Food	150-180
Scopeliformes	Synodontidae	16. <i>Harpadon nehereus</i> (Hamilton,1822)	Loita	NE	Food	120-150
Anguilliformes	Muraenesocidae	17. <i>Muraenesox talabonoides</i> (Bleeker, 1853)	Ban	NE	Food	100-150
Siluriformes	Ariidae	18. <i>Arius maculatus</i> (Thunberg,1792)	Artengra	LC	Food	100-160

Fig 3- Fish scientific names and price

Order	Family	Scientific name	Local Name	lucn	Use	Rs/Kg
Decapoda	Penaeidae	1. <i>Paeneus monodon</i> Fabricius, 1798	Bagda chingri	NE	Food	400-600
		2. <i>Paeneus indicus</i> H. Milne Edwards, 1837	Bagda chingri	NE	Food	300-400
		3. <i>Metapenaeus monoceros</i> (Fabricius,1798)	Harina chingri	NE	Food	400-500
	Plaemonidae	4. <i>Macrobracrium rosenbergii</i> (de Man, 1879)	Golda chingri	LC	Food	450-600

Fig 4- Fish scientific names and price

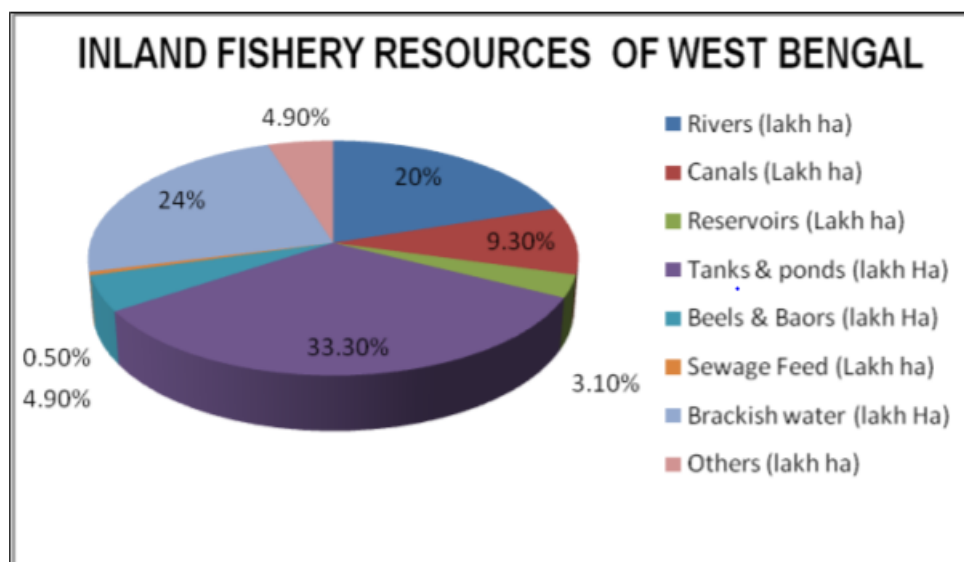


Fig 4- Pie chart showing fishery sources of WB

<b>Marine</b>		
Length of coast line (Km)	158	
Continental Shelf ('000 sq km)	17	
Number of Fish Landing Centers	59	
No of Fishing villages	188	
No of fishermen families	76981	
Fisher-folk population	3800138	
<b>Inland</b>		<b>%</b>
Total inland water bodies (lakh Ha)	<b>8.65</b>	<b>100%</b>
Rivers (lakh ha)	1.72	20%
Canals (Lakh ha)	0.80	9.3%
Reservoirs (Lakh ha)	0.27	3.1%
Tanks & ponds (lakh Ha)	2.88	33.3%
Beels & Baors (lakh Ha)	0.42	4.9%
Sewage Feed (Lakh ha)	0.04	0.5%
Brackish water (lakh Ha)	2.10	24%
Others (lakh ha)	0.42	4.9%

Fig 5- Table depicting the coastline of WB

- COVID-19 has hit the market drastically we now sell fishes at a much lower rate to the fish mongers.
- Definitely we want to increase our income and if it is beneficial for us then we will surely go for it.
- Yes, we can get attached to a trader if he gives us the right amount of money for our catch.

## Findings

After implementing the action, we got the below results which we took after 10 days. The below table has been made to understand the situation before and after the intervention. Before the intervention, the fishermen had to sell their catch at a much lesser rate to the fishmongers and the fishmongers would bargain with them as well but after the intervention was implemented the income has increased

and we can see that in terms of percentage change it is 36.36%. The fishermen do not have to worry as well now for their catch to sell because the trader comes and takes it up from the village itself. The prices which the trader gives are according to the actual market rate. The intervention was applauded by the fishermen of the village and they liked the idea very much.

Before Implementation of Action					
S/No	Per day Income	Monthly Income	What type of fishes did they sell	Sell to Whom	Percentage Change in the Income
1	350	10500	Rohu, Katlab, Silver, Bata and other small fishes	Fish mongers	36.364
After Implementation of Action					
1	550	16500	Rohu, Katlab, Silver, Bata and other small fishes	Trader	

Fig 6- Price increase calculation

Here in the above table, I have taken the minimum increase in the income as 550. There are fishermen who are getting up to 700 as well according to the types of fishes and their catch quantity as well.

We saw that by taking 550 as the increased income the change is about 36.36% and this is monthly increase.

If we see this on a yearly basis then we can have the below calculation:

Monthly Increase of 200 which is from 550-350 = 200

## Conclusion

The intervention was planned and after several rounds of discussions with the MGNCRE team, I went ahead with the proposal to the fishermen of the village. Upon listening to the idea, they were happy and asked several questions as to how this would be feasible, from when would this be implemented and others as well. Upon discussing with the leader from them I went ahead to find the trader who was an important part of this intervention. After talking with four traders two of them agreed to visit the village and check the necessary things and had a chat with the fishermen. Hence, we finalized on a trader and right from the next day he started the process. I accompanied him on the starting day and the next day and then visited the village after 10 days of implementation. Meanwhile, I had talks with the trader as well as the fishermen and noted the whereabouts. This intervention actually benefitted both the players, especially the fishermen. The trader also told that down the line if the fishermen are ready then he would provide them with the thermocouple ice boxes, fishing equipment at a reasonable rate and also if anyone wants to do fish farming as well, he would support them. This was a very positive response from the trader and we hope it continues further and the bond among the fishermen and trader becomes stronger. We came here with some objectives and ticked the boxes.

The COVID-19 shock is playing out in almost a similar manner all around the world by squeezing out demand and supply and the consequent economic slowdown. In India, the problem might be long-lasting because before the pre-COVID-19 period Indian economy had deteriorated significantly after years of infirm performance (Dev & Sengupta, 2020). In 2018-19 India's fish production was 13.34 million metric tonnes which were about percent greater than the previous year (Seafood Source, 2020). As per seafood exports are concerned, it is the fourth biggest exporter in the world.

Aquaculture provides employment to the rural poor people. The women workers are also engaged in family or neighbour fish farms. The small fishery requires more labour and less capital. Private entrepreneurs also find interest to invest in the ancillary business of the fishery sector.

If we go by this then yearly it will be  $(200 * 30) * 12 = 72000$ . This is the least increase which we are calculating.

Previously the yearly income was  $(350*30)* 12 = \text{INR } 126,000$

Now after the intervention the income is roughly  $(550 * 30) * 12 = \text{INR } 198,000$

The percentage change if we see is as follows:

$\{(198,000 - 126,000)/ 198000\} * 100 = 36.36\%$

West Bengal has a vast water resource potentiality. By utilizing these water resources there are huge prospects of aquaculture of fishes. These resources can be divided into two categories: i) Inland and ii) Marine. Inland resources constitute both capture and culture areas like ponds, rivers, marshy lands, canals, reservoirs, etc. It should be noted that tanks/ponds occupy the major share i.e., 33.3% of total inland water resources. But out of 2.88 lakh ha area under ponds and tanks, only 2.2 lakh ha i.e., 76.4% are presently used for aquaculture which means 23.6% remains unused. Whereas, out of 6.55 lakh ha, total inland freshwater resource only 1.48 lakh ha water area is brought under aquaculture i.e., 22.60% are presently used and 77.40% remain unused. And out of 2.1 lakh ha, total inland brackish water resource (24%) only 0.58 lakh ha water area is brought under prawn culture i.e., 27.60% are presently used and 72.40% remains unused. These unused water resources can be brought under both freshwater pisciculture and saline water prawn culture through proper utilization.

Production of fish through aquaculture may be a better option to satisfy the demand for fish as well as earn money from exporting to other states and even other countries. This practice may generate huge employment for the small and marginal fishermen and fish farmers' family members. Polyculture or Composite Fish Culture System should be practiced. The general survival rate of fish farming is 80%. Stocking of various species should be in a certain proportion such that various types of fishes live in various layers and eat the entire food organism which is called Composite Fish Culture. In this situation, the pond ecosystem should be maintained. Aquaculture should be practiced in a scientific method. To use the scientific methods of aquaculture some training should be required at the grassroots level.

Impoverished sections of any society are vulnerable to any disaster or pandemic situation. India being an agriculture backbone country with 85 percent of small and marginal farmers, in which maximum are landless farm labourers, welfare measures must be taken by both state and central government to protect them from COVID shock.

- During and beyond the lockdown, every farmer, agricultural labour, workers involved in the supply chain have to be protected from health and financial damage. As most of them are losing their earnings from informal payment, they have to be provided with possible means of living till the economy recuperates.

- Proper awareness during farming like social distancing in harvesting, procurement, marketing, packaging, proper sanitisation, personal hygiene, wearing face mask will help to prevent the spread of the pandemic.

- Farmers with perishable products like fish need continued markets. The government should develop a strong procurement and distribution facility at MSP (Minimum Support Price) for fish and fishery products, which will be helpful for the farmers and as well as for consumer point of view. Promotion of fish vending door to door through different state fisheries corporation should be emphasized.

- The government should also take some initiation for the smooth operation of retail, wholesale, marketing, distribution, of fishes via a smooth transportation corridor.

- As our country going through the lockdown since March 24, marine fishing operation is totally stopped. The further imposition of fishing ban is tremendously affecting the sector. Thus, the government should consider some alternative means to reduce ban period, particularly for this

year or special financial assistance may be provided to the fisher communities.

- Financial assistance, social protection for the farmers and their families must be taken up. At present out of 140 million beneficiary farmers, only 84.6 million are under the PM-KISAN scheme (The Economic Times, 2020c); thus, government should increase the inclusion as well as the number of instalments to safeguard the profession and community.

- Alongside providing advisories Government should provide a toll-free helpline to address the grievances of farmers, solving queries related to farming and marketing.

- Institutional lending of different agricultural loans should be expanded and facilitated for smooth flow of credit for the farmers.

- Block chain technology should be incorporated in the seafood sector, which will facilitate “smart contracts” and to increase the efficiency of supply chain which could minimise the current pain of global sea food industry.

- Moreover, a separate complete financial package along with detailed guidelines must be developed for the aquaculture and capture fisheries sector of the country for protecting the industry and associated population from tremendous effect of the pandemic. It will also ensure the speedy recovery of the sector

## Limitations

- The study is done on the basis of interviews taken of the fishermen and the observations made are obviously micro in nature and not in general.
- It is based on the assumption that fishermen are very weak in financial condition. They cannot provide modern technologies, skill or knowledge for aquaculture.
- Some risks like natural calamity, mortality, diseases of fishes are also to be considered for making fish farming

## About the Author

Mehfoozur Raheman, an MBA Rural Management from XIM University, Bhubaneswar has around 4 years of experience in the field of Information technology. He has completed his B.Tech in Electronics and Communication Engineering and has also had the opportunity to work as an intern with IIT Kharagpur in the field of agriculture machinery using Arduino Uno and MATLAB. Apart from this he has also worked as a Sales and Marketing Intern with PARLE Products during his MBA. He has written this report as part of the internship which he is undergoing with Mahatma Gandhi National Council of Rural Education

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## Annexures

Below are the responses from the fishermen on the Pre-Implementation Questionnaire.

### **Pintu Das, 35**

Livelihood is the main purpose for involvement of me in fishing

I have been seeing this from my childhood and have been part of this from the age of 22

The main catch which we get here is Rohu, Katla, Silver, Mirkali, Bata, Pompret and many other small fishes.

I spend nearly 8000 yearly on fishing equipment's.

As fishing is the only livelihood in this village so we generate an amount which is just hand to mouth and we hardly save anything for future.

There is no such facility available. We do not have fridge or ice boxes to store the fish so we have to sell it at a much lower rate to clear the stock.

I do not have land of my own and fish in someone else area and yearly payment is 7000.

There are other sources like daily wage labourer or doing agriculture but the produce through agriculture is less so we do it for our family rather than selling it outside.

The income has not changed much but due to COVID it has come down and during the lockdown period we had faced a tough challenge for survival.

October till March season is the best time to do fishing.

COVID-19 has hit the market drastically we now sell fishes at a much lower rate to the fish mongers.

Definitely we want to increase our income and if it is beneficial for us then we will surely go for it.

Yes we can get attached to a trader if he gives us the right amount of money for our catch.

### **Sridhar, 42**

For livelihood

From the age of 25

The main catch which we get here is Rohu, Katla, Silver, Mirkali, Bata, Pompret and many other small fishes.

I spend nearly 7000-8000 yearly on fishing equipment's.

It is not sufficient

There is no such facility available.

I do not have land of my own and fish in someone else area and yearly payment is 7500.

There are other sources like daily wage labourer or doing agriculture but the produce through agriculture is less so we do it for our family rather than selling it outside.

The income has not changed much but due to COVID it has come down and during the lockdown period we had faced a tough challenge for survival.

October to April is the best time to do fishing.

COVID-19 has hit the market drastically.

Definitely we want to increase our income and if it is beneficial for us then we will surely go for it.

Yes we can get attached to a trader if he gives us the right amount of money for our catch.

### **Sudarshan, 38**

For living and its being carried on since years in my family

I have been seeing this from my childhood and have been doing this from the age of 20

The main catch which we get here is Rohu, Katla, Silver, Mirkali, Bata, Pompret and many other small fishes.

I spend nearly 7000 yearly on fishing equipment's.

As fishing is the only livelihood in this village so we generate an amount which is just hand to mouth and we hardly save anything for future.

No ice box is available

I have my own land where I do fishing and allow other to do as well

Banana plantation, rice cultivation is being done.

The income has not changed much but due to COVID it has come down and during the lockdown period we had faced a tough challenge for survival.

The monsoon season is the best time to do fishing.

COVID-19 has hit the market drastically we now sell fishes at a much lower rate to the fish mongers.

Definitely we want to increase our income and if it is beneficial for us then we will surely go for it.

Yes we can get attached to a trader if he gives us the right amount of money for our catch.

### **Lakhmindar, 35**

For living in this cruel world and I do not know anything else as well

From the age of 23

The main catch which we get here is Rohu, Katla, Silver, Mirkali, Bata, Pompret and many other small fishes.

I spend nearly 8000 yearly on fishing equipment's.

Fishing is the main livelihood of our village

No such facility available

I do not have land of my own and fish in someone else area and yearly payment is 8000.

There are other sources like daily wage labourer or doing agriculture but the produce through agriculture is less so we do it for our family rather than selling it outside.

The income has not changed much but due to COVID it has come down and during the lockdown period we had faced a tough challenge for survival.

The monsoon season is the best time to do fishing.

COVID-19 has hit the market drastically we now sell fishes at a much lower rate to the fish mongers.

Definitely we want to increase our income and if it is beneficial for us then we will surely go for it.

Yes we can get attached to a trader if he gives us the right amount of money for our catch.

**Suryakant, 31**

Main purpose is earning a living

Doing this since the age of 24

The main catch which we get here is Rohu, Katla, Silver, Mirkali, Bata, Pompret and many other small fishes.

I spend nearly 6000 yearly on fishing equipment's.

As fishing is the only livelihood in this village so we generate an amount which is just barely sufficient to feed the family

There is no such facility available. We do not have fridge or ice boxes to store the fish so we have to sell it at a much lower rate to clear the stock.

I do not have land of my own and fish in someone else area and yearly payment is 6500.

There are other sources like daily wage labourer or doing agriculture but the produce through agriculture is less so we do it for our family rather than selling it outside.

The income has not changed much but due to COVID it has come down and during the lockdown period we had faced a tough challenge for survival.

The monsoon season is the best time to do fishing.

COVID-19 has hit the market drastically we now sell fishes at a much lower rate to the fish mongers.

Definitely we want to increase our income and if it is beneficial for us then we will surely go for it.

Yes we can get attached to a trader if he gives us the right amount of money for our catch.

**Sabhya, 28**

Livelihood is the sole purpose

Doing this from the age of 18

The main catch which we get here is Rohu, Katla, Silver, Mirkali, Bata, Pompret and many other small fishes.

I spend nearly 7000 yearly on fishing equipment's.

As fishing is the only livelihood in this village so we generate an amount which is not sufficient

No facility is available and we have thought that if this intervention works fine and we built a healthy relationship with the trader then we can ask him to help us in allied activities of fishing

I do not have land of my own and fish in someone else area and yearly payment is 7000.

There are other sources like daily wage labourer or doing agriculture but the produce through agriculture is less so we do it for our family rather than selling it outside.

The income has not changed much but due to COVID it has come down and during the lockdown period we had faced a tough challenge for survival.

The monsoon season is the best time to do fishing.

COVID-19 has hit the market drastically we now sell fishes at a much lower rate to the fish mongers.

Definitely we want to increase our income and if it is beneficial for us then we will surely go for it.

Yes we can get attached to a trader if he gives us the right amount of money for our catch.

**Sk Sahabuddin, 39**

For livelihood

Doing this for the past 15 years

The main catch which we get here is Rohu, Katla, Silver, Mirkali, Bata, Pompret and many other small fishes.

I spend nearly 7000 yearly on fishing equipment's.

As fishing is the only livelihood in this village so we do not generate much income and after the incoming of COVID the income has decreased drastically

There is no such facility available. No ice box is available

I do not have land of my own and fish in someone else area and yearly payment is 7500.

Daily wage labourer, agriculture.

The income has not changed much but due to COVID it has come down and during the lockdown period we had faced a tough challenge for survival.

The monsoon season is the best time to do fishing.

COVID-19 has hit the market drastically we now sell fishes at a much lower rate to the fish mongers.

Definitely we want to increase our income and if it is beneficial for us then we will surely go for it.

Yes we can get attached to a trader if he gives us the right amount of money for our catch.

**Abhijeet,37**

Livelihood is the main purpose for involvement of me in fishing

Doing this from the age of 23 . First started it with my father and after that have been doing alone.

The main catch which we get here is Rohu, Katla, Silver, Mirkali, Bata, Pompret and many other small fishes.

I spend nearly 7000 yearly on fishing equipment's.

As fishing is the only livelihood in this village so we generate an amount which is just hand to mouth and we hardly save anything for future.

There is no such facility available. We do not have fridge or ice boxes to store the fish so we have to sell it at a much lower rate to clear the stock.

I do not have land of my own and fish in someone else area and yearly payment is 6500.

There are other sources like daily wage labourer or doing agriculture but the produce through agriculture is less so we do it for our family rather than selling it outside.

The income has not changed much but due to COVID it has come down and during the lockdown period we had faced a tough challenge for survival.

The monsoon season is the best time to do fishing.

COVID-19 has hit the market drastically we now sell fishes at a much lower rate to the fish mongers.

Definitely we want to increase our income and if it is beneficial for us then we will surely go for it.

Yes we can get attached to a trader if he gives us the right amount of money for our catch.

**Alok Banerjee, 35**

For living and maintaining a life

From the age of 17

The main catch which we get here is Rohu, Katla, Silver, Mirkali, Bata, Pompret and many other small fishes.

I spend 7000 yearly on fishing equipment's.

Fishing is the only livelihood option in the village and I earn near about 9000 per month.

There is no such facility available. We do not have fridge or ice boxes to store the fish so we have to sell it at a much lower rate to clear the stock.

I do not have land of my own and fish in someone else area and yearly payment is 7000.

There are other sources like daily wage labourer or doing agriculture but the produce through agriculture is less so we do it for our family rather than selling it outside.

The income has not changed much but due to COVID it has come down and during the lockdown period we had faced a tough challenge for survival.

The monsoon season is the best time to do fishing.

COVID-19 has hit the market drastically we now sell fishes at a much lower rate to the fish mongers.

Definitely we want to increase our income and if it is beneficial for us then we will surely go for it.

Yes we can get attached to a trader if he gives us the right amount of money for our catch.

**Soubhagya, 35**

Livelihood is the main purpose for involvement of me in fishing

I have seen this since my birth and have started doing this from the age of 14

The main catch which we get here is Rohu, Katla, Silver, Mirkali, Bata, Pompret and many other small fishes.

I spend nearly 8000 yearly on fishing equipment's.

Its just for survival because after the advent of COVID after income has gone down only and the fish mongers try to exploit us as much as they can

No such facility is not available and we after building a healthy relationship with the trader would ask him for ice boxes as well.

I do not have land of my own and fish in someone else area and yearly payment is 7500

There are other sources like daily wage labourer or doing agriculture but the produce through agriculture is less so we do it for our family rather than selling it outside.

The income has not changed much but due to COVID it has come down and during the lockdown period we had faced a tough challenge for survival.

The monsoon season is the best time to do fishing.

COVID-19 has hit the market drastically we now sell fishes at a much lower rate to the fish mongers.

Definitely we want to increase our income and if it is beneficial for us then we will surely go for it.

Yes we can get attached to a trader if he gives us the right amount of money for our catch.

**Ajay, 35**

Livelihood is the main purpose for involvement of me in fishing

Doing this from the past 20 years.

The main catch which we get here is Rohu, Katla, Silver, Mirkali, Bata, Pompret and many other small fishes.

I spend nearly 6500 yearly on fishing equipment's.

As fishing is the only livelihood in this village so we generate an amount which is just hand to mouth and we hardly save anything for future.

There is no such facility available. We do not have fridge or ice boxes to store the fish so we have to sell it at a much lower rate to clear the stock.

I do not have land of my own and fish in someone else area and yearly payment is 6000.

There are other sources like daily wage labourer or doing agriculture but the produce through agriculture is less so we do it for our family rather than selling it outside.

The income has not changed much but due to COVID it has come down and during the lockdown period we had faced a tough challenge for survival.

The monsoon season is the best time to do fishing.

COVID-19 has hit the market drastically we now sell fishes at a much lower rate to the fish mongers.

Definitely we want to increase our income and if it is beneficial for us then we will surely go for it.

Yes we can get attached to a trader if he gives us the right amount of money for our catch.

**Ravindra, 29**

Livelihood is the main purpose for involvement of me in fishing

After migrating to this village after marriage

The main catch which we get here is Rohu, Katla, Silver, Mirkali, Bata, Pompret and many other small fishes.

I spend nearly 8000 yearly on fishing equipment's.

As fishing is the only livelihood in this village so we generate an amount which is just hand to mouth and we hardly save anything for future.

There is no such facility available. We do not have fridge or ice boxes to store the fish so we have to sell it at a much lower rate to clear the stock.

I do not have land of my own and fish in someone else area and yearly payment is 7000.

There are other sources like daily wage labourer or doing agriculture but the produce through agriculture is less so we do it for our family rather than selling it outside.

The income has not changed much but due to COVID it has come down and during the lockdown period we had faced a tough challenge for survival.

The monsoon season is the best time to do fishing.



Below are the Responses of the fishermen for the Post Implementation Questionnaire:

**Pintu Das, 35**

The intervention planned was very good and it has helped us a lot.

Yes, it benefitted us and we can see a significant change in our income.

Definitely we want this to continue

Thanks to you for coming and helping us out and making us understand regarding this intervention. It has open gates for further prospects and improvements as well.

The trader is a nice person and friendly as well. We will continue with this and would like to continue into further prospects.

Trader is a nice person and is polite as well.

No changes is required as it was discussed with us before implementation.

They did create disturbances but we have restricted them and we are going well now

Yes, the trader is paying us according to the market rates

The payment is done daily according to the catch.

**Sridhar, 42**

The intervention planned was very good and it has helped us a lot.

Yes, it benefitted us.

We want this to continue

Thanks to you for coming and helping us out and making us understand regarding this intervention. It has open gates for further prospects

The trader is a nice person and friendly as well. We will continue with this and would like to continue into further prospects.

Trader is a nice person.

No changes are required as it was discussed.

They did create disturbances but we have restricted them.

Yes, the trader is paying us according to the market rates

The payment is done daily according to the catch.

**Sudarshan, 38**

The intervention planned was very good and it has helped us a lot.

Yes, it benefitted us and we can see a significant change in our income.

Definitely we want this to continue

Thanks to you for coming and helping us out and making us understand regarding this intervention. It has open gates for further prospects and improvements as well.

The trader is a nice person and friendly as well. We will continue with this and would like to continue into further prospects.

Trader is a nice person and is polite as well.

No changes is required as it was discussed with us before

implementation.

They did create disturbances but we have restricted them and we are going well now

Yes, the trader is paying us according to the market rates

The payment is done daily according to the catch.

**Lakhmidhar, 35**

The intervention planned was very good and it has helped us a lot.

Yes, it benefitted us and we can see a significant change in our income. We used to get around 250 to 300 daily but now we get 500 and it is good.

Definitely we want this to continue

Thanks to you for coming and helping us out and making us understand regarding this intervention. It has open gates for further prospects and improvements as well.

The trader is a nice person and friendly as well. We will continue with this and would like to continue into further prospects.

Trader is a nice person and is polite as well.

No changes is required as it was discussed with us before implementation.

They did create disturbances but we have restricted them and we are going well now

Yes, the trader is paying us according to the market rates

The payment is done daily according to the catch.

**Suryakant, 31**

The intervention planned was very good and it has helped us a lot.

Yes, it benefitted us and we can see a significant change in our income. Depending upon the catch I get around 500 to 550

Definitely we want this to continue

Thanks to you for coming and helping us out and making us understand regarding this intervention. It has open gates for further prospects and improvements as well.

The trader is a nice person and friendly as well. We will continue with this and would like to continue into further prospects.

Trader is a nice person and is polite as well.

No changes is required as it was discussed with us before implementation.

They did create disturbances but we have restricted them and we are going well now

Yes, the trader is paying us according to the market rates

The payment is done daily according to the catch.

**Sabhya, 28**

The intervention planned was very good and it has helped us a lot.

Yes, it benefitted us and we can see a significant change in our income. 500 is generally what I receive but when I catch

small fishes I earn upto 700 as it has more demand and the market rates are high as well.

Definitely we want this to continue

Thanks to you for coming and helping us out and making us understand regarding this intervention. It has open gates for further prospects and improvements as well.

The trader is a nice person and friendly as well. We will continue with this and would like to continue into further prospects.

Trader is a nice person and is polite as well.

No changes is required as it was discussed with us before implementation.

They did create disturbances but we have restricted them and we are going well now

Yes, the trader is paying us according to the market rates

The payment is done daily according to the catch.

### **Sahabuddin , 39**

The intervention planned was very good and it has helped us a lot.

Yes, it benefitted us and we can see a significant change in our income. 500 to 600 depending upon the catch and I am very much satisfied.

Definitely we want this to continue

Thanks to you for coming and helping us out and making us understand regarding this intervention. It has open gates for further prospects and improvements as well.

The trader is a nice person and friendly as well. We will continue with this and would like to continue into further prospects.

Trader is a nice person and is polite as well.

No changes is required as it was discussed with us before implementation.

They did create disturbances but we have restricted them and we are going well now

Yes, the trader is paying us according to the market rates

The payment is done daily according to the catch.

### **Abhijeet , 37**

The intervention planned was very good and it has helped us a lot.

Yes, it benefitted us and we can see a significant change in our income. 500 to 700

Definitely we want this to continue

Thanks to you for coming and helping us out and making us understand regarding this intervention. It has open gates for further prospects and improvements as well.

The trader is a nice person and friendly as well. We will continue with this and would like to continue into further prospects.

Trader is a nice person and is polite as well.

No changes is required as it was discussed with us before implementation.

They did create disturbances but we have restricted them

and we are going well now

Yes, the trader is paying us according to the market rates

The payment is done daily according to the catch.

### **Alok Banerjee, 35**

The intervention planned was very good and it has helped us a lot.

Yes, it benefitted us and we can see a significant change in our income. I get around 600 daily

Definitely we want this to continue

Thanks to you for coming and helping us out and making us understand regarding this intervention. It has open gates for further prospects and improvements as well.

The trader is a nice person and friendly as well. We will continue with this and would like to continue into further prospects.

Trader is a nice person and is polite as well.

No changes is required as it was discussed with us before implementation.

They did create disturbances but we have restricted them and we are going well now

Yes, the trader is paying us according to the market rates

The payment is done daily according to the catch.

### **Soubhagya, 35**

The intervention planned was very good and it has helped us a lot.

Yes, it benefitted us and we can see a significant change in our income. The income has increased from 300 to 500 for me.

Definitely we want this to continue

Thanks to you for coming and helping us out and making us understand regarding this intervention. It has open gates for further prospects and improvements as well.

The trader is a nice person and friendly as well. We will continue with this and would like to continue into further prospects.

Trader is a nice person and is polite as well.

No changes is required as it was discussed with us before implementation.

They did create disturbances but we have restricted them and we are going well now

Yes, the trader is paying us according to the market rates

The payment is done daily according to the catch.

### **Ajay, 35**

The intervention planned was very good and it has helped us a lot.

Yes, it benefitted us and we can see a significant change in our income. I mainly catch small fishes so I get around 700 per day.

Definitely we want this to continue

Thanks to you for coming and helping us out and making us

understand regarding this intervention. It has open gates for further prospects and improvements as well.

The trader is a nice person and friendly as well. We will continue with this and would like to continue into further prospects.

Trader is a nice person and is polite as well.

No changes is required as it was discussed with us before implementation.

They did create disturbances but we have restricted them and we are going well now

Yes, the trader is paying us according to the market rates

The payment is done daily according to the catch.

**Ravindra, 29**

The intervention planned was very good and it has helped us a lot.

Yes, it benefitted us and we can see a significant change in our income. My daily income now is around 600.

Definitely we want this to continue

Thanks to you for coming and helping us out and making us understand regarding this intervention. It has open gates for further prospects and improvements as well.

The trader is a nice person and friendly as well. We will continue with this and would like to continue into further prospects.

Trader is a nice person and is polite as well.

No changes is required as it was discussed with us before implementation.

They did create disturbances but we have restricted them and we are going well now

Yes, the trader is paying us according to the market rates

The payment is done daily according to the catch.



*Fig 7- During Fish catch in Balarampur village*



*Fig 8- During the process*



*Fig 9- Nearing the completion of catching process*



Fig 10- Arranging the net during the course of catching



Fig 14- Fishes collected by the trader



Fig 11- Ready to collect the fishes from the net



Fig 15- Preparing the net to fish



Fig 12- Process beginning



Fig 13- Variety of fish during the catch

In the study area, most of the fish farmers are marginal and small and the total production is used to meet the consumption need of local people or nearby towns. So, farmers sell either directly to consumers or itinerant traders purchase fish from producers and sell in the local market to ultimate consumers. Small quantity of fish is transported to nearby districts and sold through wholesalers. In short, the total fish production of the district is marketed largely through different channels

প্ৰশ্নপত্ৰ

- নাম, বয়স
- গাছ বঁকাৰ ক্ষেত্ৰে তসকলৰ অস্থায়ীকৃত প্ৰাথমিক উদ্দেশ্য কি?
- তসকলি কৰ্মদিন বঁহু প্ৰতি প্ৰয়োগ্য আছেনে?
- তসকলি পোন প্ৰজাতিৰ গাছ বঁহুনে?
- তসকলি গাছ বঁকাৰ গৰ-জীৱগুলিতে বহুত ভাল-প্ৰমাণ বহুনে?
- গাৰ্ভিক গাছ বঁকাৰ ব্যৱস্থা কি তসকলৰ নাবিহাৰকৈ গুলুজীৱক উল্য হ'লেম?
- তসকলি গাছ বঁকাৰ ক্ষেত্ৰে সঠিক বহুত উদ্দেশ্য বহুনে?
- পোন নিৰ্দিষ্ট দিনে গাছ বঁকাৰ না হ'লে তা অ-বহুত বহুত পোন সুবিধা আছে কি?
- গাছ বঁকাৰ জন্ম তসকলৰ নিজেৰে জন্ম আছে নাকি তসকলি অন্য কাৰেৰে তসকলৰ গাছ বঁকাৰে?
- যদি গাছ, গাছ বঁকাৰ খৰচ বহুত?
- জীৱিকাৰ তল পোন উদ্দেশ্য আছে কি?
- এত পাঁচ বছৰে গাছ বঁকাৰ ক্ষেত্ৰে তসকলৰ অস্থায়ী নাবিহাৰ হ'লে?
- গাছ বঁকাৰ জন্ম বহুতৰে পোন অস্থায়ী পোনিত?
- বোডিড-২য় গাছ বঁকাৰ ব্যৱস্থাতে কাৰণে প্ৰজাতি বহুত?
- গাছ যদি গাছ প্ৰাৰ্থনৈ বহুত বিক্ৰি বহুত ছাড়া তল পোন উদ্দেশ্য তসকলৰ বহুত হয়, তাৰে অসুখ কি তা বহুত হ'ল?
- তসকলৰ কি বহুত ব্যৱস্থায় পোন প্ৰজাতিৰে অস্থায়ী বহুত বহুত পোন অস্থায়ী আছে?
- তসকলৰ বিক্ৰিতে তসকলৰ অস্থায়ী বহুত গাছ? যদি গাছ, তেনে?

Fig 16- Pre Survey questionnaire in local language

পোষ্ট অস্তময়ন প্ৰশ্নপত্ৰ

- নাম, বয়স
- অস্তময়ন ক'মেৰ ছিন?
- গাছ বঁকাৰ পোনপাত অস্থায়ী প্ৰতিবেদন উল্য-উদ্দেশ্য হ'লে?
- তসকলি কি বহুত প্ৰতিবেদন নিজে হেৰে চান?
- এই হস্তক্ষেপেৰে অস্থায়ীকৃত প্ৰতিবেদন অস্থায়ী-বহুত?
- তসকলি কি প্ৰজাতিৰ অস্থায়ীকৃত প্ৰতিবেদন বহুত নাবিহাৰনা বহুত?
- তসকলি প্ৰতিবেদন অস্থায়ীকৃত উল্য বহুত চান?
- প্ৰজাতিৰ প্ৰতিবেদন অস্থায়ীকৃত অস্থায়ীকৃত উল্য-উদ্দেশ্য?
- ইতিহাসেৰে পোন-এই হস্তক্ষেপেৰে তসকলি পোন-উল্য বহুত চান?
- গাছ চাৰীদেৰ দ্বাৰা বহুত পোন-উল্য অস্থায়ীকৃত অস্থায়ীকৃত?
- তসকলি কি অস্থায়ীকৃত অস্থায়ীকৃত পোন-উল্য?
- পোষ্টমেন্ট কি প্ৰতিদিন অস্থায়ীকৃত বহুত হয়?

Fig 17- Post implementation questionnaire in local language

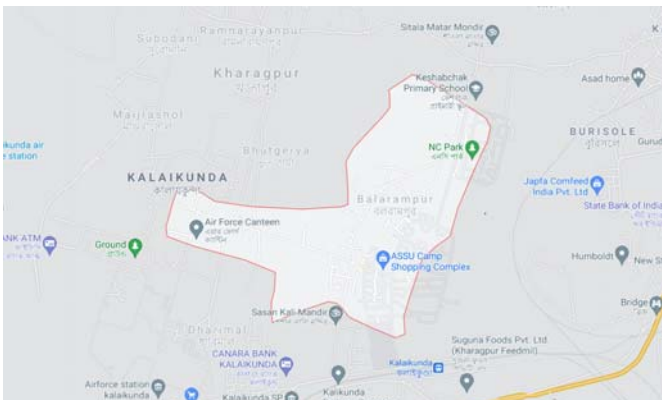


Fig 18- Map showing Balarampur village

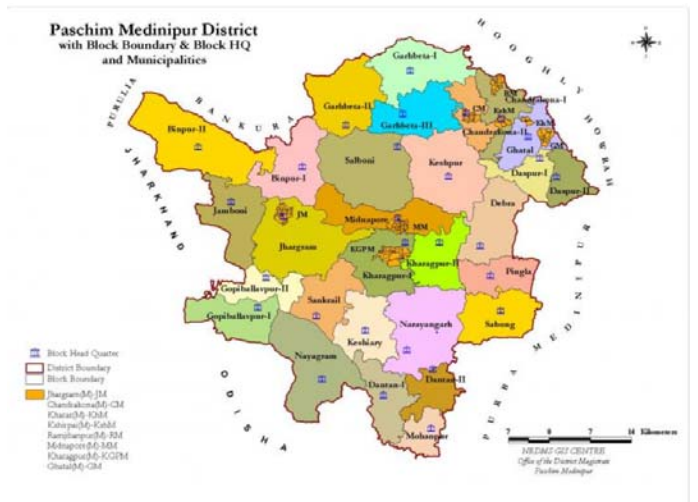


Fig 19- Map showing Paschim Medinipur

## 7. Increasing Income of Kantha Stitch Artisans by Direct Selling of Their Product

### An Action Research Project

Sudip Garain

#### Abstract

*Kantha Stitch is a very important artwork in West Bengal. It helps a lot of women to become self-reliant. A few decades ago, this Kantha Stich was not so famous but due to the involvement of a few entrepreneurs, it got back its lost charm. In Kantha stitch work they need a certain skill set which they get from the local workshop. But due to the involvement of middlemen in the supply chain, they are working on wages and not as a stakeholder. We need to decrease the span of this supply chain to increase their income from Kantha Stitch artworks.*

**Key Words:** Kantha Stitch, Middlemen, Women, Supply Chain, Direct selling

#### Introduction

The capital city of West Bengal, Kolkata, is known as the cultural capital of India. The richness of the culture and heritage is not only bound to Kolkata, but is spread all over West Bengal. With several GI (Geographical Indication) tags and UNESCO world heritage sites, it marks the richness of culture and heritage. Any state's culture and heritage significantly depends on its artisans. Like several other artworks, Kantha Stitch or Embroidery artwork is famous in

West Bengal. This artwork is mainly driven by women. Sahapur, a village in the Birbhum District of West Bengal, is also involved in this artwork. According to the 2011 census total of 5621 people are residing in this village, with 1202 households. The male population of this village is 2840 and female population of this village is 2781 and the sex ratio is 1000:979. Many households in this village belong to the 'Below Poverty Level (BPL)'.

(Table 1: Sex ratio of the village)

Sex Ratio	
Male	2840
Female	2781

In this village, both Hindu and Muslim community people are staying together. Among the total population, 1596 people belong to the SC community and there are no ST community people in this village.

(Table 2: Total SC population)

SC	
Total	1596
Male	815
Female	781

The literacy rate in this village is very low; it is nearly 58% which is much lower than the state and national average literacy rate. The literacy rate for the male population is around 62% and it is around 54% for the female population.

The literacy rate for the female population is much lower than that of the male population. But for both male and female literacy rates are much lower than the state and national average literacy.

(Table 3: Literacy rate of the village)

Literacy	
Total	3260
Male	1772
Female	1488

In this village only 964 people are recognized as the main workers, among them 837 are male and 127 are female. This means the working population in this village is very low.

(Table 4: Total main worker)

Main worker	
Total	964
Male	837
Female	127

In this village of Sahapur a total 297 people are engaged in Agriculture, among them, 263 are male and only 34 are female. But in a real scenario, much of the female population is engaged in agricultural practices. Because the female population does not have any ownership of the lands, it shows much lesser number in terms of the female cultivators.

(Table 5: Total cultivators in the village)

Cultivators	
Total	297
Male	263
Female	34

A huge number of people work as agricultural labour in this village. Among them, male population is more than the female population. The data shows that nearly 22% of the total male population is engaged in agricultural labour.

(Table 6: Total agricultural labour in the village)

Agricultural labour	
Total	765
Male	603
Female	162

The primary occupation of these villagers is agriculture and agricultural labour. In agriculture, they mainly grow Paddy and vegetables like Brinjal, Cauliflower, Cabbage and Chili. But in recent times, the benefits from agriculture reduced drastically because the cost of production almost reached the economic threshold level and production also did not grow much. The use of chemical fertilizer and pesticides creates a bad impact on the production of agricultural products. Due to this, their income from agricultural activities is reduced and they start looking for alternative income opportunities. Due to this, many male populations migrated to metropolitan cities like Kolkata, Chennai, Mumbai, Delhi, etc., for their livelihood. In those cities, they are working as manual labour or construction workers, which also does not give them a good income opportunity. In this situation, women in this village start engaging in various works. In this village, women are mainly engaged in household chores and few times in agriculture. After

finishing their household chores, they had plenty of time but did not have any work. They start engaging in Goatery farming or in poultry farming with the help of SHG. Then few women from this village introduced Kantha Stitch, or Embroidery works. After a few days, most of the women in this village started working on Kantha Stitch, which has a high value in the market as traditional saree or cloths. It starts giving them a small amount of money, but their value in their life was huge. They generally get printed cloths or sarees from the middlemen and after stitch work, they give that saree or cloth to the same middlemen for a small amount of money. This process is going on from the beginning but in this process, middlemen gain a lot but those women are not getting much benefit from their work. In this Action Research Project, we selected 10 women from 10 different households and ran a pilot project. In this project, they sell their products in the local market and try to see the changes in their income.

### Identification of the Challenge

The main challenges in this project were the eradication of middlemen from the process of this embroidery work. During the project implementation stage, due to the eradication of middlemen, they start facing a few more challenges because those middlemen were adding some value to the product in the following way:-

- Branding of the products (Saree and Cloths).
- Packaging of the products.
- Starching of the cloths which adds crispness and structure in the cloths and sarees.
- Washing and pressing of those cloths and sarees were also a big challenge for them.

Due to this kind of value addition from middlemen, their

## Review of the Literature

Kantha advanced out of necessity to drape or protect from cold. Kantha in Sanskrit means rags. It can rightly be referred to as recycling art. The precious silks and muslins have become worn out. Women, instead of throwing those precious clothes away, piled them in layers and stitched them. Another legend relates Kantha starting place to Lord Buddha and his disciples. It is stated that they used to cowl themselves with the thrown-away rags patched and stitched together. The term nakshi Kantha, popularly utilized in West Bengal, is located even in medieval literature. The name nakshi Kantha has become especially famous amongst literate human beings after the book of dramatized Bengali verse narrative written through poet Jasimauddina entitled "Nakshi Kanthar Math (The Field of the Embroidered Quilt)". The verse is taken into consideration as a masterpiece in the Bengali language and has been translated into many specific languages. Kantha became stated to be a girl's self-expression.

The actual Kantha narrates a story, the feelings and the existence of the artist. The revival of the cottage industries and crafts of the vicinity became a prime goal of Sriniketan via the Silpa Bhavana. Income from agriculture mainly in a one-crop vicinity (there became nearly no irrigation aside from the monsoon), like Birbhum, became understandably poor and specialists had felt that different types of profits or livelihood had been important. In addition, the device became overtaking handmade objects and artisans had been pressured to desert their crafts and migrate to city centers as hard work. The challenge became to reinvigorate the crafts and small industries and layout gadgets that could compete with device-made objects in phrases of layout and novelty— this became the primary expression of 'be utility'. Along with the antique crafts, a few new ones had been added. The crafts that had been introduced below the ambit of Sriniketan at one time or the different had been weaving, tannery, leather-craft, carpentry, lacquer paintings, pottery, tile-making, cane-paintings, bookbinding, tailoring and embroidery referred to as Kantha generally carried out with jogging stitch). Apprentices had been skilled here who later had earned their livelihood from their crafts with the education they'd obtained in Sriniketan.

Handicrafts and girls have their character identification and if girls are generating the handicrafts, their identification will become extra meaningful. In the historical generation of civilization, girls were worried about specific works out of which handicrafts making is among them. Now no longer it is being taken into consideration as a career for the girls.

eradication from this supply chain and adding those values by own was a big challenge for us.

Indian girls had been doing handicrafts most effectively to meet their personal needs. In addition, a few are persevering with this handicraft making, as they like to do sewing and embroidery. However, regularly it will become a fascinating painting for girls. They could visualize that their merchandise is saleable within the marketplace and earn a little cash in return. That second became a turning factor in their existence. On the other side, the authorities became centered on enhancing the popularity of girls in rural areas. Women empowerment has ended up a burning difficulty for country-wide improvement. The authorities have added many fields to enhance the standard of girls. Such fields enhance the instructional degree amongst rural girls, offer them minimal fitness care centers, cause them to be self-reliant and boom their participation in state-building. The contribution of girls to country-wide monetary improvement could be very important and greatly affect girls' improvement.

Hence, the authorities have to present a unique interest in the girl's empowerment and her monetary established order within the society. To acquire the above aim the minimal centers must be furnished to the girls in mass. Women want courage, confidence, support and help from their own circle of relatives, participants to come out from the four walls of the house to show their identification and functionality. In the current generation, girls have furnished many facilities to show their functionality in numerous fields. Women empowerment is the all-around improvement of the girls, including training, fitness, career, profits, decision-making strength and participation in all works of own family. Women empowerment will cause them to be extra sturdy and organized for taking over new demanding situations withinside the making of a super own circle of relatives, society and the state. A girl is an architect of society and a girl's empowerment itself is human empowerment. As said, girl's empowerment is an improvement system of helping girls to change the awareness of others via growing focus.

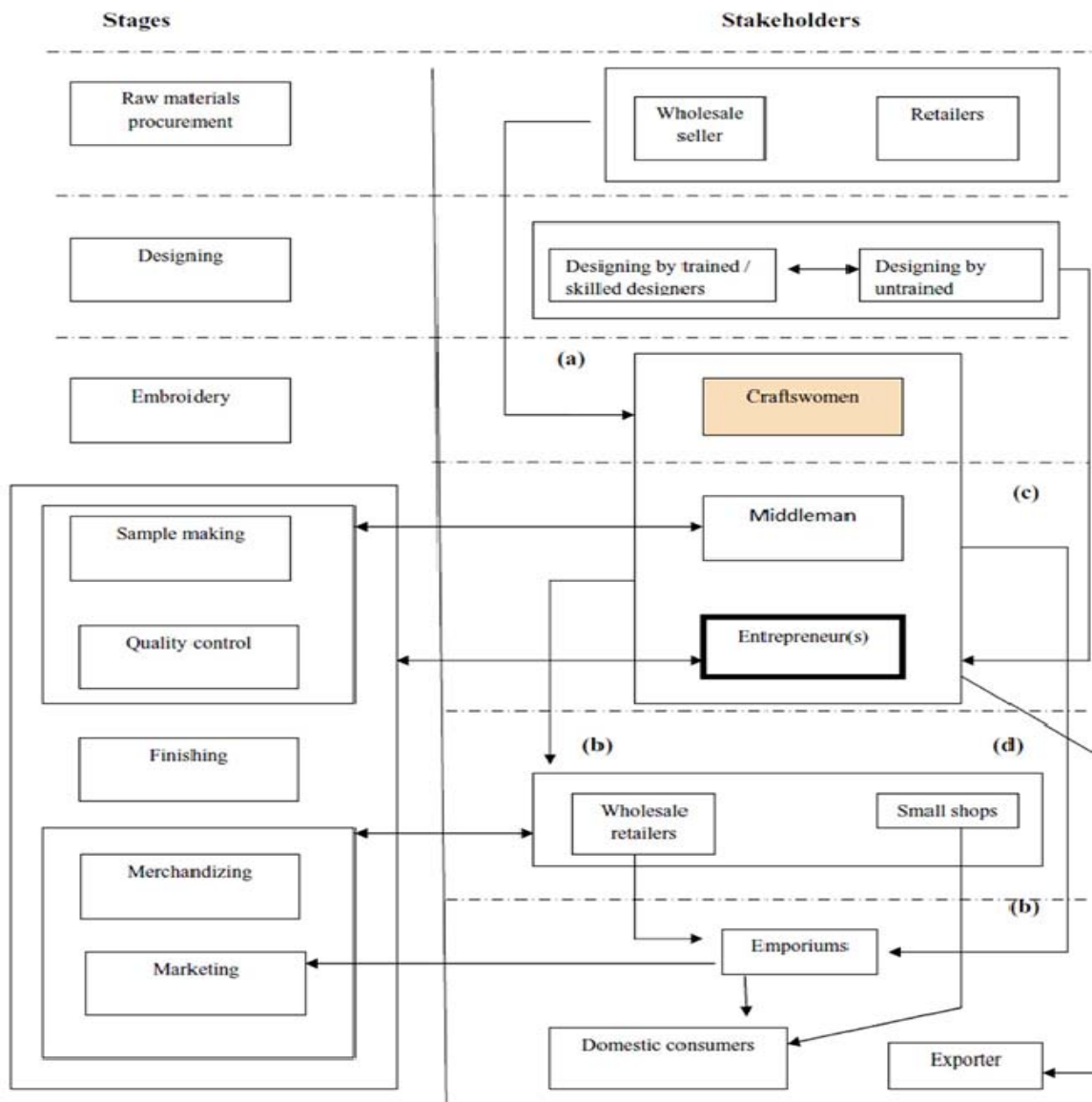
Despite all developmental rights, legal guidelines and centers girls are affected by numerous issues. Some authors have mentioned the want for girls' entrepreneurship via self-assist agencies and their functions, the factors influencing them and the issues they confront. They argued for the established order of separate commercial estates, a commercial improvement bank completely for girls' marketers and for offering control education. Few other authors on their examine explain approximately the emergence of a girl in a small commercial enterprise and its



sizable contribution to the Indian economy. Increased focus and spread of training are supporting girls in spreading their wings into areas, which can end the monopoly of men. The majority of the knowledgeable girl artisans have features of accepting the demanding situations, ambitious, enthusiastic, hardworking and skillful. A few years back, this Kantha stitch industry started drying, but few entrepreneurs come to

rescue these artisans; they start branding these products in the National and international markets. But in recent years, these artisan women face some other issues like more mediatory between those women and actual entrepreneurs, which creates less profit for them. Another problem of the financial crisis of those artisans was recently solved by various government schemes and credit facilities.

### The Value Chain



(Source: Roy, P., & Dey Biswas, S. (2012). Opportunities and Constraints of the Kantha-stitch craftswomen in Santiniketan: a value chain analysis. *Journal of Social Work and Social Development*. Published)

## Objectives of the Action Research

The long-term objective of this Action Research Project is to develop the socio-economic condition of the villagers of Sahapur.

The short-term objective of this Action Research Project is

- To increase the income of the women who all are associated with Kantha Stitch or Embroidery work.
- Eradication of the middlemen from the supply chain process.
- Making self-sufficient to those women in various value addition like- Starching, pressing, cleaning, packaging, branding and marketing.

## Hypothesis

Here in this Action Research Project

H<sub>0</sub> (Null Hypothesis): There is no changes in income due to the eradication of middlemen.

H<sub>a</sub> (Alternative Hypothesis): There is an increase in income due to the eradication of the middlemen.

## Actions Planned to address the Challenge

The main challenges in this project are how to eradicate the middlemen from the value chain of Kantha Stitchwork. This is a big challenge for the Kantha Stitch artisans because middlemen are keeping a huge amount of profit and to increase their profit, eradication of middlemen from the value chain of Kantha Stitch is needed. For this work, a proper action plan is needed. In this project we run a pilot project to

address those challenges. The main action plan to address those challenges is direct selling of the produce from the artisans to the local market or in nearest town or in the gramini haat where people come to buy traditional art work (like Khoai Haat) which will increase their profit percentage by eradicating the middlemen from the value chain.

## Implementation of Action Research Steps

Implementing those action plans was a great challenge for us because those middlemen are helping them differently. Because those artisans were working as a worker and received a certain amount of money at the end of their work. But when we will be planning to sell those on their own, they need financial support for the raw material like Printed cloth

or Saree, needle, different colored threads, instruments, etc. need for their Kantha Stitchwork at an initial stage. Later various value addition processes need to be taken care of like-washing of the cloths, starching those cloths for proper shape and glow, pressing and packaging for this a certain amount of money needed to come up with a good product. To implement this project, a proper plan has been made:

- ❖ First, we select a group of 10 women who all are ready for direct selling of their produce.
- ❖ Then, we did a survey before implementing the intervention to know the present situation of those artisan workers.
- ❖ After that, we contact the supplier who supplies that printed saree or cloths to buy those printed saree and cloths. Because those suppliers are giving them on a condition of return, means if any Kantha Stitch worker taken those printed saree or cloths, they will give them at free but at the end of the work artisans have to return those products and against this those supplier or middlemen will pay them a small amount of wage.
- ❖ Then we encourage them to buy that printed saree or cloths and some coloured thread for their work.
- ❖ They complete those artworks within 10 days.
- ❖ After that, we contact some local shop owners and some shop owners from local town to buy those products from those artisans directly.
- ❖ After completing their artwork, they wash those saree and cloths and starch them with rice water.
- ❖ Then they give those sarees for the pressing to the local shop because they do not have any cloths iron.
- ❖ After that they packaged their product by using some thread.
- ❖ Then they sell their product to the local shop.
- ❖ After that a post intervention survey has been done to know the impact of this action plan and how many challenges they have faced during this time.

## Process of Implementation of the Study

This action research does not create any profit for those artisans because of a few reasons. But this action plan gives them a proper idea of how to go about in this direct selling

in the future and the problem they faced and how they will resolve those problems was a big lesson for them.

They fetched the loss because of three main reasons:

- 1) Quality
- 2) Branding
- 3) Packaging

### Quality

When they buy their product from the supplier, they charge a huge price for those printed saree and cloths but give them a low-quality product that impacts the price of the final product. They get low prices from the local trader because

the quality of the saree was not good. Also, the starching of the product is done by using rice water does not give good quality to the product. This was also one of the reasons for the low price.

### Branding

When we sell those products to the traders, they check the brand name on it because people often see the brand name before buying any product. To fetch a good price from the

products we need to produce some name template for branding. Because there was no brand name or name plate on the product, the product's price became very low.

### Packaging

To fetch a good price a good packaging of the product is very important. Without good packaging, customers will not pay a good price. Bad packaging will also reduce the attractiveness of the product. In this pilot project, we face the same issue because of bad packaging price of the product become much

lower than the expected price. So, these many things impact the price of the product, which adversely impacts the income of the artisans. But this teaches us a great lesson and shows us a road towards success if we solve those issues.

## Data Collection and Analysis

In this action research project, we collect data two times one before the intervention of the implementation and another at the end of the intervention. Data collection before the intervention of the project was mainly to know the situation of the artisans before project intervention and how the middlemen are impacting their income. A survey after the intervention was mainly done to know the impact of the project intervention. In this survey, we collect data from 10 women and select them as our sample size and run our pilot project on them.

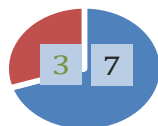
they are taking to make one saree or a cloth. During the first data collection, we also try to find the primary income of their family and their income per year. In this data collection, we also try to know what they know about different government schemes available for the artisans.

During the first data collection, our main motive was to know the wage rate from those middlemen and how much time

During our pre-intervention data collection, we found that majority of those women's families are engaged in agriculture and others are engaged in agricultural labour activities, very interesting thing is that those families which are working as agricultural labour are migrating as short term basis to the local tier 2 or tier 3 cities or in the metropolitan cities like Kolkata, Chennai, Mumbai and Delhi.

*(Figure 1: Primary occupation of the villagers)*

## Primary occupation of the villagers

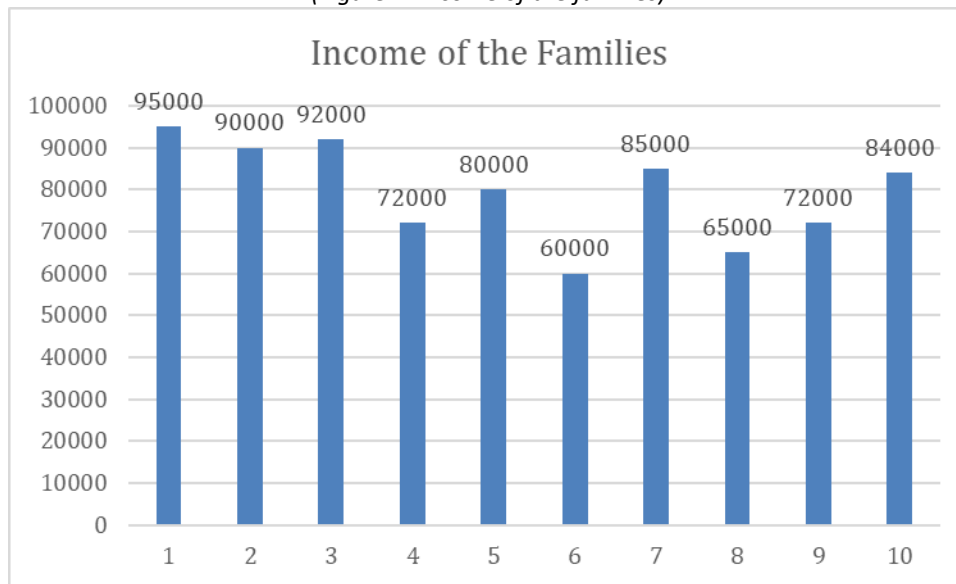


■ Agriculture ■ Agricultural labor

The average income of the families of those artisans' workers is 79500 Rupees. Families that are as agricultural labour and migrating on a short-term basis show more income than those associated with agriculture. Those families predominantly in the agricultural practices struggle with their income from agricultural practices because their land holding is very small average land holding of those farmers is less than

one hectare, which means they come under the category of the marginal farmer. The cost of agricultural practices like- the cost of agricultural labour, fertilizer, pesticide and machinery, are also increasing over the year. It is almost reaching the economic threshold level, but productivity does not increase much.

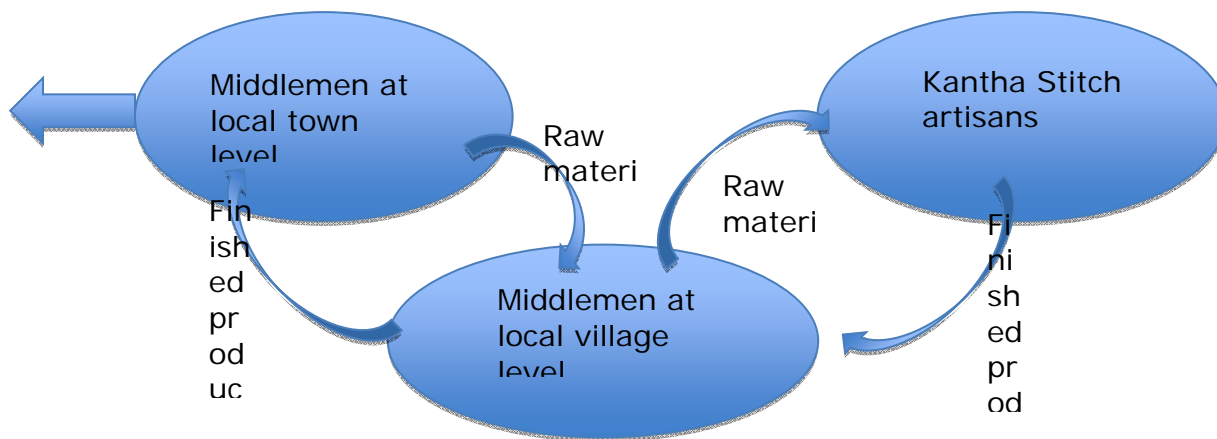
(Figure 2: Income of the families)



These artisans share that completing stitch work for one saree or a cloth takes almost 3-12 days. These days depend upon the cloth's size like- Dupatta and Shawl takes less time than a saree. This variation in time also depends upon the density of the thread required on the design because filling those gaps with thread takes more time than the straight line.

During data collection before the intervention, we found that in an average of around 300-350 Rupees, they are getting from middlemen as their wage rate is very low. One more interesting finding in the pre-intervention survey was that

those artisans have no idea about different government schemes for artisans like- a pension scheme for old age artisans and credit facilities from the government side. During the pre-intervention survey, we want to know the whole value chain of the Kantha stitch but were unable to tell the full value chain but they share some valuable points in this question. They said that they generally take these printed sarees from a local supplier at the village level who has some link in with the supplier in the local town. After making those artworks, they give those sarees to that local supplier, those local suppliers give them to the supplier in the local market.



After implementation of the project post-intervention, the survey was done. In this survey, we try to measure the impact of eradicating middlemen from the value chain on their income. To measure impact, we run a paired sample t-test with the help of SPSS. In this test out two hypotheses were,

H0 (Null Hypothesis): There are no changes in income due to the eradication of middlemen.

Ha (Alternative Hypothesis): There is an increase in income due to the eradication of the middlemen.

The test is conducted at a 95% confidence level.

#### Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Income before eradication of middlemen	319.50	10	17.393	5.500
	Income after eradication of middlemen	288.00	10	9.775	3.091

#### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Income before & Income after	10	-.072	.844

#### Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Income before – Income after	31.500	20.555	6.500	16.796	46.204	4.846	9	.001

In this test, we saw that the significant (2-tailed) of paired samples test is 0.001 which is less than 0.05 means the test is significant. So, the null hypothesis is rejected but we cannot tell that the alternative hypothesis is not rejected because in this test the significant level shown at the two-tailed level means the Mean of the income before the eradication of middlemen is not equal to the income after eradication of the middlemen. To measure the increase in their income, we need to see the mean value of the two variables, in this test we find that the mean value of income before the eradication of middlemen is higher than the income after eradication of middlemen.

### Findings

The outcome of this action research project was positive as the project failed to bring success by eradicating middlemen from the Kantha Stitch value chain process. Due to some reasons, this pilot project failed to create a positive result. We always think that middlemen are not good and they are keeping most of the profit in the value chain. But we never see that those middlemen are adding some value in those products, like after completing stitching these artisans give their product to the middlemen against some wage. But these middlemen are adding some value after stitching the product. They are cleaning those sarees or cloths and starching them

with good quality starch and pressing them. They are also adding value by good packaging and branding on the product.

Our main reason for failure in this project was due to lacking of this value addition process. They were not able to clean their product in freshwater and they use rice water to starch those sarees, so, the absence of good quality starch makes this product less bright and shiny. Also, packaging was not good and branding was not there, which impacted the product's price. Artisans have experience with the artwork or stitching but do not have any experience in the other value

addition aspect, which was one of the reasons to fail in this project.

But this project gives them learning on how to do those value additions. They become aware of the open market and price of the end product.

## Conclusion

From this project, we learn that middlemen are not always bad. Sometimes, they keep much more share of the profit from their deserved profit. But they are adding some value to the product. In the case of artisans, if they want to sell their

product in an open market and want to fetch a good price, they need to be self-sufficient. They have to increase their managerial skills along with the artwork.

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## About the Author

Sudip Garain, pursuing his MBA in Rural Management from XIM University, Bhubaneswar has completed his graduation in Agriculture from Dr. Bhimrao Ambedkar University, Agra. He has an experience of working with different organizations. He has written this report as a part of internship under Mahatma Gandhi National Council of Rural Education.

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## Annexures

### Pre intervention survey questionnaire

#### Survey or interview questionnaire for Kantha stitch artisans

1. Name
2. Age
3. Address
4. Number of Family members
5. What is the primary occupation of your family?
6. Family income (yearly)
7. Is your income from primary occupation sufficient to run the family?
8. From how many days you are doing this embroidery work?
9. How much money you earn from one Saree or cloth?
10. How many days it takes to complete one saree or cloth?
11. What is the complete process of this system (from supplier to marketing)?
12. What is the role of the middle man?
13. Do you ever think to sell this product directly into the market? If No, why? If yes, how?
14. There are some govt. schemes for artisans, do you know those schemes?

### Post intervention survey questionnaire

1. Name
2. What is the process you follow during this time period to market your product?
3. How much profit did you get from your products?
4. What kind of problems you faced to market our product?



## 8. Rural Tourism in Challou, Manipur

### An Action Research Project

Rishav Ojha

#### Abstract

This action research paper is based on rural tourism and focuses specifically on the Challou village in the Ukhrul District of Manipur. The paper aims at creating awareness about the village and its cultural heritage, the Machak Salt, the scenic beauty and other things that can act as a tourist attraction for people. Since the lack of alternative livelihood is among the major problems in the rural areas, it is imperative to come up with a sustainable source of alternative livelihood that can help the villagers. For this purpose, the action research was divided into steps, one where we collected the opinions of the people of the village to understand their point of view on rural tourism and then carried out awareness generation activities on social media like Vlogs and Blogs. After the intervention, another survey was rolled out to the people who went through the posts to try and understand their opinion of whether they would purchase the products like the salt that is made in Challou and if they would be willing to visit the place.

**Key Words:** rural tourism, social media, alternative source of income

#### Introduction

Challou village is situated in the Chingai block and Ukhrul district of Manipur. It is a beautiful village like all hilly areas. The post of Village Headman (VH) is hereditary in nature and has been passed on for generations. The village administration is handled by the Village Headman, the Secretary, Mantri, Accountant, Treasurer, MAD and Village Authority.

The main source of income here is agriculture and a special type of salt that is handmade here in the village by the people. The dependence on these two activities for their income is immense and there is almost no alternative source for income for the villagers. There are very poor infrastructural facilities including lack of proper warehousing and storage, poor roads and a school that only provides education up to the 6th standard. There is almost no medical facility available in the vicinity and people have to go to

Ukhrul (Approximately 50 km away) for proper education and treatment.

The dependence on natural resources is immense. People here cut trees and use the log for the fire, which they use to make food, keep themselves warm and also to make salt. There is an indefinite usage of the resources and this can be harmful in the future. They also use the river for extracting salt, taking a bath, washing clothes and fishing.

Among other problems, the migration of the younger generation opting to stay outside the villages and stay in urban cities is extremely relevant because the elders think there is no one to carry forward their legacy. The problems that exist in this place are the reason why the teenagers are opting to stay in the cities and do their jobs even as drivers, working in hotels or beauty parlors.

The village lies 1010-1020 ft above sea level and the table below talks about its boundaries and surrounding villages.

Direction	Village
North	Tusom Village
South	Poi Village
East	Myanmar border
West	Kuingai Village

According to the census of 2011, the detailed demographic details are:

Particulars	Total	Male	Female
Total No. of Houses	75	-	-
Population	351	174	177
Children	30	15	15
Scheduled Tribe	328	161	167
Literacy	76.64%	81.13%	72.22%
Total Workers	175	81	94
Main Worker	148	-	-
Marginal Worker	27	11	16



According to the data accessed by the 2011 Census, Challou has a literacy rate of 76.64% with a male literacy rate of 81.13% and a female literacy rate of 72.22%. There is a total of 175 workers with 81 males and 94 females. This would also reflect in the current state as we could see the difference between the male and female population as the females were more proactive in the village and participated thoroughly in the livelihood activities.

The village came into the existence in the 18th century and has since then been home to the Tangkhul Naga Community. The Challou Baptist Church was constructed in the year 1959 and since then Christianity was the dominant religion there. In the year 1986, the rice mills came into existence and paddy cultivation has been the main source of income of the villagers.

The village of Challou has a rich cultural history. It is famous for the salt making, locally known as 'Machak.' The elder people in the village told us that the King of Manipur was so impressed by the salt that there is a separate market in Ukhrol where only people from Challou were allowed to sell. It was given as a gift for the salt and its taste. Through centuries, salt has been the main source of income for the villagers. It is also said that the village was earlier on the mountain top but they later shifted down because of the ease of paddy cultivation.

The Challou Bridge was constructed in the year 2011 that went over the Challou river connecting the road to Ukhrol thus facilitating easy travel for the people. From the year 2004, the washroom construction had started and the village was declared to be open defecation free in the year 2018. It got its first Airtel Tower for telecommunication in the year 2019. Electricity entered the village in phases, around 2000 the village got electricity on a temporary basis for a few hours while by 2016, electricity was there throughout, apart from the instances where there are power cuts, which have become frequent in the recent days.

In Challou, the infrastructure requires heavy improvement as there is a lack of basic amenities like there is no primary health care center in the village and there is no medicine shop near as well. There are no medicine shops in and near the village either and the people have to go to China for their medical needs which are around 40 km away from the Challou Village. The lack of proper transportation and roads are also a problem because the roads are not well maintained and there is almost no availability of transport either. For the recent COVID-19 Vaccines, people had to walk for almost 5 km before they could avail some kind of transport.

Despite the heavy dependence on agriculture, there are no

proper storehouse or warehousing facilities for the crops, they just sell what they produce and keep a portion for their own consumption. There is usually a small storeroom in each house where they keep their produce, logwoods for fire and other things. For transportation purposes, there is a Shakti man truck that helps them carry the logwood while the Bolero Camper is used to carry relatively smaller things to places like Ukhrol and Imphal.

The households in the Challou village are made of Timber, locally known as Telkori, Mud locally known as mitti and the windows were made up of either glass with steel rods as fences or as windows used to keep out the dust and wind from gushing in. The walls of the houses were made of timber wood. The flooring was done of Timber in the living rooms while the kitchen and guest area was done with Mud. The living area was different than the kitchen and the guest space was included in the kitchen where people sat and had tea and food. There was an elevated platform in the kitchen area where people kept their Televisions and DVD Players. Along the walls were cupboards for keeping their kitchen stuff like utensils, spices and other food equipment.

The Washroom and Bathing Area are also separate with pipes connecting the water supply to the bathing area and the kitchen. The toilets were not in a good condition as most of them were small cramped spaces with no hook on the door. Water needed to be taken manually inside the washroom and used as per requirement. The washroom was also made up of wood and there was an Indian Style Commode fitted for defecation purposes.

Most of the houses had an open drainage system; there was a small passage dug along the ground which was downhill in its way and the water from the toilet and bathing area drained down from there.

There was also a small storeroom where the excess food grains and foods for the chickens and pets were kept. There was an open area of a shed where the logwood was kept and people used to take the logwood from there to their kitchen. In the kitchen area, there was a U-Shaped place made of wood which was used to burn a fire in order to cook food, make tea or keep them warm from the cold temperature. The local term for which is Mai.

The Challou Women Council (CWC) comprises all of the women of the village, i.e., all females who are of the age 15 and above, referred to as 'Mahila.' They take care of the work that the village as a whole does, which includes salt production, logwood collection and others. They also organize the picnics where all the women of the village go for a picnic and prepare the food after hunting and use the water from the river to cook food and drink water. They stay

for over a night and enjoy themselves by talking about their respective things and sharing stories and singing cultural songs. The president of the CWC is Mrs. Wormila Horam. The CWC comes under the Village Administration.

As a tourist destination, Challou has a lot of potential for tourism. This is because of the rich cultural heritage that it carries. Since the 17th Century, the Tangkhul Naga community has lived, grown, built and preserved this village and their culture resonates within every household. The way they have built their houses without any person having any

### Identification of the Challenge

The livelihood opportunities in Challou are very limited and people depend heavily on agriculture and a special type of salt that is made in Challou itself. This salt is called 'Machak' locally. Most people are involved in paddy cultivation and that forms the majority of their income.

Apart from the paddy cultivation and salt making, they are also involved in daily wage labour and also earn some money via working under various schemes like MGNREGS and PMGSY. The work includes everything from breaking rocks to carrying them to the place where roads are to be made.

The Villagers also practice animal husbandry and keep animals like cows, buffaloes, pigs, chickens and hens. The animals are sold either in the local markets or in Ukhrul. Very few households have animal husbandry as their primary occupation but they use this as another source of income.

There are also people who own cars like the Bolero Camper and trucks like the Shakti man and have that as their primary source of income. The Bolero Camper charges an amount of Rs 280-300 for one trip to Ukhrul from Challou while the Shakti man charges Rs 20,000 for an entire truckload of logwood. The Bolero Campers operate by themselves as well as they run errands for the Church and the Village authority, where they collect their receipts from the church or VA and then get paid accordingly.

People also engage in hunting and fishing but most of that is

### Review of the Literature

The challenge identified is the overdependence of the villages on agriculture and salt making for their income. These two form their primary source of income and the lack of better agricultural facilities and methods is an issue for the villagers. During my stay in Challou I had conducted surveys of around 50 households and the average income of the people were around 1.2 Lakhs p.a. This income is enough to sustain their life in the village, but it falls less for their children to be able to study in good colleges, or do other

degree in architecture degree, yet so beautiful and durable; the way they have built such a beautiful village from scratch and maintained it, is mesmerizing.

The village is surrounded by mountains and that makes it a valuable trekking and hiking area as the Myanmar border can be seen with the naked eyes from Challou. The Challou river is home to unique species of fish and can be used for a few glasses of water-based activities like swimming, fishing and many more. Apart from that, sightings of deer have been spotted on several occasions as well.

done only for consumption purposes, however, the meat is sold to the nearby households and villages as well and forms a small part of their income as well.

There is also an abundance of a plant locally called 'yangchok' and known as Perkia. The people grow it perennially and use it for consumption and selling purposes. They also grow other small crops that they use mainly for consumption practices but also sell it to local households and nearby villages. The people complained of the lack of employment opportunities and said they are heavily dependent on agriculture and salt for their livelihood and income.

The primary income of the village is a special type of salt, called Machak, that is locally made and it is also the village's specialty. Most of the households are involved in the salt-making and they sell two packets of one bundle of the salt for an amount of Rs 100 in the market. They are expensive and non-iodized and this practice of salt making has been in the village for the last three centuries. There is also a special market in Ukhrul that has traditionally belonged to the Challou village for centuries.

Therefore, rural tourism can act as a solution to unemployment, migration, alternative livelihood, increased awareness about the village, documentation of the culture and many more such issues.

things that they like. Thus, their dependence on agriculture is not helping them as much as it should and that is the reason why there is a need to create a sustainable source of alternative livelihood from which they can earn an additional income.

As mentioned by (M.S.Khaidem, 2016) There is a need for demand to be created, logistic support to be provided with assured buy-back arrangement. Growth in this sector has

been limited due to many of the inherent weaknesses such as the lack of logistic support, technology, a lack of awareness and relatively poor marketing linkages and credit support. Therefore, the inadequacy of advanced agriculture practices and the overdependence on them has paved the way for the need for an alternative sustainable source of income.

The reason why the source of income has to be sustainable is that the hills of Manipur have a steady percent of people staying there. The agricultural practice they follow is shifting agriculture which is a primitive method. Elaborated by (Marchang, 2017) shifting cultivation has been the main source of livelihood for the villagers in the hill areas of Manipur. It is still widely prevalent due to the lack of an alternative farm employment system. The inputs are crude and very traditional in nature which results in lesser income. Shifting cultivation is highly labour-intensive and has a very traditional character. Rapid population growth has also increased the use of forest land for the purpose of shifting cultivation in Manipur. The cycle has substantially declined due to the population pressure on land and has thereby reduced productivity. It has also resulted in environmental degradation and the problems of forest land re-vegetation. It has also led to a huge loss of forest resources every year.

This is essentially worrisome because, in terms of beauty, the hills, vegetation, biodiversity, rivers and other natural elements make the hills so beautiful. They are potential tourist spots with an abundance of flora and fauna, scenic beauty, species that are unique to the place and many more. Therefore, there is a need to not only make the hilly areas sustainable but also to conserve and develop them so that they can be turned into beautiful tourist spots. (Cater, 1994) wrote in his book that alternative sources of income like eco-tourism comprises small-scale, locally-owned activities. She also suggested that these are different than mass tourism. Other characteristics of alternative tourism also include its minimal negative environmental and social impacts. It helps to develop other sectors of the local economy as agriculture. Finally, alternative tourism also helps foster the involvement of local people in the day-to-day decision-making process and includes women and children alike in the tourism development process.

Therefore, there is a big need for an alternative sustainable source of income. Thus, this need can be fulfilled both on a personal and community level by rural tourism. What is entails inside of Rural Tourism is a myriad of opportunities that include eco-tourism, culture, events, religion, artisans and other factors that can be promoted. However, the challenge still exists, how does one promote rural villages in the extreme corner of India? This is where social media comes in. While the tourism agencies and the Manipur

Government are doing their best to make rural tourism to inaccessible hilly areas possible, it is imperative awareness of those villages and their culture is made using the means of social media and spreading awareness. While NGOs, SHGs and other public-private organizations can focus on infrastructure building, skill and development training, lucrative and informative content pertaining to that place can be spread so that more people get to know about that place.

(Singh, 2020) said Primary producers and rural communities have increasingly turned to tourism as an alternative means of achieving sustainable economic growth and development through restructuring and greater diversification, of economic activity. (Hall, 1998) had observed that “tourism had emerged as one of the central means by which rural areas can adjust themselves economically, socially and politically to the new global environment”.

(Singha, 2018) talks about how rural tourism benefits the local rural community by supplementing their income, which is majorly dependent either on agriculture or low-skilled jobs. Gradually, an increase in the number of tourists visiting the rural areas will lead to higher levels of trade among the people and it would thus lead to an increase in the income level of the people. Rural tourism is actually a great way to generate alternative employment among the village’s youth. Moreover, this would also allow the practitioners of traditional arts and crafts to not necessarily migrate to cities and continue their profession as they can offer their work to tourists.

Another important benefit of rural tourism according to her, is that village people, through their one-to-one interaction with tourists, also get to expand their knowledge. Such interaction and exchange of ideas between the tourists and villagers will lead to increased interest in things like education, technology as well as preventive health care amongst the villagers.

(Verma & Jain, 2018) in their paper on tourism argued that tourism brings in a large amount of income to the local economy especially in the form of the payments made by the tourists for the necessities of goods and services. It also further relates opportunities for a lot of employment in the tourism sector. In most of the developing countries, along with the growth of tourism, there also has been a growing concern for a sustainable environment. People have also become more and more cautious about the exploitation of natural resources. As a result, there has been an increasing agreement on the need of promoting sustainable tourism development to try and minimize its environmental impact and also to maximize the socio-economic tourism destinations. A number of factors have also supported the

demand for this rural tourism. An increased longing for the rural areas as a result of the pressures and monotony of modern urban life, also a booming natural food market and importantly, a desire to conserve traditional rural life. In simple words, rural tourism can be said to be a form of

nature-based tourism that covers all the aspects of rural life as well as culture, art and heritage specific to those rural locations which also result in favoring the local communities economically and socially.

### Objectives of the Action Research

Based on the additional reading and based on the literature review, the objectives of the research are:

- To identify a sustainable alternative source of income for people in Challou and study the aspects of rural tourism.
- To implement the action plan that consists of content to be uploaded in the form of videos, pictures, blogs and other sources on social media to create awareness about the village.
- To study the outcomes of the intervention planned in terms of awareness generation and the possibility of increasing rural tourism.
- To document the art of salt making and make it known to people in other places as well.
- To create awareness about the village.
- To create awareness about the Machak Salt and create a few possible leads for online selling.

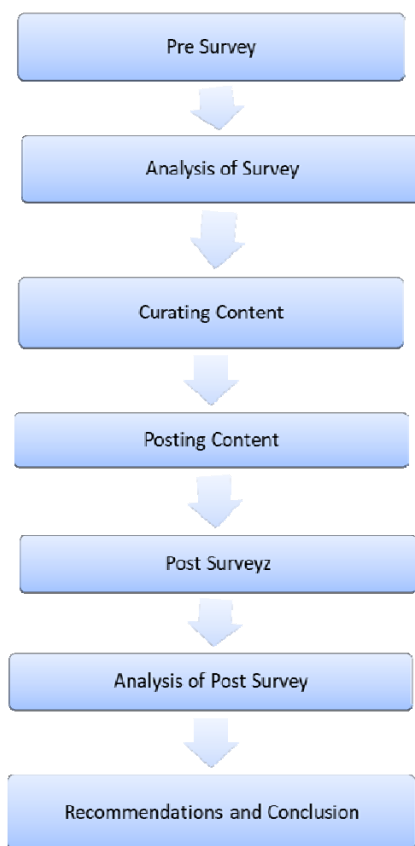
### Hypothesis

The proposed hypothesis for the action research project is “With the increasing need of a sustainable alternative source of income in Rural India, Rural Tourism has a great scope in the days to come.”

### Actions Planned to address the Challenge

The actions planned to address the challenge are:

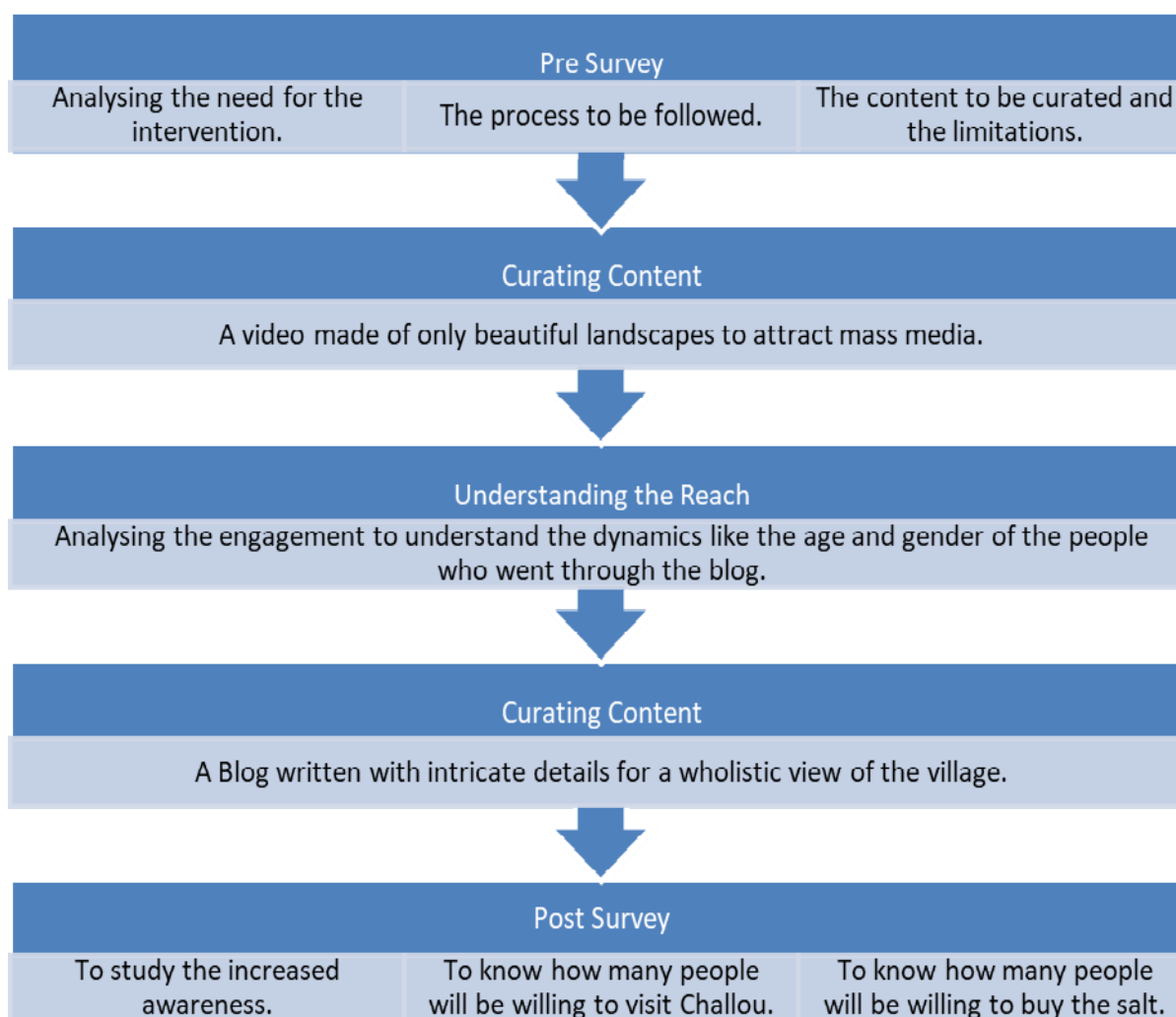
- Pre-Survey to understand the issues and opinions.
- Curating Content based on the village.
- Posting the content and measuring the reach.
- Post Survey to understand the audience’s reaction to the content and their willingness to travel to rural places for tourism.
- Make recommendations and draw conclusions based on the post survey findings.



## Implementation of Action Research Steps

The step-by-step procedures in implementing the actions to address the challenge are:

- ✓ First, a pre survey was done with the residents of the Challou Village and their opinions will be taken on the concept of rural tourism, challenges, strengths and other related things. This was done via Google Forms and the responses were collected and analyzed. The questions consisted of a mixed bag which included quantitative and qualitative questions in an attempt to gain a wholistic idea of their ideas and opinions.
- ✓ The analysis of the Survey was done thoroughly to determine the next plan of action and the content was made in the form of form of videos, pictures, blogs and other sources on social media to create awareness about the village.
- ✓ The Content was then uploaded on Instagram, WordPress and other platforms.
- ✓ Post Survey was done to understand the psyche of the people in my social media handles and their opinion was used to understand how much of awareness was created and the scope of rural tourism in India. The survey was also done to understand their preferences.
- ✓ The reach of the posts was used to understand the hype created for Challou and people's willingness to visit.



## Process of Implementation of the Study

The proposed hypothesis for the action research project is “With the increasing need of a sustainable alternative source of income in Rural India, Rural Tourism has a great scope in the days to come.” The actions were extremely beneficial for the villagers as this was the first time the village got recognition outside their own small area. People got to know about the village and showed interest in knowing more about their culture. This gave them hope to be well known among the other villages. Especially for the salt. The Machak salt deserves more recognition and the villagers had also sent it to labs previously for the purpose of trying to know more about it and market it but it did not help. Because of this intervention, we were able to inform at least a few thousand people of the salt and also allow a few of them to

acquire the salt. This paved the way for a long-run initiative where the villagers now know that they have a bigger audience in tourism and rural marketing. In the long run, now they can, by themselves sort all of this out.

Further, by conversing with them and asking questions, answering their questions, I was able to spread awareness about the concepts of marketing, rural tourism and how beautiful their village is. The youth does not have to leave the village and migrate to the cities to do lesser paying jobs that they do not like. They can stay in their village and be among the first villages to promote tourism in the area actively.

## Data Collection and Analysis

For the purpose of data collection, the pre and post surveys were used. Along with that, multiple interviews were also conducted to understand what is going through the minds of both the villagers and the urban people. The **pre survey** was done to understand the mindset of the villagers and take their inputs as to how do they think the village can be marketed as a potential tourist destination. As such, questions were also framed accordingly and were a mix of open ended, Likert Scale, yes-no types and many more.

Coming towards the specific results, here are the results question wise:

### Q1. Tell us some Unique Features about Challou?

When asked the villagers about the tourist spots that they think would be the best for promoting Challou, the pie chart below depicts the places as per their rank. The rank was decided as per the frequency of the responses given. The pie chart and the table below depict the places as per their rank. The rank was decided as per the frequency of the responses given.

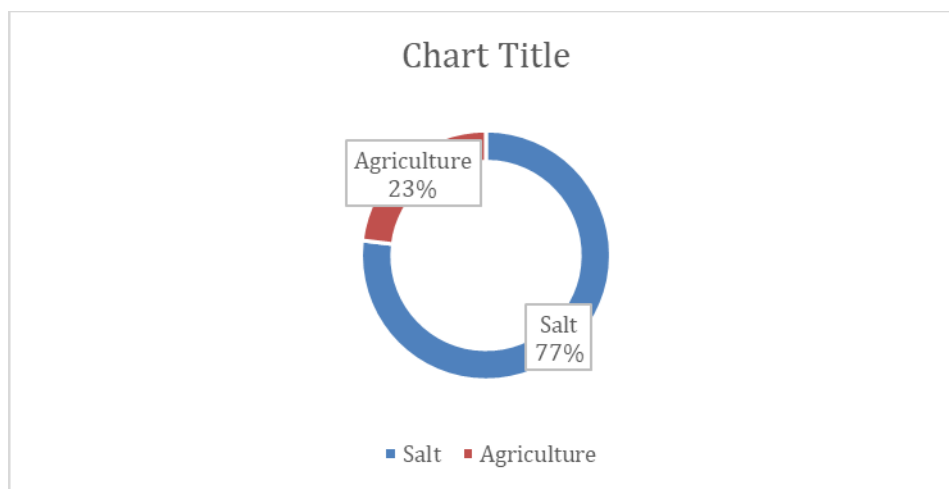
- a. Challou is a hill station and the entire village is based on a mountain. Thus, the scenic beauty is an important addition to its palette. Football and volleyball are the most dominant sports played here while the people also indulge in hunting. The people are highly dependent on natural resources for their food and other sources of fire and water. The Challou river is a huge asset for the people because water shortage is never a problem. The people take a bath, use the water for other purposes like salt making, fishing and other things as well.
- b. The range of biodiversity is impressive as it covers both animals, flora and fauna. There is a specific type of fish that is only found here and it was recently only discovered in 2015. The new fish species, *Pethia poiensis*, was found by a research team of Manipur University’s life sciences department and a researcher from the Zoological Survey of India in the Challou River in Manipur’s Ukhru district bordering Myanmar. An article in the Hindustan Times stated that the new fish species, ‘Pethia Poiensis’, was found by a research team of the Manipur University’s life sciences department and also a researcher from the Zoological Survey of India. The fish was found in the Challou River in Manipur’s Ukhru district bordering Myanmar. (Samom, 2018)
- c. In the months of February and March, they often go out on picnics and they stay at a place in the mountains near the nullah where they cook their food by hunting animals and also by fishing.
- d. Since Challou is a mountainous region, activities like trekking, hiking and other mountain activities are highly recommended and it will also be easy for the locals to implement them.

- e. The Shirui peak is among the most major tourist attractions in that area. It is home to the unique Shirui flower that buds there and its beauty is well known across Manipur.
- f. The Shrine is a mysterious well in Challou where the water contains enough salinity for the salt to be made. This well has not been excavated and the exact depth is unknown. The water in the well does not come from the river and its origins are unknown as well.
- g. The Salt is the main tourist attraction that has a range of utilities and also forms the main source of their income.

S. No.	Unique Feature
1	Nature - Hills and Rivers
2	Biodiversity
3	Picnic
4	Trekking
5	Shirui
6	Shrine
7	Myanmar Border – Narei Kaphung
9	Salt

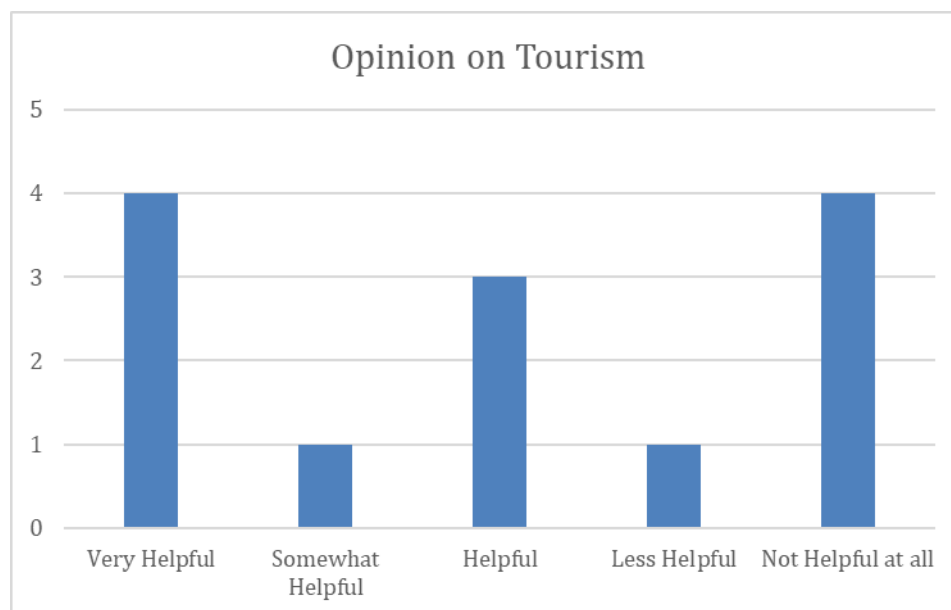
**Q2. What is the Primary Source of Income?**

This question was asked to get a better understanding of the employment status of the people. Since the intervention required to identify and study this as well. The chart below clearly tells us that more than 75% of the people are into salt making and the rest on agriculture. This means that there is almost no other source of primary income in the village.



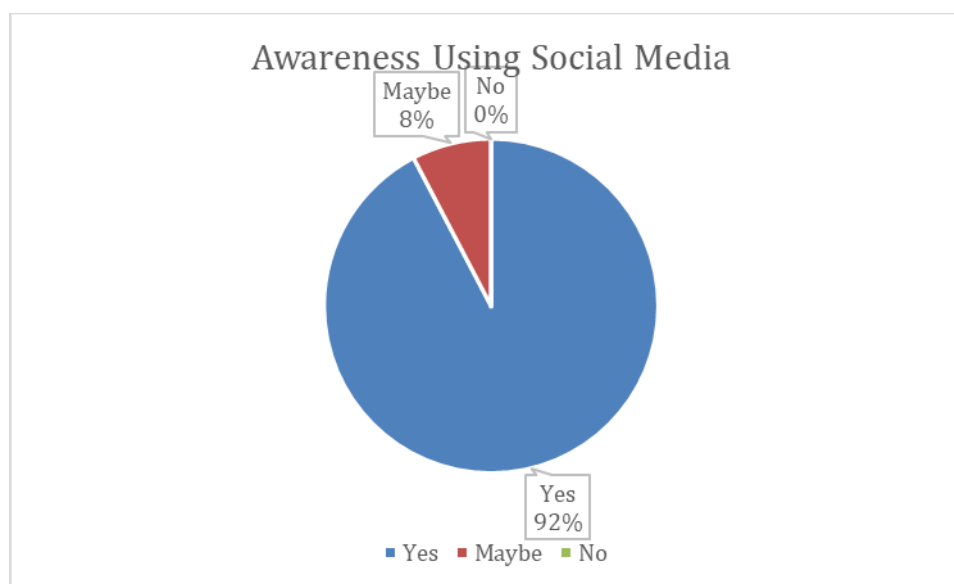
**Q3. On a scale of 1-5, do you think tourism can help Challou?**

An attempt was made to understand from the people if they think tourism can help Challou. This was done to take the opinions of the people and see what they think about tourism. We got a balanced review where people both agreed and disagreed with tourism. However, it was interesting to think that they are actively looking towards implementing them and have an opinion on them.



**Q4. Do you think awareness can be created using social media and other digital medium?**

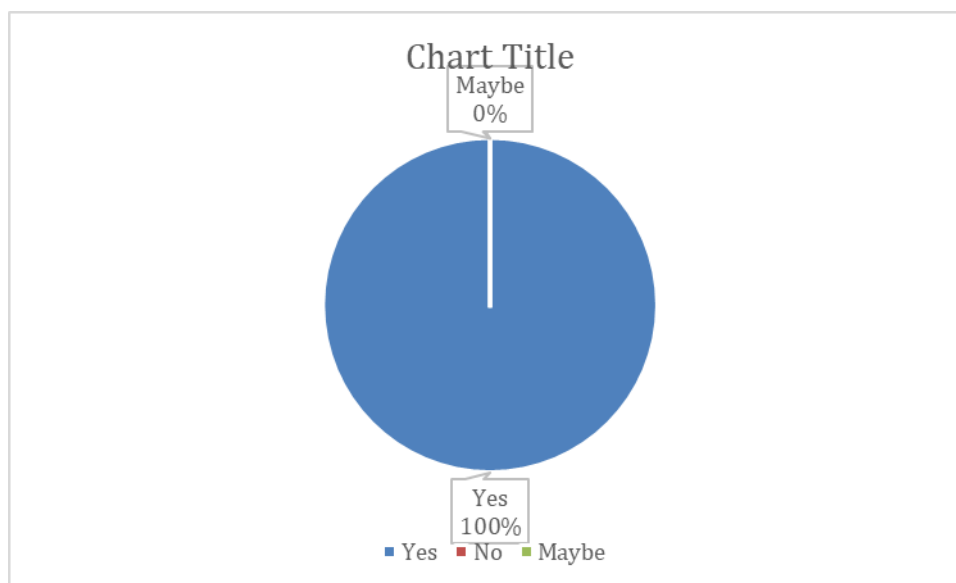
We tried to take the opinion of the people on the efficacy of social media and whether they think if the social media promotion will help them. Interestingly, almost everyone agreed to the fact that social media can help in promotion and that gave us a green signal.



**Q5. Would you like to sell these products online or to tourists?**

It was absolutely brilliant to see how the entire list of respondents agreed to expand their network and be able to sell their products online and be able to sell the products to tourists. This means that the willingness to embrace the new technology and expand is deeply prevalent in the village.



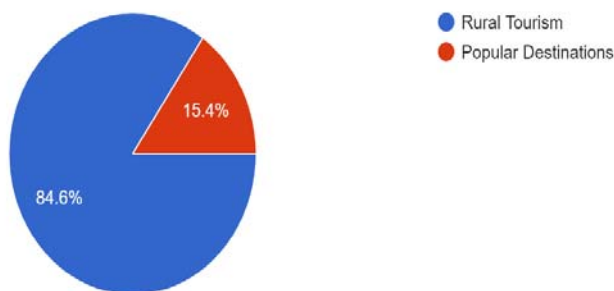


After the content was uploaded and the viewership was monitored, the **post survey** analysis was done. Here are the responses:

1. As we can see, even the demand side says that out of 26 people, close to 85% would want to visit the rural and offbeat destinations. Thus, the hypothesis stands correct that people would prefer to move to offbeat rural destinations rather than popular destinations that have satiated their demand.

In general, would you prefer 'Rural Tourism' in offbeat destinations or Vacation only to popular Tourist Destinations?

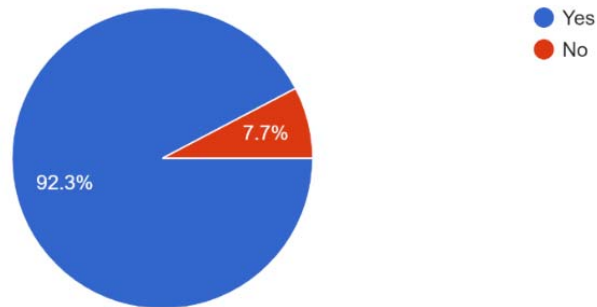
26 responses



2. As we can see from the response, the social media intervention led to a positive change as people were more inclined towards purchasing the salt after reading about its values and uses. This is a major sign of victory as earlier people were not even aware of the product but now people are ready to use it.

Based on the Previous Blog, would you be interested in purchasing the Medicinal Salt?

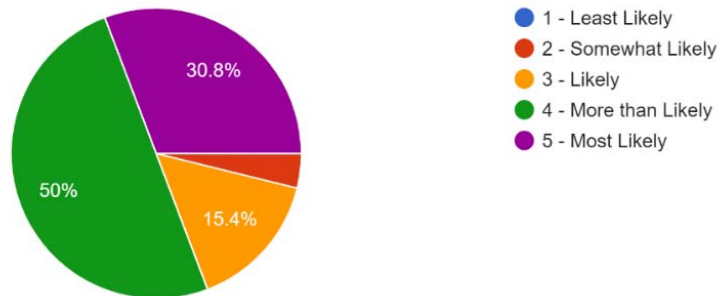
26 responses



3. With help of the next question, we checked the willingness of the people to visit Challou in a post COVID era where it was possible to visit the village. Majority of the respondents were ready to visit the village and check out their culture and stay with them.

Based on the Previous Blog and the video, on a scale of 1(Least Likely) to 5(Most Likely) are you willing to visit Challou to know more about the village?

26 responses



## Findings

The outcomes were very supportive as the surveys tell us. The awareness was spread on a larger scale as the people reacted with enthusiasm on the social media posts and that was also indicated in the post-survey. The Pre-Survey took into account the views of the villagers and that helped me to understand that they are also extremely aware of how rural tourism can be used as a tool to increase traffic in the village.

Once the pandemic is over, the people visiting the village will be documenting the art, spreading good things on the internet and buying the products that are made in Challou.

This will be acting as a good sustainable alternative source of income for the people and also a great way to make people aware of the diversity of culture and heritage in our country.

In a long term, the response of the village was positive for rural tourism and the use of social media. For example, a lot of the youth made WordPress accounts and use Instagram and Facebook. By posting their own pictures clicked of the village they can also promote tourism and now do not need the help of others to write or post about them. Thus, they can easily spread awareness about themselves by themselves.

## Conclusion

The conclusion that I learned from this research paper was that the rural areas of our country have a lot of potentials that even they are not aware of. Upon conversing with them, I got to know that the villagers also have a lot of dreams and aspirations of their own but are devoid of them because they do not have access to the privileges we do. Hence, it is up to us to bridge that gap and also give them the amenities they need to develop by being with them and enabling them to be independent and be able to work out their way. When I was talking to them and brainstorming, they were in themselves discussing what can be the potential areas for tourism and trying to come up with things that even I had not thought of. The value of indigenous knowledge and their opinions and thoughts are of utmost importance when we are trying to work with them. It is important to let them show the way and we should only just play an advisory or facilitator role and help them when they need our help, instead of thinking that we are always correct. If I would have gone with this attitude, I would not have been able to identify and report a lot of things that were taken care of when I interacted with them.

When I was talking to people, one more thing that I realized was that everyone is tired of city life and the monotony it brings. Therefore, they want to move to rural life but they do not want to give up on the luxuries they have. Rural life is

more lucrative when it comes to a temporary stay as people would then get the chance to stay away from their busy city life and just enjoy nature and the culture of the place.

Coming towards the specifics, the village has a lot of potentials, being on the Indo-Myanmar border, it has a lot of potential for cultural intermingling. The tangkhul naga community has a lot to offer to the tourists and the salt that is made is one of a kind that deserves more attention than it currently gets.

For all such interventions and support that the village needs, the onus needs to fall on such young practitioners and students like myself to be able to interact with them and understand them and hear their voice their opinions and thoughts on a larger scale. A lot of the study would not have been possible without them and if rural tourism flourishes in this region, Manipur as a whole will become a tourism hotspot and be able to generate a lot of income through tourist activities.

Despite the limitations like the lack of infrastructure, road connectivity and other related important factors, Challou is blessed with a natural beauty that very few villages have and the community here is equally good.

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## About the Author

Rishav Ojha is currently pursuing his MBA in Rural Management from XIM University in Bhubaneswar. He completed his Under graduation from St. Xavier's University, Kolkata and has pursued B.COM (H) specializing in marketing. He is interested in exploring the areas of marketing in general and rural marketing in specific and study more about the rural areas. He has conducted this action research project as an intern at MGNCRE.

## Annexures

### 1. The Salt Machak



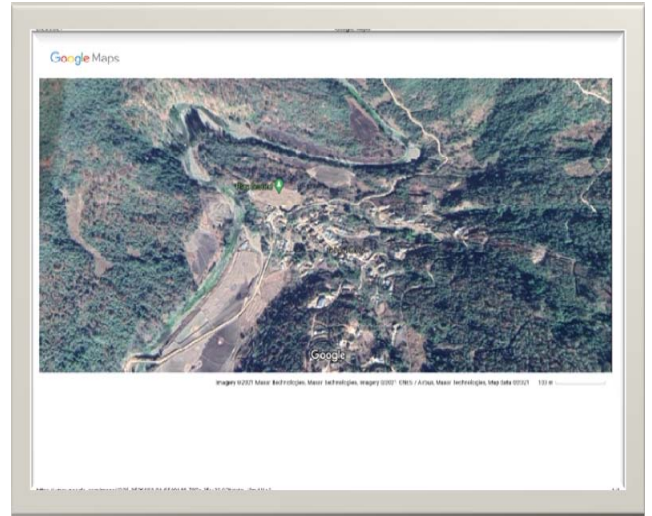
### 2. The Apparatus where it is made



### 3. Salt Making Process:



### 4. The Map of Challou Village



### 5. Perkia Plant



- 6. Pre-Survey Questionnaire
- 7. Post Survey Questionnaire

This is a Google Forms pre-survey questionnaire. The title is "Rural Tourism in Challoo, A Hidden Treasure in Manipur". The introduction states: "Hello everyone, I am Rishavojha, a student of SIM University pursuing my MBA in Rural Management and this form is for an interesting that I'm currently doing under MNCORE (Maharaja Sreebhoj National Council of Rural Education). All these questions are for a better understanding of my Action Research Project based on Rural Tourism and its possible outcomes that will be beneficial for the Challoo Village. The data provided will be used for the study only." It includes a "Required" field for the respondent's name and a text area to "Tell us some Unique Features about Challoo?". A multiple-choice question asks for the "primary source of income" with options: Agriculture, Salt Making, Animal Husbandry, and Other. A scale question asks "On a scale of 1-5, do you think tourism can help Challoo?" with radio buttons from 1 (Extremely Beneficial) to 5 (Not Beneficial at all). The final question is "What are some famous tourist spots near or in Challoo?".

This is a Google Forms post-survey questionnaire. The title is "Challoo - A Hidden Gem in Manipur". The introduction is identical to the pre-survey form. It includes a "Required" field for the respondent's email address and a "Required" field for their name. A Likert scale question asks: "Based on the Previous Blog and the video, on a scale of (1, Least Likely) to (5, Most Likely) are you willing to visit Challoo to know more about the village?". This question is accompanied by a photograph of a river flowing through a valley. Below the question are radio buttons for "1 - Least Likely" and "5 - Most Likely".

This section contains three multiple-choice questions. The first asks "Do you think tourism can be a viable long-term industry and offer a bright future?" with options "Yes", "No", and "Maybe". The second asks "Do you have some products in Challoo that can be sold to tourists?" with a text input field and "Yes" and "No" options. The third asks "Would you like to sell these products online or in person?" with "Yes" and "No" options.

This section contains three questions. The first is a Likert scale question: "Based on the Previous Blog, would you be interested in purchasing the Musical Basket?" with options "1 - Least Likely", "4 - More than Likely", and "5 - Most Likely". The second is a radio button question: "Based on the video and the blog, what activities do you think can be carried out to contribute to the tourism in Challoo?" with "Yes" and "No" options. The third is a radio button question: "In general, would you prefer 'Rural Tourism' in offbeat destinations or 'Vacation only to popular Tourist Destinations?' with "Rural Tourism" and "Popular Destinations" options.



8. The Challoo Village

- 9. Blog Link: <https://wordpress.com/post/rishavojha.wordpress.com/124>
- 10. Video Link: [https://www.instagram.com/reel/CSC8Vb8B05A/?utm\\_medium=copy\\_link](https://www.instagram.com/reel/CSC8Vb8B05A/?utm_medium=copy_link)

## 9. The Effect of COVID-19 on Education in Rural and Semi-urban Areas of Bhadrak and Sundargarh Districts and Implementing Changes to Bring in Phygital Education

### An Action Research Project

Soumya Ranjan Nayak

#### Abstract

*Education is the basic pillar of any civilization. No matter how big the emergency, the education should not stop as it shapes our present and future. COVID 19 has changed the way we read, teach and receive education which had transformed over the ages from the ancient gurukul system. However, technology has given us the opportunity to continue education although in a restricted manner without peer learning, teacher-pupil and social interaction and all the joys the school life brings into our lives. But through this action research project, we have tried to bridge the gap between the digital and physical education. The answer is optimal utilization of the technology and present conditions. Thus, we have designed the questionnaire and visited schools to see the efficiency and the effectiveness of the action planned.*

**Key Words-** COVID 19, pandemic, SHG, Phygital education, NEP (New Education Policy), digital education

#### Introduction

The COVID 19 pandemic has changed the way we think, study, work and live our life. Post pandemic, the physical schooling system in both urban and rural India was affected. Both teachers and children are affected by the same. Teachers find it unsatisfactory to teach as he doesn't know if the student is actually studying or not. With those various extra-curricular activities that were prevalent pre-pandemic too took a hit. The extra-curricular activities and physical classes in a way improved the personality and the team building spirit, empathy in a child's mind. But post pandemic, health has been a top priority considering the future citizens. But education as a whole has been impacted due to the lack of digital infrastructure and other technology in schools especially government schools of Odisha.

The study/the action research project is done in the government and private schools of Bhadrak district which is spread in an area of 12,805 sq.km consisting of 7 blocks ,07 Tahasils, 07 municipality,02 Notified area council along with 218-gram panchayat and 1370 villages. The Bhadrak as a district has a total literacy rate of 82.8% and is 87.7% rural. The study is done in villages of Nalgonda, Motto, Chandbali, Bhadrak in both private and government schools. Economy of Bhadrak district is mainly agri- based. And fishing is the main occupation in coastal communities of Dhamara of Chandbali block to Padhuam of Basudevpur Block. The agriculture is mainly kharif and 47% rain fed area and likely to affected by monsoon and floods and thunderstorms. Others include sound small business.

#### Identification of the Challenge

The ongoing pandemic has changed the way we used to learn and almost disrupted the education system that was going on

The SHG linked implementation is done in the village of Nalgonda, which is a village in the north-eastern coastal district of Bhadrak in Odisha state. It is located around 40kms from the district center at Bhadrak. It is connected to important villages and towns through roads and means of transport, primarily bus, trekker and sometimes auto rickshaws. It has a primary and higher secondary school at the entry point of the village.

The economy is also driven by some big industries like FACOR, one of the largest manufacturers of quality Ferro chrome in the country and a large number of small industries like AB electricals, Abhigoura Rice mill and Aloknath Ice Factory, etc. However, most families fall in the lower income to lower middle-income group. The villages and Schools are equipped with sanitation facilities, all thanks to the Swatchh Bharat Abhiyan and almost all of the small children are going to schools due to the awareness created by the Sarva Shiksha Abhiyan. Mostly all of the surveyed families have one or two children. But post pandemic many things have changed. As the economic situation of the families are in the lower side, they are not able to provide mobile phones or tablets or laptops to their children for studying during these trying times. Some have economic situational issue and some are skeptical of the tender age and the risks associated with mobile internet services. But with the world turning digital and at a greater pace due to pandemic, the mobile phones and tablets are a necessity beyond avoidance.

for decades. The school teachers who are not so tech savvy had to almost overnight learn to adapt to the new situation.

However, many of them are still not literate about the feature in the media they are using and they are often bamboozled about how to give the best education to their students and

## Review of the Literature

According to UNESCO, on 1 April 2020, schools and higher education institutions were closed in 185 countries, affecting 1,542,412,000 learners, which constitutes 89.4% of total enrolled learners. At the beginning of May, some countries, experiencing decreasing numbers of cases and deaths, started lifting confinement measures. However, on 7 May (the time of writing the report), schools and higher education institutions (were still closed in 177 countries, affecting 1,268,164,088 learners, which constitute 72.4% of total enrolled learners.

Educators at all levels of school have been compelled to adapt to online learning systems and platforms in a very short period of time. The primary goal of this research is to examine the difficulties educators had in online learning practises during the COVID-19 pandemic, the changes they expect in educational practises in the post-COVID-19 era and the educational countermeasures to be implemented.

When compared to traditional in-person education, online learning delivered solely through videoconferencing can result in lower course satisfaction and academic grades (Roth et al., 2020). Furthermore, the "learning curve" towards active learning and computer confidence for both students and instructors present practical hurdles that must be solved for online learning to be successful (Kenny, 2002).

Interestingly, there may be some potential benefits to undergraduate university students staying at home, including support received from parents and varying domestic tasks and financial considerations as reported during an economic crisis in Portugal (Cairns, 2011). Alternatively, other studies have found no significant difference between online learning and in-class or off-line learning and may even enhance the undergraduate learning experience (Pei & Wu, 2019). Also, distance learning implementation may have reduced socialization or communication between students when compared to a traditional classroom (McKenna, 2018). However, it is unclear to what extent online learning correlates if students are required to adjust within a semester in 1-2 weeks of time

It might be argued that studies on online education with COVID19 have included a new perspective, such as "remote education during pandemic periods." In reality, during the pandemic, the number of studies for distance education

according to them students are often not participating in class and with their peers and which has actually affected their socially empowering skills and learning.

applications conducted in different regions of the world has increased day by day. The study by Arora and Srinivasan is one of the studies on this topic (2020). The study looked at the adoption rate, benefits and obstacles of distant education with 341 teachers in India's Ghaziabad region.

As a consequence of the study, it was discovered that some teachers support distant education while also emphasizing on issues such as network issues, education and awareness. During the epidemic, another study looked at university students' viewpoints, attitudes and readiness for online education (Lall & Singh, 2020). Students had a favourable attitude toward distant education as a result of the flexible learning choices, according to the findings. Xie and Yang (2020) investigated students' experiences of studying at home during the pandemic in their research. During the epidemic, the study implemented strategies to encourage students to study on their own and autonomously.

In March 2020, the number of pupils whose educational activities were restricted was roughly 300 million and by April 2020, the number had risen to 1.6 billion. Many countries throughout the world have had to halt educational operations or find new alternatives in a short period of time due to the rapid proliferation. According to UNESCO (2020), 92 percent of pupils around the world were affected by their education and training lives as of April. In March, there were six countries that closed schools; a month later, the number had risen to 195.

Distance education (Eygü & Karaman, 2013; Moore, Deane & Galyen, 2011) is a computer-based teaching approach in which students engage with educators from a central location when classroom education is not possible owing to restrictions in the general education and training process. With its flexible learning contexts, distance education is seen as a potential invention (Allen et al., 2010). With a lengthy history, distance education was first implemented via email and then continued via letter. Distance education courses began to be aired on radio and television as a result of advancements in radio and television technologies. Virtual learning environments began to be maintained via satellite, fiber optic and computer technology as these technologies developed (İşman, 2011).

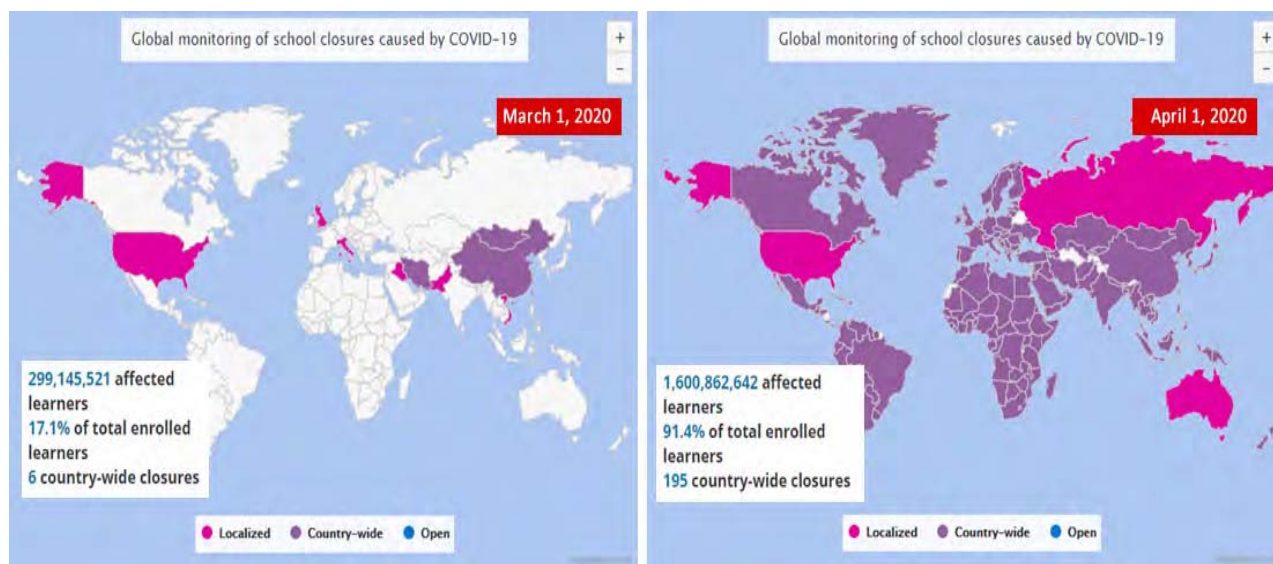


Fig 1. Showing the school closures around the world

Distance education has a number of advantages, including ensuring educational sustainability, providing lifelong learning and lowering education costs despite the learner and the teacher staying at different places but methods, schedule and time are things to be taken care of.

Other factors include lack of infrastructure (software, hardware etc.), economic reasons, lack of technical staff, lack of awareness in these society and especially students in this regard and regional differences in the level of utilization of information technologies are seen as obstacles to online learning, especially in Rural India.

As a result, self-directed and connectivist learners on networks should tailor their learning environments to their specific requirements (Downes, 2008; Levy, 2011; Tschofen & Mackness, 2012). Connectivism proponents say that

information cannot be transferred from educators to students, that participation is critical to learning and that knowledge can be generated through active contact among persons (Bozkurt, 2014; De Waard et al., 2011; Goldie, 2016; Steffens, 2015). While attempting to ensure the student's academic progress, we must not disregard the psychological, social, or socioemotional aspects of learning, which necessitate a more holistic approach. We must also remember that, because all humans are biological, psychological and social beings and learning necessitates more than those aspects, online learning may not be able to address all of a student's learning demands.

Though the educators worldwide have been trying to make the education process more social, but the online learning has promoted individualized learning as a matter of fact, students are on their own for understanding the subject and teacher has limited time to guide the students properly

### Objectives of the Action Research

The primary goal of this research is to examine the difficulties educators faced in online learning practises during the COVID-19 pandemic, the expected changes in educational practises in the post-COVID-19 world and the educational measures to be taken to prevent a future outbreak, as expressed by educators, within the context of the following research questions:

1. What difficulties are educators facing in rural India during the COVID-19 pandemic?
2. In the post-COVID-19 world, what changes do educators predict in terms of educational practises?
3. What educational measures should be implemented in the event of a subsequent outbreak?



The disruption due to Covid 19 has increased the inequality already prevailing between private and government schools.

There has been a decrease in attendance of the government schools with no incentive to check that. Whereas the private and public schools who were following the hybrid mode of education, had an upper hand during the crisis. Still in rural settings the economic background of parents is inadequate to provide them with mobile phones, tablets and laptops for doing online classes. Even children are finding it difficult to have one smart phone with them and are forced to share the phone during class. Although online education has its benefits but there are lot of this like the non-verbal communication,

public speaking and awareness, socialization that needs the students at the schools which actually helps them to adopt to their surroundings and act in accordance with the society. Therefore, I want to include the best practices that are/can be practiced in some of the schools or that can be done digitally that will help the teachers and students for an interactive session and education. So, my objective is to help the students and teachers, to adapt to the video conferencing and lectures and how to make them interactive through the practices used in the large universities in India. Then to gauge if the implemented action can be smoothened and sustained by the SHG members of the village and to gauge if the above approach is helpful in getting better in online education.

## Hypothesis

The initial survey yielded that the most of the students and teachers are missing the conventional mode of study and are taking time to adjust to it. Also, the number of activities that is done by the schools have significantly decreased. This gap needs to be squeezed as the COVID 19 pandemic is not going to end in very near future and so what we can do is to add multiple features of physical education and merge it with the continuing digital education.

## Actions Planned to address the Challenge

So, what we can do is take a pilot project on how to improve this thing in digital education, where I will be the facilitator to make the teacher learn about the techniques used to make the in-class discussions more interactive, through breakout rooms and other initiatives like school session starting with news reading like it was happening in the pre-covid times. Weekly assignment in form of ecological activities like tree planting at home, fitness, yoga, music, dance, comedy and other extra-

curricular activities can be given and guided by teachers to give an all-round feel of real education and not merely monotonous video lectures. Along with this real time feel of online quizzes through Kahoot.it, Google forms that are quite easy and accessible to use and make by the teachers with basic excel skills and they have a timer fixed to it which make it competitive at the same time. These events could be fun and could give the students a feel for education.

## Implementation of Action Research Steps

- Primary and secondary questionnaire to gauge the difficulty, the teachers are facing in the digital medium
- Questionnaire to gauge the interest of the students during their present system of online classes
- Intervention through facilitating online learning and co-curricular activities
- Post survey Questionnaire to take the feedback of the students and teachers after the intervention

## Process of Implementation of the Study

The survey method is to be followed to collect data. The survey will be done among teachers, students, parents and will try to gauge the effect of sudden shift to online education on the satisfaction levels of the stakeholders.

The action plan is to take the survey of the requisite audience and then gauge the extent of the problem that exists on the ground. The survey will consist of both closed and open-ended questions. They will gauge the teacher perspective and the student perspective on the sudden shift to online education. The analysis of the pre survey questionnaire will provide the mode, problems and perspectives of teachers and students from online education. Then according to the mode of the providing and receiving education, the best practices and features for interactive discussion, debates, art competition is to be inculcated in other schools based on the physical

infrastructure provided. Then for better sustainability the SHG members in the village would be given training on the few features that they would help the children practice and also help them offline. The doubts of the children would be collected and solved at the domestic level where the school teachers with a SHG member would one to one discussion with the students which will help in sustainable intervention. In this way we can manage to help both students and teachers for their satisfaction in learning. Although it cannot fully replace the social and psychological needs of the students, but it can surely help to reduce the gap between offline and online education. Then a post implementation questionnaire will be taken to gauge if any solution or effect is successfully implanted in the society due to the action taken and if similar things can be taken into account.

## Implementation

During the implementation, there was restriction in the district of Bhadrak with limited mobility and gathering. With the restrictions going on and declaration of the state government to open the schools only for class 10 it was difficult to get in touch with many teachers as many were wary of the covid 19 situation going on in the state. Thus, the survey was conducted by spending some 10-20 min interaction with one or two of the teachers/students with all precautions taken. Because of the reasons stated above, convenience (purposive) sampling was used, which is a nonprobability sampling method. The probability of selecting each sample from the population in nonprobability sampling methods cannot be reliably established. (2005) (Sümbülolu & Sümbülolu). Purposive sampling is used because it allows researchers to work with a subset of the population (enol, 2012). Purposive sampling allows researchers to identify the primary features of the people who will make up the population and then reach out to those who fit these criteria. Individuals (subjects) who can provide the finest information for the research aim are chosen based on the researcher's understanding of the population (Christensen, Johnson, & Turner, 2014; McMillan & Schumacher, 2014). Individuals are included in the study if "they are educators and have actively engaged in online education during the COVID-19 epidemic," regardless of the levels they teach. The sample can also be considered within the scope of criteria sampling because of this criterion (Maxwell, 1996; Patton, 2002).

The implementation starts by general oral questioning and focused group discussions with the gram panchayats, teachers,

students and parents to gauge the extent of problems due to the sudden shift to online education. The data provided by the pre implementation questionnaire provides the basis of the implementation. The study or the project area consists of six schools in the vicinity of the village Nalgonda of Bhadrak district of Odisha and 2 schools in Rourkela. Out of the 8 schools 4 are government run schools, 3 are private and 1 is public sector funded school. The study is done for students of classes primarily from Standard 6 to standard 10. The study is based on the sample of 30 students, 10 faculty members from the above 8 schools and with some of the SHG and CSC members and panchayat on the latter parts of the implementation. The process started by asking the state of the present conditions as to which platform is provided to students. Then discussions went on to address what are the features for doubt clearing, in-class discussions, debates, drawing and extra-curricular activities, how are exams conducted, what is the preference of the teachers and students as to which medium (offline or online) is preferable, then based on their existing platform be it zoom, google meet or Microsoft teams or YouTube, etc. Specific features which help in class discussions is to be discussed according to their ease of using them and small workshop are to be taken among the agreeing institutions for knowledge transfer and peer learning. Then the same thing is done by CSC volunteers and the SHG volunteers for providing children with the ease of access all year round or at least the time up to which the online classes continue.

## Data Collection and Analysis

The structured interview method is used in data collection. Structured interview method allows for fast coding and analysis of data, ease of measurement and then allow comparisons with the scope of the research (Büyükoztürk et al., 2015).

Separate questionnaires were formed for both teachers and students and two questionnaires were designed for pre and post implementation.

### Participants

Respondents	Frequencies	Percentage
Principal	4	5.71%
Faculty teachers	16	22.86%
Students	25	35.71%
Parents	20	28.57%
SHG members	5	7.14%
	70	100.00%

*Table 1. Number and percentage of respondents*

The participants mainly consisted of 4 Principal ,16 faculty teachers, 25 students eight schools selected for the survey, 20 parents and 5 SHG and CSC members of the locality.

The participating schools are:

Name of the School	Type of School	Mode of teaching	Infra Provided by
Palaspur High school	Government	Hybrid	Gov
Nalgonda High School	Government	Hybrid	Gov
Motto high School	Government	Hybrid	Gov
Carmel school, Icchapur Bhadrak	Private	Hybrid	Own
Venkateswar School, Chandabali	Private	Hybrid	Own
Government M.E School Motto	Government	Hybrid	Gov
Ispat English Medium School, Rourkela	Public	Hybrid	Public sector funded
Chinmaya Vidyalaya, Chhend, Rourkela	Private	Hybrid	Own

Table 2. Type of school participating in survey

The mode of the teaching is mostly hybrid i.e., both offline and online as seen from the above table which means the exams may or may not be conducted offline based on the number of cases and the situation prevailing in the locality. At the time of data collection, the schools are closed until the further notice of the state government.

Standard (Class) of students	Frequencies	Percentage
6	4	16.00%
7	5	20.00%
8	6	24.00%
9	5	20.00%
10	5	20.00%

Table 3. Distribution of students participating in survey

The survey consisted of 25 students coming from different standard or classes, the distribution of which is described above. The satisfaction of teachers is rated on a Likert scale of 5 and the ratings are recorded through excel inputs and are as follows:

Name of the School	Classes	Has COVID 19 affected the institution
Palaspur High school	YouTube	Yes
Nalgonda High School	YouTube	Yes
Motto high School	YouTube	Yes
Carmel school, Icchapur bhadrak	Zoom, Google meet	Yes
Venkateswar School, Chandabali	Google meet, Microsoft teams	Yes
Government M.E School Motto	YouTube	Yes
Ispat 2nglish medium School, Rourkela	Zoom, Google meet,	Yes
Chinmaya Vidyalaya, Chhhend, Rourkela	Zoom, Google meet,	Yes

Table 4- tells about the type of platform used b the surveyed institutions

All of the institutions agreed that COVID 19 had affected their institution and the amount of the effect is different for the inhabitants of the suburbs and interior rural people. The problem of attendance and enrollment has been a constant problem in these institutions with the lack of digital infrastructure at the students' houses and sometimes of teachers. The teaching in Government schools is done through YouTube primarily as per the government's instruction only for higher secondary classes. The future of the lower secondary

and other classes in the government schools is in jeopardy due to the ongoing lockdown. Private schools on the other hand have build infrastructure and have shown resilience in these trying times. The attendance problem is primarily grave in government schools as attending video lectures through YouTube is not mandatory and most of the children do not attend it. This further lower their grades and discourages their parents as they are very unsure of their future. The attendance is rated as follows

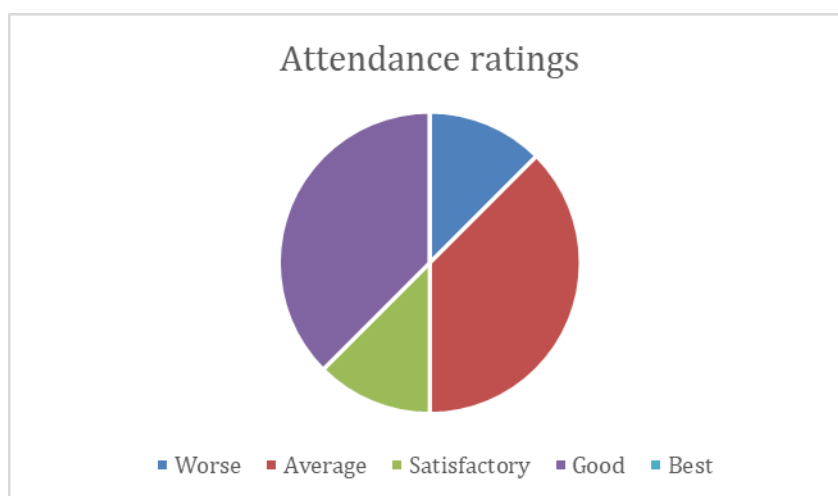


Fig 2.- Shows the ratings given by teachers about the attendance of students

Scale	
	<b>Category</b>
	<b>Attendance</b>
1	Worse
2	Average
3	Satisfactory
4	Good
5	Best

Table 5- Likert scale of ratings

Attendance ratings	Ratings of Schools
Worse	1
Average	3
Satisfactory	1
Good	3
Best	0

Table 6- Ratings on attendance by schools

The above table shows that three schools have ranked attendance procedure as average and three as good. Here again, the lower rating schools are the government high schools who do not have good infrastructure for digital and online classes and they are forced to run the education system as they are running as per the provisions of the

government. But on the other hand, the private schools have efficient infrastructure and have relatively richer background students which help them tackle the attendance issues quite effectively. But they also say that education cannot be within the closed door of the house and has to be socialized as that is the main motive of being educated "to give back to the society".

The private schools that are situated in the interiors of the Bhadrak district are actually worried by the enrollment drop they are going to face in the coming 2-3 years. So, the problem is as follows:

Name of the School	Enrollment in institution
Palaspur High school	low effective enrollment
Nalgonda High School	low effective enrollment
Motto high School	low effective enrollment
Carmel school, Ichapur Bhadrak	little effect

Venkateswar School, Chandabali	Decreased
Government M.E School Motto	low effective enrollment
Ispat English medium School, Rourkela	little effect
Chinmaya Vidyalaya, Chhend, Rourkela	little effect

Table 7-Effect on enrollment of the institution due to the pandemic

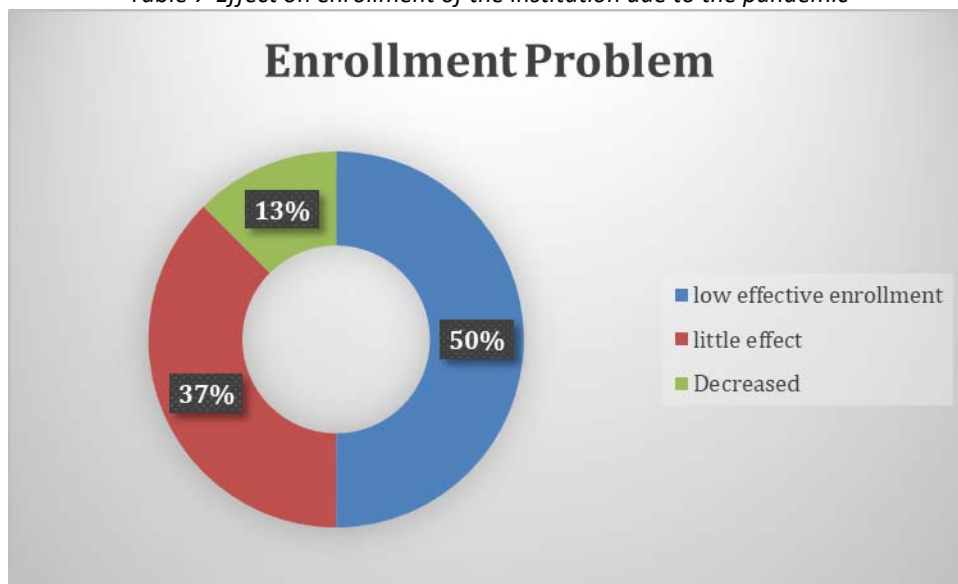


Fig 3- Pie chart- Pie chat showing the enrollment problem

Here we can see that Carmel School, has more or less been resilient in the case of attendance. There are multiple reasons to it. The interaction with the parents led to some reasons about the school's discipline, safety and security to its students. The board results also spoke for its popularity in the area. In the conversation with Mr. Manoj of Carmel school who specializes in History and Physical education, he took me through the classes and the WhatsApp group. Unfortunately, he did not

allow me to record things as he was not authorized to do so. But I could see the visible difference as to why the school was doing well despite the pandemic. I could see the children standing for school captain or the house captain. This has enhanced the extra curriculars of the students of the school. But the other private school, the Venkateswar School, is actually worried about the enrollment problem as they are placed at the interior of the district with slow internet and other socio-economic issues.

Type of exams happening	No of schools
Objective	5
Subjective+ objective	3

Table 8- type of exams happening in school

Are institutions exams ready	No of schools	Type of schools
Yes	3	Mostly private and public sector schools
Not sure	5	(Government schools)

Table 9- Exam readiness of Institutions

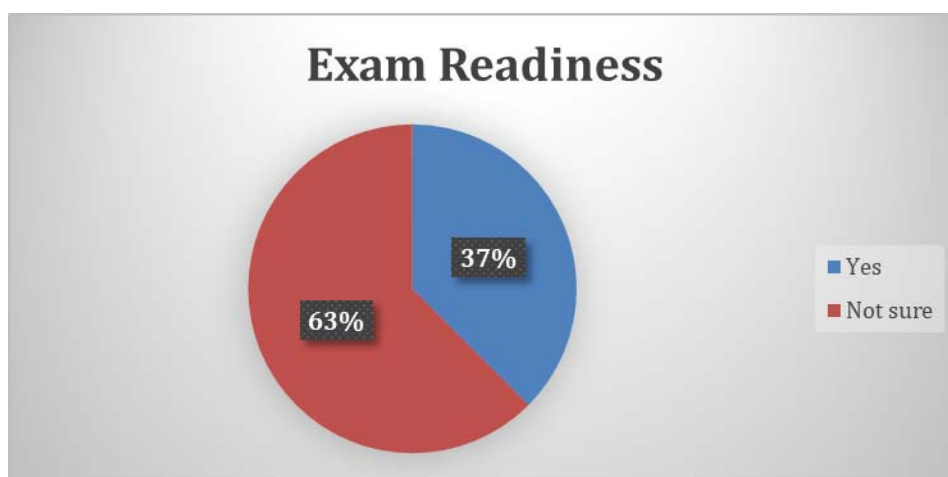


Fig 4- Exam readiness of the schools

The next issue is the problem of conducting exams. As the government did, doing the same in other classes would be detrimental to the children's growth. As back in 2019, NGO Pratham stated in their ASER report, "Only 16% of children in Class 1 in 26 surveyed rural districts can read text at the prescribed level, while almost 40% cannot even recognize letters. The survey also showed that among Class 1 children who could correctly do none or only one of the tasks requiring cognitive skills, about 14% could read words, while 19% could do single digit addition. However, of those children who could correctly do all three cognitive tasks, 52% could read words and 63% could solve the addition problem." So, if the condition is such when the physical classes were on, think about the effect

during the lockdown on the children's learnings during these times. Thus, conducting exams and regular quizzes is essential for gauging learning potential of the children and help the which are lagging behind. In this condition, private schools like Carmel are ahead, as they are conducting exams through google forms and the paper-based scan and providing the answer sheet at the college if possible. As per the ASER report 2019 in rural areas, "Of six-year-olds in Class 1, 41.5% of those in private schools could read words in comparison to only 19% from government schools. Similarly, 28% of those in government schools could do simple addition as against 47% in private schools." Here also the trend is continuing and thus here comes the divide between the private and government schools if we compare the resilient to the pandemic.

#### Regional analysis

Name of the School	Region
Palaspur High school	Rural
Nalgonda High School	Rural
Motto high School	Rural
Carmel school, Icchapur, Bhadrak	Semi-urban
Venkateswar School, Chandabali	Rural
Government M.E School Motto	Rural
Ispat english medium School, Rourkela	Semi-urban
Chinmaya Vidyalaya, Chhend, Rourkela	Semi-urban

Table 10- Regional analysis of the School

#### Opinion of the Teachers

Teachers were asked questions based on certain themes like opinions on online education, plus points and limitations, effect on education process and student, course and content, view on the future of distance education and technology. Most of them (65%) agreed that this is the minimum thing that can be done in these trying times. About 75% said that the online is useful but it is not the same as physical classes.

Coming to the issues, almost 80% of them have issues with receiving feedback and the dwindling interaction due to the online medium and the other 40% saying that the school infrastructure and the digital infrastructure at student's home are inadequate in addressing the learning outcomes.

Opinion of teachers	No of teachers saying yes (out of 20)	Percentage
Useful in these extraordinary situations	13	65.0%
Useful but not as good as class	15	75.0%
No other alternative	20	100.0%
No equality of opportunities	9	45.0%
Interaction and productivity issues	16	80.0%
Infrastructure and technical problems	8	40.0%

Table 11- Showing the general opinion of teachers about online education

Some of the direct statements are as follows:

**Positive views**

T14 - *We cannot do anything except continue this (online education) for some time till everything calms down.*

T2- *The online learning is the future. It is helpful in one-to-one learning, but it is necessary to provide smart classes and digital infrastructure and assets in students' homes.*

**Negative viewpoint**

T7- *There has been serious of issues of proxies in attendance, hindrances in education due to less interaction and the blank screen in front of us is not allowing us to gauge who is in the class (Physically, psychologically) or not*

T9- *As the teacher and student are not in the same physical background it harms both the teacher and the student and reduces their efficiency*

**Satisfactory viewpoint**

T18- *Getting feedback is difficult, but in these extra ordinary situations, this is the only way out*

T3- *"Although it is not possible to be as good as school, children should not stay away from education",*

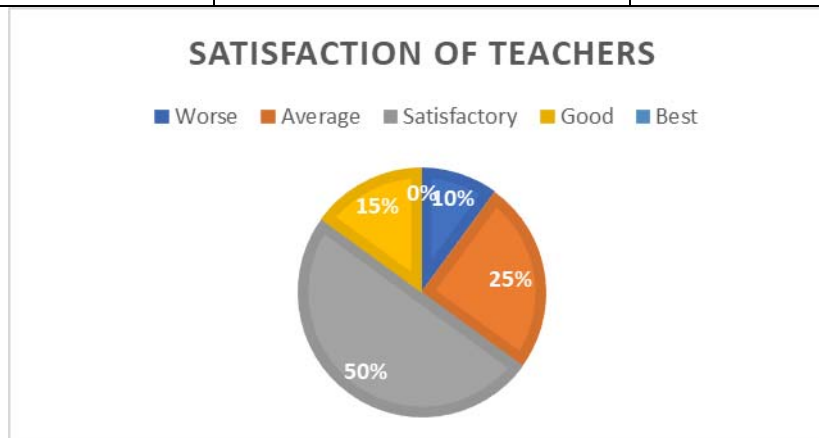
T5- *"I find it useful, not that it can replace school, at least the students are not completely disconnected from school and lessons"*

T19- *"Continuing the course and keeping in touch with the education is most important"*

From this we can see that mostly the teachers' reactions are satisfactory and they are actually in lock horns situation due to the prevailing pandemic.

Table 12. Showing Satisfaction Rating of teachers

Satisfaction distribution of teachers(ratings)	Inference	Frequencies	Percentages
1	Worse	2	10.00%
2	Average	5	25.00%
3	Satisfactory	10	50.00%
4	Good	3	15.00%
5	Best	0	0.00%
		20	



**Fig 5 Showing percentage satisfaction of teachers for this online medium**

Coming to teacher viewpoint on the effect on the student, the result are as follows:

Effect on the students	Frequency	Percentage
Damage on the school/student relationship	12	60.00%
The sociological and psychological effect on students	13	65.00%
Student-teacher relationship affected	8	40.00%
Sluggishness and Loss of motivation	10	50.00%

*Table 13 Showing the effect of online learning on students( teacher perspective)*

Majority of the teachers believe that the relationship between them and schools with the students have taken a downturn, while some think that the students are going through a tough phase as they do not have their peers by their side to reduce their workload by keeping the environment light.

Some reactions are as follows:

T9- *Students are going through tough times in this pandemic, both psychologically and socially and they have no one by their side to help them cope with the situation.*

T13- *The father-children relationship (Guru-Shishya) parampara has taken a backstage during the covid crisis*

T16- *The students are finding it boring to study in front of the screen all day long, which also adds to the effect on their mental health.*

About the viewpoint on course content and duration of it, following are the results:

Course duration	Frequency	Percentage
Shorter than 30 mins	12	60.00%
30 mins is enough	5	25.00%
Greater than 30 mins	3	15.00%
	20	
Course quality satisfaction	Frequency	Percentage
Yes	9	45.00%
No	4	20.00%
Neutral	7	35.00%

*Table 14- Ratings for the course content of online classes by teachers*

T8- *I miss the interactive part of the classes and the course content could include more case study based or the subjective questions to gauge the thinking and learning outcomes the students are deriving from the classes*

T10- *The school environment is missing and sometimes lack of proper devices and the home environment hampers the child education.*

T13- *I think the duration of the classes is perfect as more time will distract students and is not helpful*

T17- *More hours should be given as the attendance only takes a lot of time with some coming in and going out (from the class) due to network problem*

T20- *The course should not eliminate the essential components of the education and the course if shortened, should be done judiciously*

Most of them had positive views about the role of technology in the future of education industry:

Future of the technology in education sector	Frequency	Percentage
More effective	9	45.00%
Cannot replace the conventional education	13	65.00%
Digital infrastructure should be strengthened	15	75.00%
Supplementary role with the conventional education	17	85.00%

*Table 15- Review of teachers about the future of education*

Although most agreed that digital education can play a supportive role rather than altogether moving into the digital medium. In some cases, this also helps the teachers learn new things that keep them updated about the technology. But for any of this to happen, the digital infrastructure should be strengthened so that the knowledge can be disbursed and distributed equally.

T6- *The children here are struggling to access more than one device and are doing sharing during classes. The social situation here impeded the online learning. Else if properly implemented alongside conventional education, this can be*



game changer for rural areas.

T10- The online education is future and doing without it is indispensable and it also allows us teachers some respite from our daily schedule and we can also work at our ease until necessary

T9- Although helpful, but it can never replace the offline education

T11- I think it is a good process. I think many teachers have helped themselves who previously thought that they can't do it (teach online).

T15- Although it causes screen addiction among students and teachers, but also that teachers are improving themselves in the field of technology in order to use technology effectively and be useful to their students and that they realize that technology is actually useful with correct use."

### Student Review

The rural government schools are specially backward from its counterpart i.e., the students of the rural private schools as shown by the ASER report back in 2019 which states "Of six-year-olds in Class 1, 41.5% of those in private schools could read words in comparison to only 19% from government schools. Similarly, 28% of those in government schools could do simple addition as against 47% in private schools."

The problems generally faced by the students in general due to the online education system,

Problems	Frequencies	Percentage
less class discussions	20	20.41%
network problem	15	15.31%
Access to digital devices(inequality)	10	10.20%
No extra curriculars, debates, competition	6	6.12%
mode of asking doubts	15	15.31%
No teachers	8	8.16%
Boring	10	10.20%
Inadequate Infrastructure	6	6.12%
Stereotypes of parents towards digital devices	8	8.16%

Table 16- Problem faced by the students

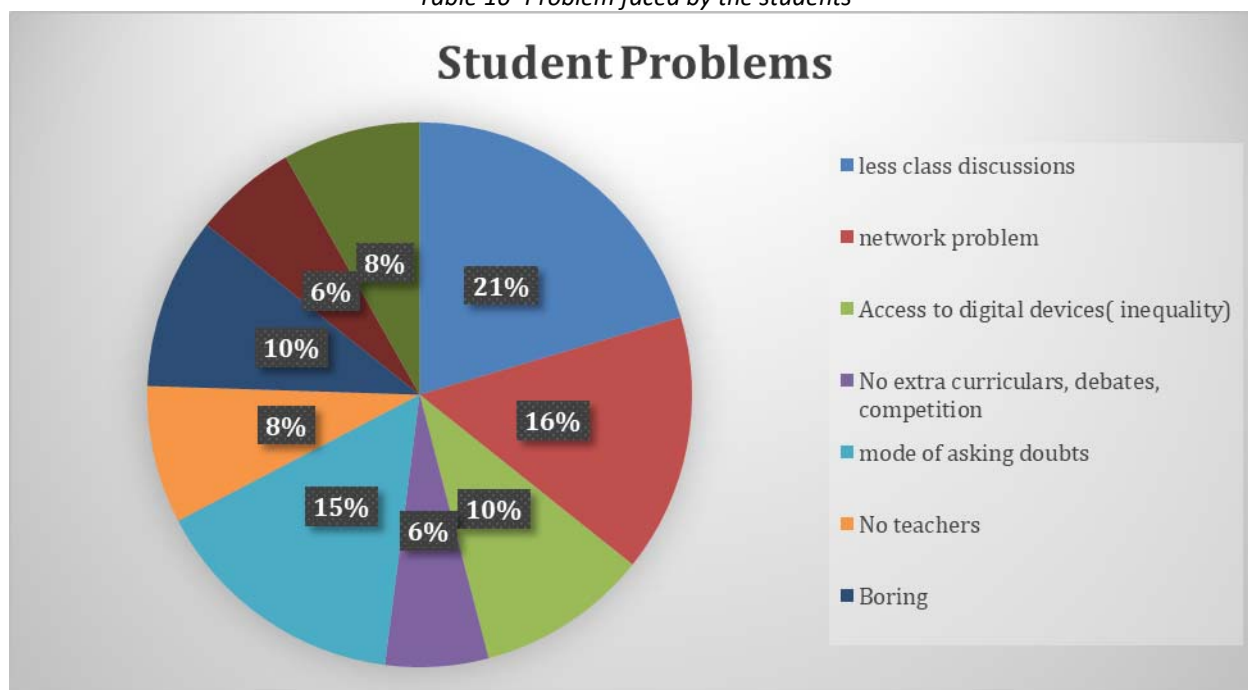


Fig 6- Showing percentage of various student problems

Almost 21% have flagged the issue of minimal class discussions, which has reduced the socialization, this has affected the public speaking and oratory skills of the students which always keep them ahead in the business and corporate world. Along with that, children learn to accept various perspectives and think from various perspectives through this. Then the most significant is the asking doubt problem, although it can be one to one but asking doubts generally in the class also is cumbersome and many pitch in the same time and the sometimes the students do not get the opportunity to ask their doubts and as kids, they generally do not follow back the teacher on the subjects which remains a problem for long time. Then according to students, the next big problem is the minimal

extra-curricular like poem, art, debates and no extra-curricular like sports which leads to the next problem. This leads to the students getting bored early and become lethargic and unmindful easily while sitting before the computer all day long. Also, as the study is based in rural areas, the semi urban families have better access to the digital devices than interior rural areas. Similarly, is the problem of network which affects students regionally as for example, the Carmel school situated near a town has students with better network coverage and diverse option of platforms, on the other hand being located some 20kms inside the town is deprived of students with access to digital devices and a good network coverage.

The children are of different classes and from different schools as below:

Name of the School	No of children from each school
Palaspur High school	5
Nalgonda High School	4
Motto high School	2
Carmel school, Icchapur, Bhadrak	3
Venkateswar School, Chandabali	2
Government M.E School Motto	3
Ispat English Medium School, Rourkela	4
Chinmaya Vidyalaya, Chhend, Rourkela	2

Table 17- Number of children participating in the survey from various schools

Standard (Class) of students	Frequencies	Percentage
6	4	16.00%
7	5	20.00%
8	6	24.00%
9	5	20.00%
10	5	20.00%
Total	25	

Table 18- Distribution of students according to their class or standard

The reviews of the 25 students can be summarised as below:

Student review	Frequencies	Percentage
Good but not as school	18	72.0%
Short and Concise chapter	14	56.0%
Not convenient for some subjects	19	76.0%
Convenient and study from home	10	40.0%
Not a good environment to study	12	48.0%
A necessity in these trying times	23	92.0%
Can never replace conventional learning	20	80.0%
Technical difficulties waste time	11	44.0%
Inadequate lessons	9	36.0%
Incomprehensible sometimes	16	64.0%
Unfair Exams	15	60.0%

Table 19- General review of students about Online learning

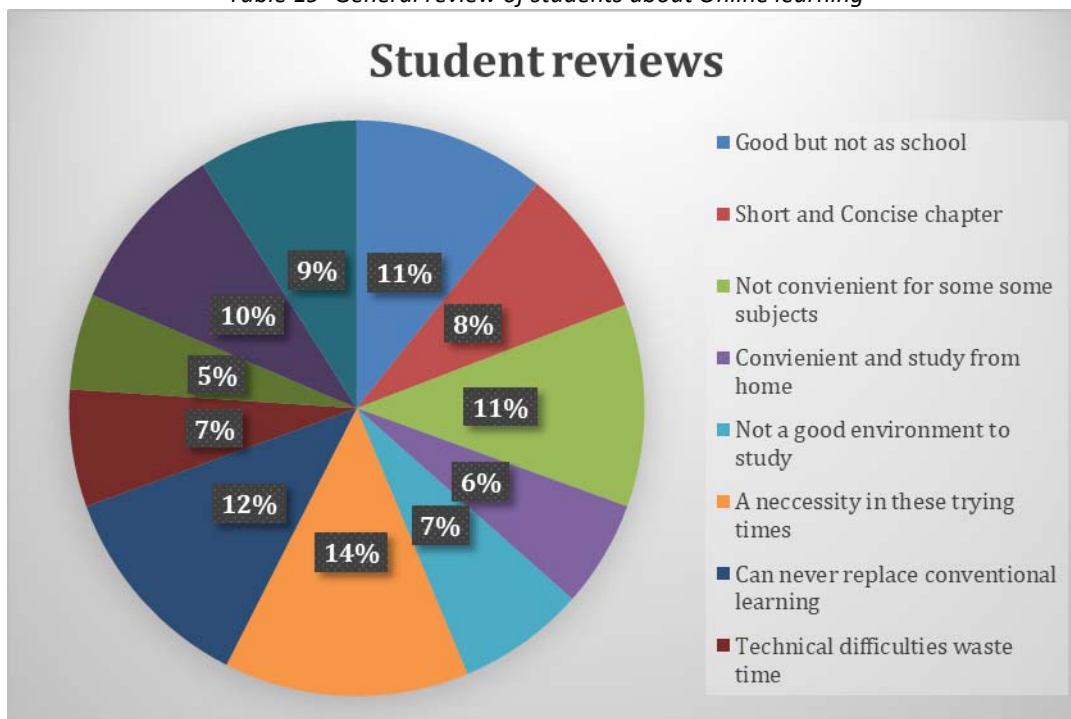


Fig 7- Percentage distribution of the student reviews

Some of the views of the students got in the interview is given below:

S2- The situation is such that there cannot be a better solution than online learning for the time being. So, we have to go about it in anyway.

S7- we do not have teachers and therefore we are not able to get our doubts clear and lessons become incomprehensible while studying at home with no support from schools

S11- It is a little bad for me because I was used to one-to-one education. I prefer to listen to the teacher in the classroom.

S12- The network connectivity here in our house is pretty bad and the apps like Zoom and google meet do not run seamlessly here. So, this causing hindrance in attending classes.

S15- The exams done are not effective and the children who read often are at a disadvantage due to answer sharing during exams.

S17- The lesson does not appeal to every student, but it does appeal to a fixed level, which makes the lesson simple and then after some time it becomes monotonous

S23- We miss our peer learnings as and when we get distracted in class and that excitement to go to school is all taking a toll on our childhood.

Course quality satisfaction	Frequencies	Percentage
Incomprehensible subjects that could be better offline	12	48.00%
Sometimes teacher is not able to teach in online medium	10	40.00%
Technical and technological disadvantages	12	48.00%
Classroom environment missing	15	60.00%
Domestic issues during classes	16	64.00%

Table 20- Course quality satisfaction of students

affected due to the time and space constraint in online

Some subjects like maths and science need more time and real-life examples to sink in the children's minds, which is negatively

learning. Teachers also are getting used to the online medium

as the students. Some students are saying the same teacher explains the subjects really well in offline but in online he is quite difficult to comprehend. The technological difficulty faced

sometimes can ruin quizzes and important class, but that takes place more for the interior-based students and less for the semi-suburban-based students.

S1- *The lessons are not studied as they were taught offline, reducing our understanding and productivity online.*

S5- *I live in a family of five, with a brother and a sister, who also need the digital devices for attending classes.*

*This reduces my accessibility being the younger of the three.*

Advantages of Online learning	Frequencies	Percentage
Convenient and safe	12	48.00%
Comfort of home	10	40.00%
One to one doubt clearing	8	32.00%
Can revisit the class in case you are absent	5	20.00%
Self-paced learning	15	60.00%

Table 21- Advantages of online learning by students

S8- *I am delighted with the online learning as it is very convenient to see over and over again the videos at my ease in the comfort of my home. I am a slow learner. It helps me to cope up with rest of the students easily*

S9- *The experience is good for me although not as school but its fine owing to the circumstances prevailing outside and I am able to find solutions for homework and video narration in YouTube /Zoom academic application*

S10- *Our teachers take the one-to-one video session in case of any doubt that emerges during the online classes*

S15- *We have the flexibility of study at our own ease and time. This provides us more control of our daily tasks*

If seen closely the private schools are able to clear the students doubt through one-to-one interaction, but however that is not possible for government schools due to the existing teaching happening through YouTube, but they can contact their school teachers over phone to get their doubt cleared physically in weekends

Course Duration	Frequencies	Percentage
30 mins is enough	12	48.00%
Need more for some subjects	8	32.00%
30 mins is too much	5	20.00%

Table 22- Satisfaction about course duration

S11- *The classes duration should be extended as some of us take some time to sink in the concepts and sometimes the teacher teaching the subject has not clearly discussed the topic.*

S21- *The classes are short and precise and this helps us to concentrate for a limited amount of time and also the recording is available which will help us in future for exams*

S14- *We are finding it very difficult to adapt to online learning and thus would like the offline classes to commence as early as possible.*

As seen from the above analysis, students need more time to sink in things while others find it boring in the digital medium.

Effect on students	Frequencies	Percentage
Headache	8	32.00%
Boring (sometimes leading to loss of interest in subjects)	15	60.00%
Brain fog	6	24.00%
Positive (as the classes are going on)	16	64.00%

Table 23- Effect on students as per students

Due to the sudden transformation to online and increased screen exposure, some students have experienced migraine and headache. Many of them find the sessions boring and due to overuse of digital devices, brain fog happens which is very common in city bred youngsters which in away affects the memory of students. However, the majority felt that the classes

going on in these pandemic situations through online medium are fine and should continue to educate ourselves and our children.

Future of the technology in education sector (Students' View)	Frequency	Percentage
More effective	8	32.00%
Cannot replace the conventional education	18	72.00%
Digital infrastructure should be strengthened	19	76.00%
Supplementary role with the conventional education	17	68.00%

*Table 24-Students view on future of technology in education*

Regarding the future of the technology in the education students said they are satisfied with online learning as they have no alternative but to accept it. But they would like to experience both as doubt clearing and revision is quite good in online platform but some subjects need teacher

presence and handholding and the fun of school and activities can never be replaced by this online education. However, they can supplement each other which is also in favour of educators and the students.

*S22- In the initial days, I used to feel a strong headache in the forehead, which reduced as the online study culture became habituated.*

*S18- I use to constantly scrolling the phone without thinking or deciding which App to choose. This is called brain fog and it reduces the concentration in studies or any other work given.*

*S19- In this extraordinary situation at least we are having our classes and for that I am very grateful*

## Implementation

Out of all the problems, I decide to take the problems at hand which can be eased at an individual level. The problems of digital infrastructure cannot be solved at an individual level. So, the problems like improving the extra curriculars, doubt clearing sessions in the platform the

children are learning, putting the hard work of SHG women into it, facilitating the teachers how to use the platforms effectively for the perfect use of technology as per the situation to give the feel of offline classes in these situations.

## Steps of Implementation-

- Focused group discussions with teachers and knowing the amount of comfortability with the technology that they possess.

*T5- All this is new to me, but I am gradually learning and if I can learn some more interactive things from you, it would be great.*

*T8- We find it problematic to receive and check answer sheet through WhatsApp and also there is no uniformity in there which takes a lot of time and is tiring, if something can be done in that respect, it would be very helpful.*

*T11- Children of our schools are actively involved in extra curriculars like drawing competition, debates, regular news reading etc. However, some of the competition like the dance competition, fancy dress competition which can be done is still pending and they can be conducted but we are not getting any idea as to how to organize them.*

*T9- Our children are not able to ask their doubts due to the limitations of poor internet and lack of digital devices. If we can arrange the doubt clearing sessions physically or digitally through any medium, it can be very helpful.*

*T24- The unit test that used to happen during class hours or in intervals are reduced and there has to be something which is accessible through phone and can be tricky to avoid cheating and other stuff.*

- Meeting with panchayat and women SHG to volunteer for the arranging a place or a projector for arranging doubt clearing sessions for students of various students of various classes
- Arranging peer learning and from seniors like the students from the class 9 helping the children of class 6,7,8 to help them improve
- Drawing competition, Dance competition and debate competition through online medium.
- SHG member and individual parents helping the children to study.
- Conduct of regular and interactive quizzes through Kahoot.it and google forms which can be accessed through mobile.

- Meeting with the women of the village who are a part of the SHG or other groups and make them understand the importance of education and encourage them to help the students in any way possible.

Post Implementation survey results are as follows:

Mode of conducting quizzes	No of schools adapting the medium	Requirement of the Platform
Kahoot	3	Basic excel knowledge
Google forms	5	No excel knowledge required and easy to use

Table 25- Mode of conducting quizzes

Satisfaction of teachers from this initiative:

Mode of conducting quizzes	Satisfaction of teachers from it (ratings)	Pros	Cons
Kahoot	3	Can help to ensure the students are getting proper knowledge and is more interactive	Previous excel knowledge required
Google forms	4	Can help to ensure the students are getting proper knowledge and is more interactive	Incidences of cheating and sharing answers

Table 26- Satisfaction of teachers from these quizzes

The teachers were involved closely learning about the google workspace and google drive where they can share the link and the students can send their presentation, PDF, documents and they can be sourced from one source and the difficulty related to the recurring downloading from WhatsApp given the limited memory of the mobile phones, is reduced. Then with minimal excel skills, they were able to use Kahoot, although most of them rated google forms for its manoeuvrability and easy usage of interface where excel skills are not much required. But in Kahoot there is time limit which can make quizzes interesting and the scope of cheating is also less. Some features in the google forms like the closing the form at a specific time to give a sense of time during exams and quizzes and the reversing the question and option order will help them in gauging the learning outcomes although not accurately but near to it.

Then comes the google drive and the Zoom platform, out of 8 schools, 2 of the which are in semi urban setup have taken up the zoom platform and one semi urban and three rural of the schools took up the google meet as it was less data intensive. We conducted a small interactive quiz on google forms and the Kahoot and the questions of which is attached in the annexure below. The students were able to provide answers of both the

questions. Then help from a CSC member was taken to teach the required online prerequisites to the children in their locality through some SHG members and the SHG member were asked to volunteer if they can, for the propagating the ideas throughout the children in the locality.

The students were taught the online etiquettes as to how they should behave online during class and how to interact with the educator online. Some drawing competitions were organized and some of the drawings would be shared in the annexure below. The teachers have promised to also conduct debate, dancing, fitness sessions and acting competition on the same basis after some time after figuring out how to do the things.

School to school meeting on how to adapt best practices of the school which is doing well. Here in this case, it is the Carmel School, of Icchapur Bhadrak. A meeting was organized online through google meet among some of the teachers of the school and they discussed about the future developments they need to address their future issues.

Best Practices of Carmel School
Extra curriculars through WhatsApp
WhatsApp group of students and teachers
WhatsApp mode of sharing notes and reading materials for those who are unable to take their books

Table 27- Best practises of Carmel School

The WhatsApp mode mentioned here is to be changed to google drive after the implementation by making the students learn about its use and convenience.

Intervention	No of Schools Implemented	Effectiveness scale
Making google drive and sharing that	6	4
Making excel sheets for Kahoot	5	3
Making google forms	7	4
Using Zoom/Google meet effectively to enhance class discussions	5	5
Teacher and Students doubt clearing weekend classes in presence of SHG members	4	3
Fun activity in Zoom (Ice breaking)	5	4

Table 28-Effectiveness of intervention

Scale	Inference
1	Worse
2	Average
3	Satisfactory
4	Good
5	Best

Table 29- Scale of measuring intervention

Other suggestion was also given that the students which are studying with each other should specify on which /whose device they are going to give the test/quiz and they should not indulge in cheating an obligation should be enforced and their parents should be told previously to check the lads during the exams.

One more step was the teacher parents meeting as to how important it is to provide digital devices to students for educational purposes and how parents can guide/ restrict their overuse. This meeting was held in presence of the SHG members and they women of the households were given the duty to watch out for overuse by the children. Along with that, the parents got to know about the stereotype about digital devices that goes around the minds of every parent. They were taught that with mild vigilance this could be controlled

## Reviews from the Implementation

S12: *The quizzes are quite interactive and easy to give from mobiles also and I specifically liked the Kahoot one as it has a timer attached to every question to gauge our efficiency.*

S16: *The google forms gave us time to solve the quiz at our ease, that's why I like it.*

S7- *The hand raise option and the interaction with the teachers have increased after the implementation and we have understood to blend with the situation quite comfortably.*

S15- *Although it is better, but I want sports which is not possible I know but...I donot know I just want the school to open physically at the earliest.*

S10- *The news reading initiative taken by the school has enhanced our current affairs and talking power online*

T12- *the teacher-student relationship to an extent is preserved after this.*

T21- *Although still it is not s good as the conventional and physical education still it is better than what we were practising*

T25- *More than satisfied with this approach*

T20- *The effort has been good but to sustain it, we need to act accordingly and have to be flexible in approach to keep the students interested and bring in new techniques to keep them engaged.*

## Findings

- ✓ The teachers were enthusiastic as the implementation was repairing the school-student relationship
- ✓ The students were quite enthusiastic about the different quizzes that are coming their way in this online medium. Now they have at least something to cheer
- ✓ The parents also have somewhat shed their stereotype about online education are being vigilant towards their child activities.
- ✓ But both teachers and Students agree that physical and digital education should be the way forward and not only the digital which can no doubt contribute in these extra ordinary times

## Conclusion

India is a demographically diverse nation with very high population density. The Covid-19 pandemic appears to have proclaimed another adjustment in the education system over the world. The COVID-19 pandemic and its disturbances have made an open door for the rebuilding of the school education framework. Online learning, web-based learning, utilization of information and communication innovation technologies in school education is lay down to turn into a new normal. The change can be snappy and smooth if teachers and specialized staff show a versatile, acceptable, applicable and collaborative attitude. But the main thing lies in the providing the adequate digital infrastructure.

Online or the web-based learning has been there in the market for quite some time and many states have also inculcated the digital boards in every village of their state and with more excellent pace. This best practice seen mostly in western states like Gujarat should be inculcated in every state so that we can be prepared for another catastrophe. Further examinations might be coordinated to test students' performance constantly and fulfil on switching to the e-learning education system. The New Education Policy (NEP) 2020 is intended to augment the advantages of advanced and online instruction in India while alleviating the disadvantages.

Students' internet connection problems, lack of educator-student interaction, not being able to make a reliable assessment of learning, lack of knowledge about how to evaluate the learners' knowledge and skills, not being able to provide skills teaching and not being able to reach all of the learners are the main problems faced by educators during online learning practises in the COVID-19 pandemic. Only a few of them, on the other hand, have claimed that they have no issues with the short duration of online education lessons, the inadequacy of the time of online sessions for educators, or

the excessive quantity of online sessions for educators.

The COVID-19 experience has demonstrated to the globe that education is one of the most important subjects to consider, even in the most difficult of times, when all human beings worldwide are suffering from health difficulties and economic crisis. Given the possibility of more difficult days ahead, it is reasonable to predict that education will play an even greater role in society. Furthermore, in light of the changing educational setting created by the epidemic, the acceptance of online learning must be long-term. Because this pandemic has demonstrated that having digital literacy skills and using technology in education is no longer a choice, but rather a necessity. To deal with the issues, all instructors should review their pedagogical expertise. They should always remember that "to teach is not to convey contents to anyone, just as learning is not to memorize the outline of some subject that the teacher has transferred, but to establish the opportunities for the production or construction of knowledge" (Freire, 2000)

Along with this, there are health issues connected with the fully online classes which can lead to anxiety, introvert nature, mental health issues like brain fog, overuse of social media, teachers being unsure of learning outcomes, less socialization, loss of nature like empathy and team player attributes.

From this study I conclude that, the online education can be transformed for good and can be sustainable if the teachers and students cooperate with high enthusiasm, but from the teachers and students view it is clear that Phygital education is the future and they cannot replace each other but should supplement each other.

## Limitations

- ❖ The students in the interior rural area and those who go to the government schools, are poor and may not enjoy the full benefits of the intervention proposed.
- ❖ The survey is done taking only 8 schools, 20 teachers and 25 students and does not hold perfectly true for the rest of the schools and population in the district.



- ❖ The advancement mentioned and proposed needs to have adequate digital infrastructure for their implementation and the enthusiasm of both teachers and students are necessary for its implementation. No one should be forced to accept them as they are only recommendations.
- ❖ The schools and students can come up with better solutions if they want, this study is made on the assumption that the online learning is taking place more or less everywhere in the district.

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## About the Author

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## Annexures

### Questions for quiz that was held in Carmel School through Kahoot.it and google forms

Name your Sports and Put the questions under that Sports and the Questions should not be redundant.

1. Image Questions: (+1)



a. Identify the Sport:

1. Buzkashi
2. Fierljeppen
3. Skijoring
4. Picigin

2. Who is this cricketer? What record does he hold?



- a. Saleem Malik, fastest Pakistani to score a test match century
- b. Javed Miandad, fastest to hit a double century in test matches.
- c. Javed Miandad, youngest to hit a double century in test cricket.
- d. Saleem Malik, youngest to hit a century for Pakistan.

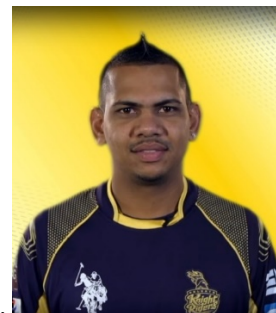
3. Who amongst the following bowlers holds a unique IPL record to date? (0.5 for choosing the correct option, 0.5 for stating the team he was playing for at that time)



a.



b.



c.



d.  
4. This photo is from Muhammad Ali's victory over Sonny Liston in 1965. In which round did Ali win the fight?



1. The first
2. The 10th
3. The 12th
4. The 15th

5. Name the national game of the country with this flag.



- a. Cricket
- b. Football
- c. Kho-kho
- d. Kabaddi

6. Megan Rapinoe's celebration, which she calls "The Pose", became famous during the Women's World Cup last year. Rapinoe was the joint top scorer at the tournament with two other players. Who were the other two ?



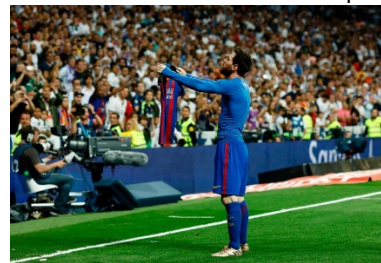
Sam Kerr and Wendie Renard  
Carli Lloyd and Marta  
Ellen White and Alex Morgan  
Cristiane and Rose Lavelle

7. This photo of Usain Bolt was taken at the Rio Olympics in 2016 when he completed the "triple-triple". Which of these nine medals has since been stripped from Bolt?



- 100-metre relay in 2008  
200 metres in 2012  
100 metres in 2016  
100-metre relay, 2016

8. In which stadium did Lionel Messi share this iconic celebration with the world in April 2017?



- a. Camp Nou
- b. The Olympiastadion
- c. The Santiago Bernabéu
- d. The Vicente Calderón

9. Tiger Woods lifts his putter on the final green at Augusta in 2019 to celebrate his first Master's title after a gap of how many years?



- a. 8
- b. 10
- c. 12
- d. 14



- 10.
- a. The Netherlands
  - b. Norway
  - c. Canada
  - d. China

2. Text Questions: (+1)

1.. Which Kabaddi tournament started a unique rule for a particular type of raid which can not go empty. Point is to be awarded to either the Raider team or the Tackling team?

- a. Indo International Premier Kabaddi League
- b. Super Kabaddi League
- c. Pro Kabaddi League
- d. Kabaddi Masters

2. Did Cristiano Ronaldo score more goals or play more games for Real Madrid in all competitions?

- a. More goals
- b. More matches
- c. Equal
- d. NOTA

3. Which of these is not a real sport:

- a. Footgolf
- b. Hand rounders
- c. Chess boxing
- d. Picigin

4. Who has won more grand slam tennis titles?

- a. Roger Federer
- b. Serena Williams
- c. Pete Sampras
- d. Andre Agassi

5. X won the first individual medal for India at the Olympics. Y is the year of the Olympics. Determine both of them. (0.5,0.5)

- a. Leander Paes (1996)
- b. PV Sindhu (2016)
- c. Leander Paes (2000)
- d. Rajyavardhan Singh Rathore (2004)

6. Which player has scored a goal in every minute of a football match?

- a. Messi
- b. Pele
- c. Ronaldinho
- d. Cristiano Ronaldo

7. Who is the most capped hockey player in the world?

- a. Jerome delmee
- b. Jamie Dwyer
- c. Dilip tirkey
- d. Sohail abbas

8. The terms Free Throw, Catch, Chest pass and lay up are related to which sport?

- a. Volleyball
- b. Football
- c. Basketball
- d. Cricket

9. What is the national sport of India?

- a. Cricket
- b. Hockey
- c. Football
- d. None of the above

Teachers and students name

T1	Kashinath Jena	T11	Manoj Sahoo
T2	Srikanth Sahoo	T12	Chiranjeev Pradhan
T3	Udaynath Mishra	T13	Swapna Pradhan
T4	Neena Mohapatra	T14	Manas Ranjan Sahoo
T5	Krishna Nanda	T15	Pratyush Sahoo
T6	Sumitra Bandhopadhyay	T16	Sharmila Thakur
T7	Subarna Mitra	T17	Sangeeta Biswal
T8	Isita Thakur	T18	Sonaleen Biswal
T9	Reeta Pradhan	T19	Utkarsh Mishra
T10	Manjushree Jena	T20	Abhisekh Dash

Students and their Parents name

<u>S1</u>	<u>Vinay Swami</u>	<u>P1</u>	<u>Parth Swami</u>
<u>S2</u>	<u>Adrik Kundu</u>	<u>P2</u>	<u>Prathan Kundu</u>
<u>S3</u>	<u>Sayani Chakraborty</u>	<u>P3</u>	<u>Preetam Chakraborty</u>
<u>S4</u>	<u>Mudita Sinha</u>	<u>P4</u>	<u>Amit Sinha</u>
<u>S5</u>	<u>Naina Jain</u>	<u>P5</u>	<u>Priya Jain</u>

<u>S6</u>	<u>Saloni Dhall</u>	<u>P6</u>	<u>Abhigyan Dhall</u>
<u>S7</u>	<u>Sristi Nayak</u>	<u>P7</u>	<u>Swastik Nayak</u>
<u>S8</u>	<u>Souren Pradhan</u>	<u>P8</u>	<u>Nirnoy Pradhan</u>
<u>S9</u>	<u>R. Mohini Reddy</u>	<u>P9</u>	<u>R. Parasuram</u>
<u>S10</u>	<u>Chirantan Majhi</u>	<u>P10</u>	<u>Anil Majhi</u>
<u>S11</u>	<u>Aman Gupta</u>	<u>P11</u>	<u>Manoj Gupta</u>
<u>S12</u>	<u>Aditya Pandey</u>	<u>P12</u>	<u>Panchan Pandey</u>
<u>S13</u>	<u>Parmananda Swami</u>	<u>P13</u>	<u>Asutosh Swami</u>
<u>S14</u>	<u>Piyansu Das</u>	<u>P14</u>	<u>Prashant Das</u>
<u>S15</u>	<u>Piyushkant Das</u>	<u>P15</u>	<u>Srikant Das</u>
<u>S16</u>	<u>Sourav Nayak</u>	<u>P16</u>	<u>Akshay Nayak</u>
<u>S17</u>	<u>Bishnupriya Pati</u>	<u>P17</u>	<u>Mamuli Pati</u>
<u>S18</u>	<u>Debasish Sahoo</u>	<u>P18</u>	<u>Pawan Sahoo</u>
<u>S19</u>	<u>Kusum Nair</u>	<u>P19</u>	<u>Pankaj Nair</u>
<u>S20</u>	<u>Bhaktishree Tripathy</u>	<u>P20</u>	<u>Pravash Tripathy</u>
<u>S21</u>	<u>Sabnam Mishra</u>		
<u>S22</u>	<u>Swagatika Das</u>		
<u>S23</u>	<u>Piyush Padhi</u>		
<u>S24</u>	<u>Samrita Garnayak</u>		
<u>S25</u>	<u>M. Vandana</u>		



#### Photos of Implementation

Fig 8. SHG meeting for making them understand the importance of online education

Fig 9. SHG worker Kavita Mausi helping students in their homework and the students are doing peer learning. This is happening now once a week. The students sitting here are from various schools and are united by the SHG and various tuition teachers to study together and grow together



Fig 10. and 11. showing Venkateshwara school in Chandbali, Odisha



Fig.12 Showing teachers meeting with teachers of various school to learn and implement certain features in their school curriculum. Location- Venkateshwara School



Fig.13 A glimpse of Motto High school, inside school building pictures were prohibited by the administration



Fig14 Showing the glimpse of the Carmel school at Bhadrak, Odisha and Fig. 15 showing the interaction with Manoj Sir, a faculty in the above school

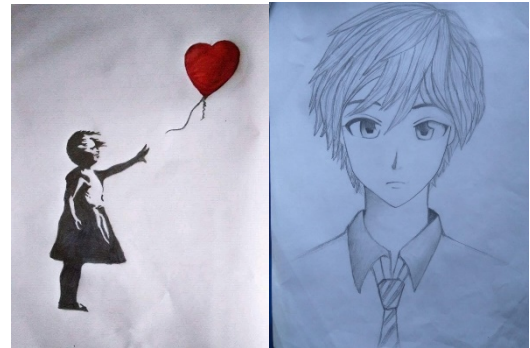


Fig 15 Showing the drawings that goes for prizes during the drawing competition being conducted in Carmel School during implementation



Fig16. Dance function on the occasion of Independence Day in Carmel School Bhadrak

# 10. Academic and Psychological Problems Faced by Children due to the Lockdown

## An Action Research Project

Jai Watts

### Abstract

Action Research Projects basically involve a wide variety of processes such as evaluation, investigation and analytical research methods designed to diagnose a problem. And the problem identified could be whether organizational, academic, or instructional. This helps develop a practical solution to address them quickly and efficiently. The general goal is to create a simple, experimental, repeatable process of iterative learning, evaluation and improvement that leads to increasingly better results for institutes, people or programs etc. Our education system believes that the Covid-19 lockdown has not affected the lives of the children and their mental health, but in reality, they are the ones going through stress and anxiety. This may be due to long sittings in front of laptops or not being able to go out. So, the Education system must accept these problems and come up with solutions.

**Key Words:** Rural Students, Rural Schools, Education System

### Introduction

Jamui is one of the 38 districts in Bihar. It is situated along the Bihar-Jharkhand border. Nawada and Giridih bound Jamui district in West, Banka in East, Munger district in North and finally Deogarh in South. According to Census 2011, there are a total of (17,60,405) people in Jamui. This district consists of one Sub-Division, ten blocks, 1528 villages, 153 Panchayats and 16 Police Stations. Kewal village falls under the Gidhaur block of the Jamui district. It is a part of Purbi GugulDih Panchayat, which includes seven other villages.

Migration is very common in Kewal village. Most of the people migrate to Devghar, Patna, Delhi, Mumbai, etc. and are involved in diverse activities because it pays more than agriculture and secondly, every household has more than 5

members. As a result, they must earn more to survive and thrive.

For this Project, the targeted village is Kewal. The registered NGO working in the Jamui District of Bihar was established in the year 1988 by its founder Mr. Bhawanand. It works for the development of the poor and unprivileged. It aims for the overall development of children and works for women's empowerment. It started with the concept of 'Sponsored Child System,' where sponsors from abroad donate some money on a per-child basis.

Other than Kewal and Parivar Vikas, certified medical psychologists and Industry professionals were interviewed who were ready to volunteer for the Project.

### Cultural Life

Bihar has a vibrant cultural heritage with many Buddhist Monasteries, i.e., it is also known as "The Land of Buddha."

### Language

"Hindi" and "Thenthi" are the two languages that are being used in Kewal village. "Thenthi" is the domestic language of Kewal village and it is also known as the "Kshyatriya Language."

However, most of the people in the village talk in "Hindi" only, we rarely see villagers talking in the "Thenthi" language. Other than these two, there is another language commonly used in this area, i.e., Angika.

### Attire

In Kewal Village, the dressing style of people is very standard and minimalistic. The older men in the village wear "Jhoti," "Shirt/kurta or Banyan" and "Gamcha" on their head, whereas all the females wear Simple sarees and do all the work in sarees. Whereas, the young people wear T-shirts/Shirts and jeans as their regular outfit.

### Demography and Literacy

There are 364 families in the village. The total area of Kewal village is 651 hectares. The total population of Kewal village is 2124. And the number of voters in Kewal village is 1376.

The literacy rate of Kewal village is 48% which is less than the literacy rate of Bihar which stands at 61.80%. The male literacy of the village is 58% and the female literacy rate is

42%. But only 10% of females have completed their Secondary Education. The child sex ratio of the village is less than that of the state. The child sex ratio of Kewal is 736 whereas the child sex ratio of Bihar is 935. A high school is

present at ward no-2. Students up to standard 10 studies in high school. It is taken care of by the NGOs present in the village and by independent faculties.

Population	Area	Nos. of Household	Nos. of voters	Male Literacy	Female Literacy	Child sex ratio
2124	651 hectares	346	1376	58%	42%	736

Table 1: Literacy and Demography



Figure 1: Map of Kewal, Jamui, Bihar

### Identification of the Challenge

When Covid-19 Pandemic started and lockdowns were imposed all over the country, most people faced issues like psychological problems, i.e., stress, depression, anxiety and that's when people started taking mental health seriously. And, according to some studies, the nos. of Suicide cases increased all over the world due to this Complete shutdown in countries.

However, in the case of children, they faced such problems due to the loss of Education, monotonous life and zero personal development. Whereas in the case of adults, it was because of the lockdown, loss of jobs, loss of Dear-ones, etc. This has resulted in increased nos. of stress and anxiety in patients. It had affected both the young and the old.

### Review of the Literature

Most of the studies, research, or articles that we were to find on the internet were associated with the "adverse effect of lockdown on the children's education and mental health." These articles are looking at the smaller picture where they are talking about the problems faced by the education sector, educational institutions and how to overcome that and the solutions they have thought to overcome are as follows:

- Infrastructural development
- Improving the quality of Education
- Changing the style of Education
- Coming up with innovative methods to teach children online
- Motivational and welfare programs for children
- Using modern techniques
- Capacity-building programs
- Adopting digitalization



But the real problem is not what teachers, schools, or educational institutions are facing, but the children sitting at home trying to study independently. Children are on their laptop/phone screen, which affects their eyesight and the ability to learn, no schedule to be followed. These may look small to us, but for children, such minor problems are responsible for the behavior change, affecting mental health. That's the bigger problem for which we should come up with solutions.

### **Need for the Action Research**

It is true that children all around the world are facing problems but if we start comparing the children living in big cities with those living in rural areas, we will start realizing how serious the problems are.

In cities, all the schools, colleges and educational institutions are well equipped and other than those children living in these urban cities have all the resources that they need i.e., laptops, computers, phones, good internet connection and what not.

Now here we have to talk about the problems faced by rural children/students. In almost every country, schools and educational institutions use online learning and connectivity technologies to deliver Education. And that's where the first Problem begins for the rural children.

### **Objectives of the Action Research**

It is to help the children in the targeted area fight psychological problems such as stress and anxiety that they are facing due to multiple reasons, education being one of them.

- 1) Also, how to utilize their time during this lockdown to learn new skills to become a better version of themselves which will eventually help them in the near future.
- 2) Followed by providing these children career counselling so that they know their future prospects. Instead of entering into agriculture as employment, they can look for a real job in big cities of India.

### **Hypothesis**

The purpose of this study was to see if there was a link between student mental health and academic problems.

According to the findings, there is a significant link between involvement in school organizations and depression. Students who participate in more organizations have lower levels of depression.

Anxiety and depression symptoms are thought to have a negative impact on academic performance. Social support also affects the link between anxiety and depression and academic achievement in the model. Several research

Due to the lockdown and the pandemic, the young generations are most likely to manifest inattention, clinginess and more severe psychological conditions such as increased irritability, uncertainty, fear and fear of isolation. There have also been some studies that showed that the children are not only affecting their learning ability but also children have started experiencing poor appetite, disturbed sleep, nightmares and separation-related anxiety.

When we talk about children from low-income families or those whose families are below the poverty line, they do not have such resources as speedy internet or big computers and laptops, so they are automatically excluded from online Education. And not only children but also the schools which are available in rural areas are extraordinarily under-resourced and they are struggling to reach their students across medium, which in turn risked further undermining student groups that are already facing more significant obstacles to learning.

That is why we need this action research project because rural children also need counseling sessions with industry professionals or career counselors who can teach them how to tackle such difficulties with great confidence and keep on working on themselves irrespective of all the obstacles.

involving kids in elementary, middle, and high school have found that social support positively impacts academic performance. This same association has been studied in students who suffer from anxiety and depression. Social support is thought to attenuate or 'buffer' the negative impact that anxiety and depression symptoms have on academic performance. And these psychological problems in children have increased due to the frequent lockdowns and temporary closing of the schools. As a result of which children are becoming more and more anxious about their studies.

- 1). Ha- post-training, it has been observed that students are more into participation, which has positively impacted and a slight difference is seen.

2). Ho- Before the training, there was much mental stress among the students concerning the school shutdown.

## Actions Planned to Address the Challenge

### Methodology

#### Development of Survey Plan:

Our survey plan for the Comprehensive Report

<b>No of Surveys</b>	Pre- and Post-Survey
<b>Area</b>	Kebal Village
<b>Respondents</b>	Village Children
<b>Methodology</b>	Interviews, Open Discussions, Survey, Observation,

Table 2: Survey Plan

#### Sample Design:

A sample design is a framework to collect a sample from a given population. Following are the nos. of steps in Sample Design

- Population Size: Population is finite in the study
- Sample Area: Kewal Village
- Sample Unit: Villagers
- Sample Size: 15 Children in Kewal Village

#### Selection of Participation:

We used Random Sampling Method for the Village study.

#### Methodology Used:

Following are the methods that we used to collect information:

- **Interviews:**

**Structured Interviews** involves asking questions or doubts regarding a specific topic with constraints set on the responses and the answers of the respondent. The motive of conducting structured interviews was to understand how villagers of Kewal think, what is their behavior, what is their approach to new policies or development.

In **Unstructured interviews** we used talk to the villagers and used to give introduction because of which we were able to gain their trust which opened them up and helped them to speak freely and confidently. Although we used, to begin with, any on-going topic and we always used to put the effort from our side to allow the villagers to freely express themselves

- **Discussions: Formal and Informal**

We conducted almost 2 Group discussions with villagers. With the help of GDs, we were truly able to understand the actual Problem of the Village is facing right now.

- **Observation**

#### Participant Observation

Such type of observation involves focusing or investigation a particular person or a group via direct communication. We used to talk to villager just to find out their living style, their behavior with their family, colleagues.

After analyzing such thing, we were able to find that most of the villagers lead a basic life style. Along with that most of the people are extremely friendly and ready to help.

- **Survey Questionnaire**

The survey questions consisted of more than 20 questions (Pre & Post) covering almost everything i.e., not only about the household and its members but also the situation of Education. With the help of survey, we were also able to understand their lifestyle in a better way.

- **Interacting with school students**

## **Action Plan**

### **Pre-Survey**

- Sample Size:** 15 Children from Kebal village
- (This will help us understand the actual problems they are facing right now due to the lockdown, i.e., student.)

### **Structured Discussions**

- Arranging a conference call with the children and their parents to discuss the issues they "face as a family due to covid lockdown and individually."

### **Organizing Sessions**

- These sessions will be about mental health, where we will be calling few counsellors to help children understand it better.
- Three such sessions will be organized.

### **Counselling Sessions**

- In these sessions, we will be calling people working in different fields such as Engineers, Biologists, etc.
- Three such sessions will be organized

### **Post Survey:**

- Sample Size:** 15 Children from Kebal village
- Then we will go forward with a Post survey to determine whether these sessions were helpful to the children and follow what these industry professionals told them.
- This is to understand that whether the students were benefitted from these sessions or not.

### **Future Plan:**

- After all these events and sessions, we will be making official WhatsApp groups of these children and Industry Professionals.
- The **primary role of this WhatsApp group** is to serve as a mode of communication with the children, i.e., all the targeted children can ask any question from these Career counsellors regarding the prospects/opportunities.

## **Implementation of Action Research Steps**

### **Step-by-Step Implementation of the Actions Plan are given below: -**

- Over seven days, we will make a timetable and move forward according to the timeline.
- According to the timetable, we would call at least 2 of the targeted children daily to help understand their problems and give them solutions.
- The main reason for these individual calls is because every person is unique and has unique problems.
- So, to help them, its required to give them solutions specific to their problems instead of giving them a generalized solution.
- And once we are done with all the children, we will take a break for 4-5 days to find out whether they are following or not, i.e., the instructions provided by the industry professionals and Career Counsellors.
- To find out the effect of these sessions and the solutions given to these children, we will take a Post-Survey after the Implementation of the Actions.

### **Future Plan:**

- i. After all these events and sessions, we will be making official WhatsApp groups of these children and Industry Professionals. The motive will be that if these children need any help at any point in time, whether academically or psychologically, they can directly contact them without hesitation.

### Process of Implementation of the Study

Once all the Actions Planned were implemented in the targeted area on the targeted audience, we did a post-Survey to measure the benefit of the actions on the community. And they are listed below as follows: -

- 1) As, suggested by the Career counsellors all the students made themselves a timetable to learn time management and can allot time to those things according to them which are important. This helped them understand how to prioritize different task.
- 2) On the same hand the children were asked by the industry professionals that instead of wasting your free-time you should start investing that time in learning new skill. And by the post-survey we found out that all the children were involved in some kind of activity i.e., all of them are becoming the better version of themselves.

Fish farming
Mushroom farming
Preparation of Entrances
Learning new sport
Computer Classes

Table 3: List of activities children are now involved in

- 3). Lastly, we were able to find out that that the children after making a timetable have now allotted at least 2 hours minimum daily to studying. So, that they no longer feel anxious about it anymore.

### Data Collection and Analysis

#### Sample Design:

A sample design is a framework to collect a sample from a given population. Following are the nos. of steps in Sample Design

- Population Size: Population is finite in the study
  - Sample Area: Kewal Village
  - Sample Unit: Villagers
- Sample Size: 15 Children in Kewal Village

#### Pre-Survey Analysis:

Pre-Survey consisted of different types of questions in order to measure the following things such as: -

- 1) How pandemic had affected the daily schedules of children and their families?
- 2) How anxious children are regarding their studies?
- 3) How the lockdown affected their mental health?

#### **A. Age Group**

Our sample size for Pre-Survey is 15 children of different age groups and according to the responses we were able to find out that majority of them belong to the age group of 14 to 18 years old and also it can be considered as one of the important age groups as the studies become more hectic and difficult and you need to start spending more time on it in so that you can

capture the opportunities available to you in order to have a brighter future.

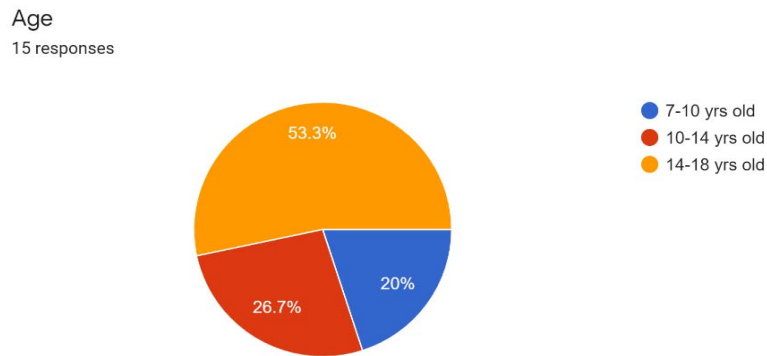


Figure 2: Showing children from different age-groups

### B. Anxiousness Regarding Studies

For a child the most important thing about him/her is the studies, due to the lockdown and the schools being shut impacted the children in a negative way thus making them feel more and more anxious about their studies.

With the help of the survey, we were able to find out that majority of the children were extremely anxious about their studies as they were not able to devote time and started feeling stressed about it.

How anxious did you feel during the pandemic because of your studies?

15 responses

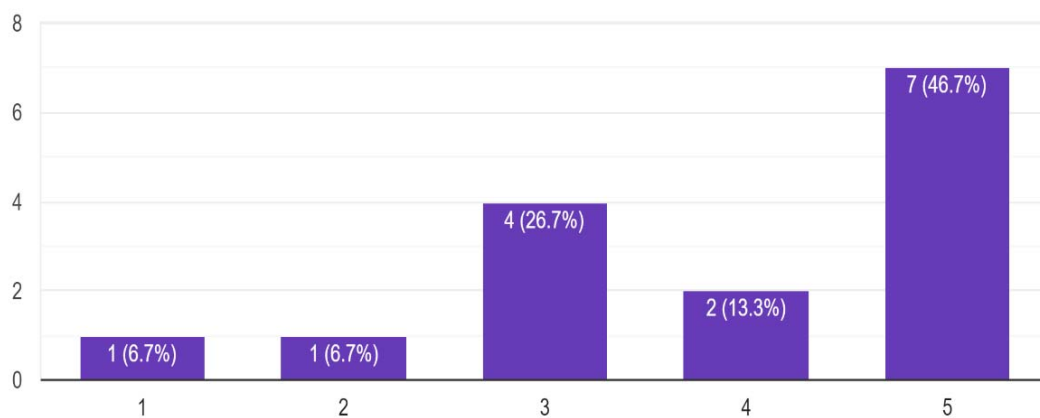


Figure 3: 1 Being- Not Anxious 5 Being- Extremely Anxious

### C. Daily schedule and activities

As we know from the results that very few children were able to spend time on studying and majority of them used to spend time on House-holds errands so we tried to find out the types of works they were involved during the lockdown and were they able to learn any new skill or not.

Ultimately, we were able to find out that majority of the children were not able to learn new skills and all majority of these children instead of studying in the lockdown were spending majority of their time on tasks like Agriculture, beedi making and etc.

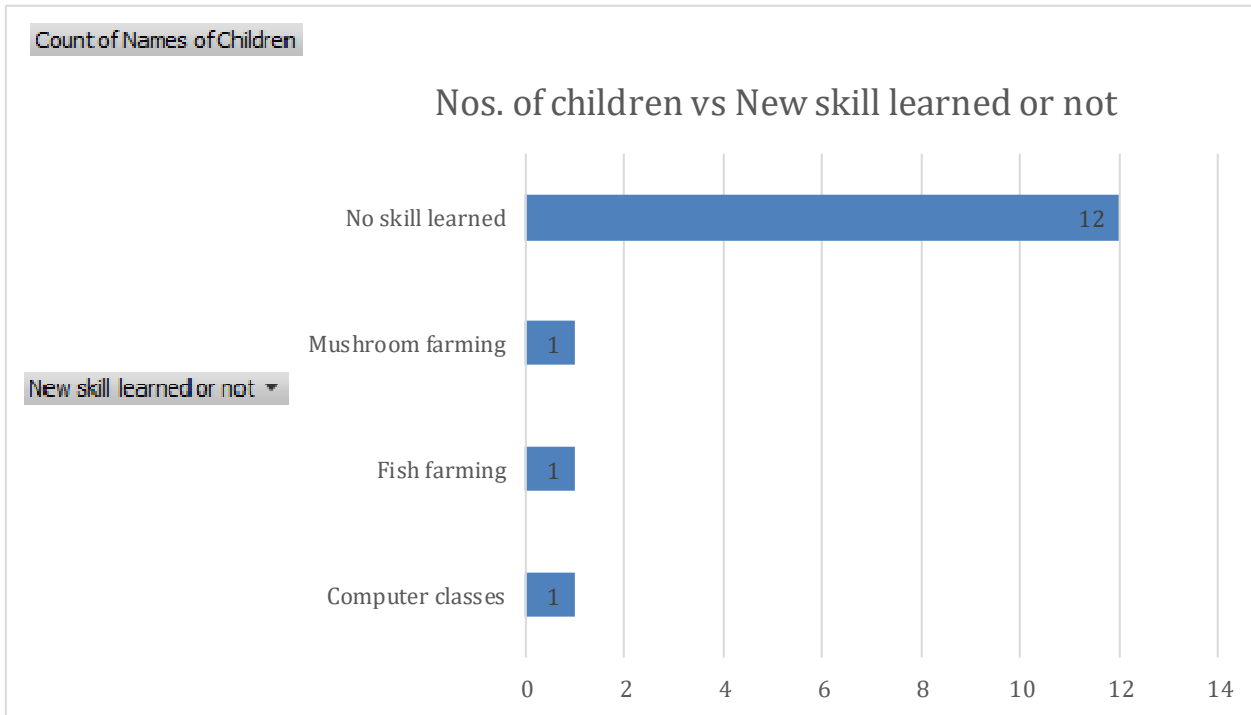


Figure 3: Showing whether the children learned new skills or not

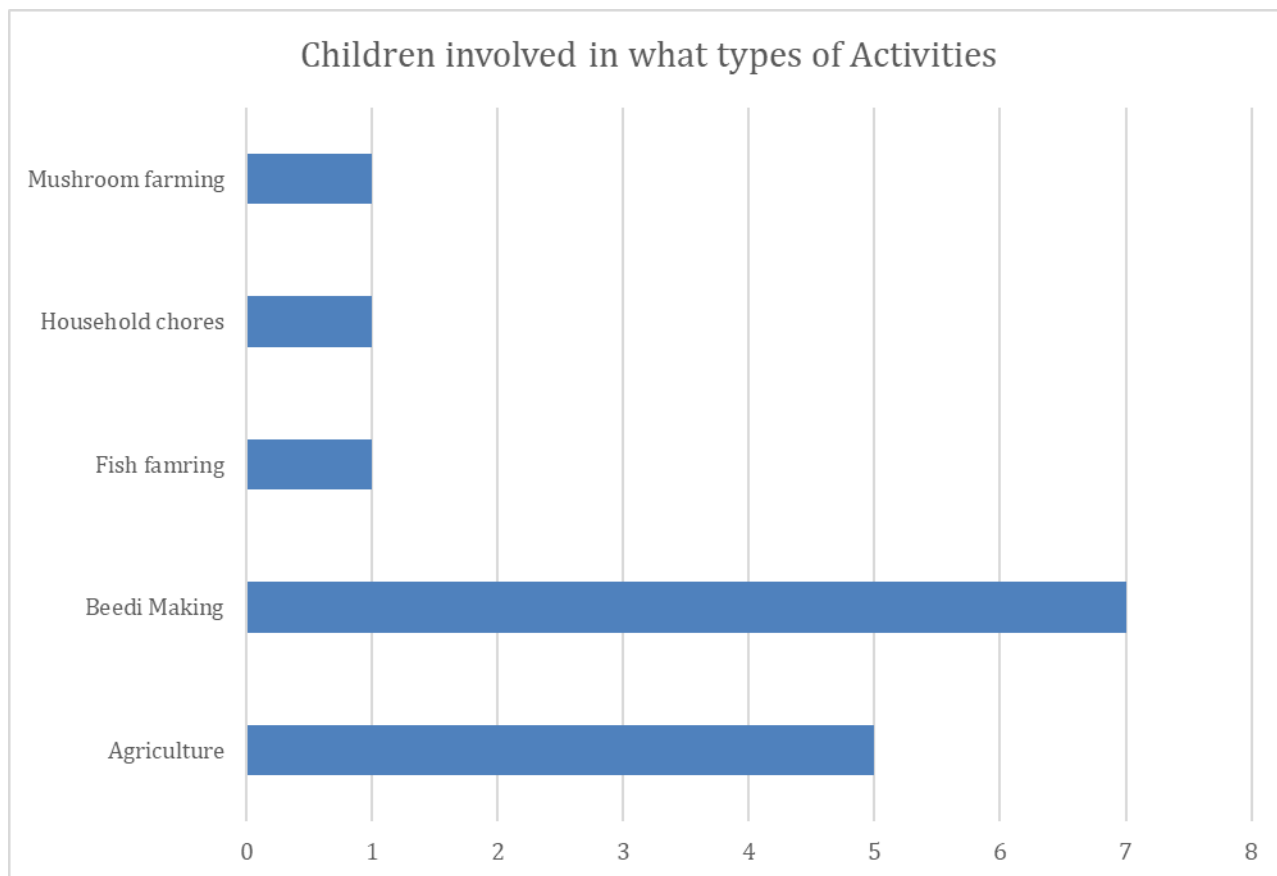


Figure 4: Types of activities children spent their time on

#### D. Change in Behavior

All the children said that they noticed drastic difference in the behavior of their parents i.e., they found that almost all the time their parents are worried about money, their Education, always irritated/agitated which is also affecting their mental peace also.

On the basis of the answers, we received from the survey from the targeted audience we created this Word Diagram given below to understand the mental health of these children and their parents. This diagram clearly indicates the adverse effects of temporarily locking down the schools, shops, markets etc.

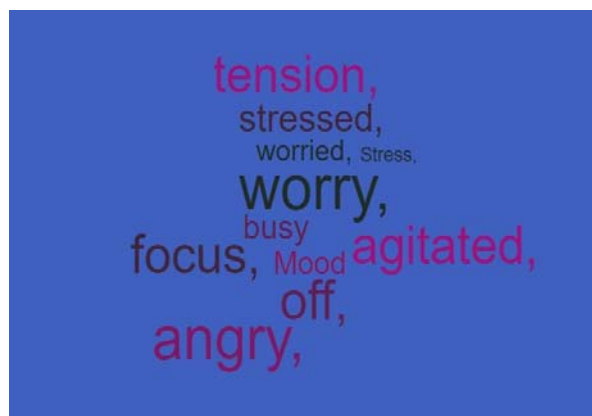


Figure 5: Impact of Lockdown on the mental health of the Targeted audience

#### E. Problems faced during lockdown

The problems faced by these children and their families are as follows:

No time for studies
No personal Growth
Monotonous Life
Lack of Concentration
No Personal Time
No Practical classes
No playing time
No new skill learned

Table 4: Problems Faced

With the help of the survey, we were able to gather a lot of information regarding these children in the Village and their lifestyle which helped us understand them better which directly helped us to implement the actions in a much more suitable way.

### Post- Survey Analysis

Once we successfully completed and implemented the action plan in the target area, we are now doing a post-Survey analysis to determine whether the targeted audience benefitted from the actions implemented and whether or not it helped them.

The motive of post-Survey is to find out whether the **targeted audience is following the instructions given to them by the Career counsellors**. And if they are, then it is helping them improve their anxiousness regarding studies and mental health.

#### A. Change in Schedule

After the interactions with the career counsellors, the children were asked to make a strict schedule for themselves which they will follow, which will help them eventually to manage their time much more efficiently and adequately.

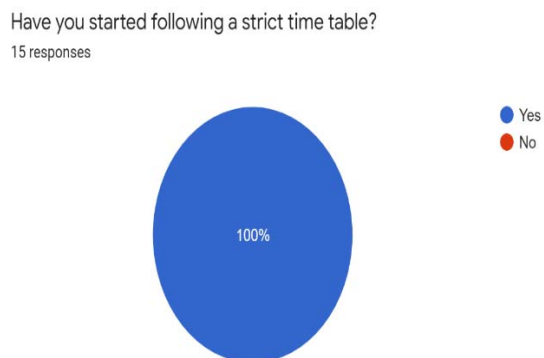


Figure 6: Students following a strict timetable

It is clear that all the students made a strict timetable to allot their time to the activities they think are important to them.



Along with that, this timetable helped them find time for studying or learning new skills that will eventually help them shortly.

From the results, we were able to find out that the targeted children are spending a minimum of 1.5 hours studying and a maximum of 5 hours daily.

### B. Impact of Counsellors

As we know that everyone is unique and has unique problems, so they require unique solutions. At the same time, this keeping in mind career counsellors made sure that they helped the targeted children in order to solve their problems and issues.

How useful were the counsellors and sessions with them?

15 responses

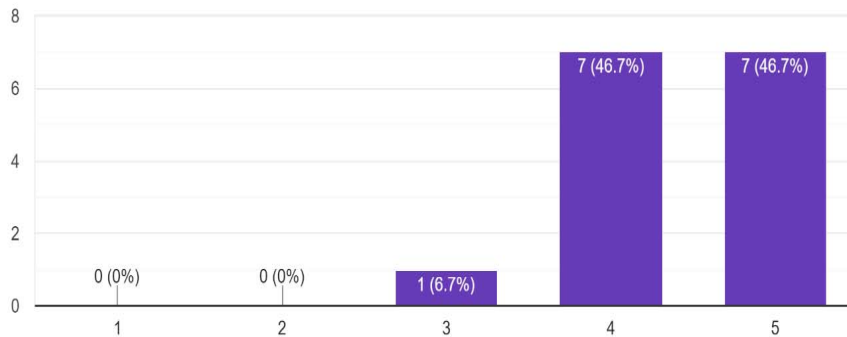


Figure 7: Usefulness of these sessions

Once all the sessions were over, we were able to find out that the majority of students were delighted and found these Career Counselling Sessions extremely useful and necessary.

### C. Mental Health

One of the significant problems that we noticed during the Pre-Survey part was the change in the behavior of the family members and the targeted children due to the lockdown. As most of them felt agitated, irritated, angry and stressed out all the time, that's why counselors tried their best to lift up their mood and the best way to overcome lockdown stress.

After implementing the action plan and following the instructions given by career counselors, the students are slowly-slowly on their way to improved mental health and well-built confidence.

How are you feeling now?

15 responses

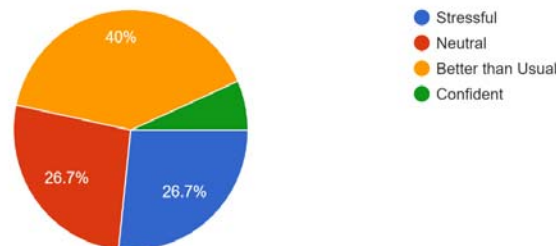


Figure 8: Responses

### D. Noticeable change

It is pretty clear that the implemented actions had some positive impact on the lives of the Targeted children. Whether it is following a timetable or learning time management, these children acquired much more than these. So, to understand the change that the implemented action brought in are as follows in the form of this word diagram.



Figure 9: Word Diagram regarding the change in the Targeted Audience

## Findings

We are done with the Pre survey, followed by the implementation of the action plan, we completed the post-survey. As we progressed, we were able to point out the problems and come up with solutions to solve the Problem that we identified and on the way, we were able to find a lot of information about the children, their attitude towards Education, towards society and lastly towards their family members. We were also able to gather other information which is as follows: -

- Children learned the importance of time management.
- They started investing time in skill-full activities.
- Actions helped them to improve their self-confidence and reduce their anxiousness regarding Education.
- Instead of using phones to play games, children started using the internet to find out new things and started learning new things.
- Those who are in higher classes have planned to start preparing for entrances.
- Even the parents we talked to have started to change their behavior.
- Since the functioning of the schools and different educational institutions have slowed due to the lockdown. As a result, children have started studying on their own.
- Lastly, the children in the kebal Village have become more aware of the opportunities that are or will be available for them for a better future.

These are some of the changes seen in the targeted audience after implementing the actions planned. There will be differences in the type of Education the children get at home vs. school.

- 1) There will be a difference in the time allotted to study
- 2) Then the resources provided at school
- 3) Also, the Non-Cognitive skills of the parents

But instead of waiting for the schools to re-open, it would be better if children start studying independently. And hopefully, they keep on following the same approach for a much brighter future.

## Conclusion

COVID has spread everywhere all around the world. This coronavirus pandemic radically disrupted the majority of the sectors, including Education, which affects the socio-economic conditions of the communities and their people. The government of India had declared multiple lockdowns to break the chain of the disease all around the country but only temporarily shutting down the schools, colleges, universities as a step to contain the disease from further spreading.

Such temporary lockdown of the schools not only affects the timetable of these children but also makes them more anxious about their studies and the future. Children all around the world have started feeling that the lockdown has directly impacted their daily schedules, they are facing the loss of Education, having a monotonous life and have stunted personal growth.

This action research project suggests some measures to overcome the situation such as socio & economic and technological measures such as economic supports for redesigning of the sector, public-private partnerships in the education sector, followed by the digitization of the study techniques to overcome the predicament and. Also, Education plays a very important role in the socio-economic development of people in any of the countries.

This study concludes that Education plays an extremely important role in the socio-economic progress of the people in any country. The lockdown circumstances may affect the socio-economic conditions of the people and educational institutions of the country. To mitigate the effects of pandemic, necessary and immediate measures are required in this time of predicament.

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## About the Author

Jai watts is an MBA Student from School of Rural Management, XIM University Bhubaneswar. His area of interest is Consumer Behavior and Marketing Research. He has experience in the field of Market Research, Market Analysis and Social Media Marketing. This action research project was conducted as part of his internship at MGNCRE.

## Annexures

**Exhibit 1: Photo of Children from age group of 7 till 15 after having a session with Career Counsellors**



**Exhibit 2: Types of houses in Kebal**



**Exhibit 3: Fish farming**



**Exhibit 4: Mushroom Farming**



**Exhibit 5: Pre-Survey**

**Pre-Survey**

1. When Covid-19 Pandemic started and lockdowns were imposed all over the country and most of the people faced issues like psychological problems i.e., stress, depression, anxiety and that's when people started taking mental health seriously. And, according to some studies the nos. of Suicide cases increased all over the world due to this Complete shut down in countries.

2. This sudden surge in the same maybe due to the Pandemic, lockdown, loss of jobs and Loss of Dear-ones, etc. This has resulted in increased nos. of stress and anxiety patients. It had affected both the young and the old.

Name

Your answer \_\_\_\_\_

Age

7-10 yrs old

10-14 yrs old

14-18 yrs old

Other: \_\_\_\_\_

Any new skill that you learned during the lockdown? If Yes, then mention below

Your answer \_\_\_\_\_

On what activities did you spend most of your time during the lockdown?

Your answer \_\_\_\_\_

Did you notice any change in your Daily schedule because of the lockdown? If Yes, Mention below

Your answer \_\_\_\_\_

How anxious did you feel during the pandemic because of your studies?

1 2 3 4 5

Not Anxious ○○○○○ Highly Anxious

How much time were you able to spend with your friends and family daily?

2 Hours

5 House

More than 5 hours

What are some of the problems you have faced due to lockdown?

Your answer \_\_\_\_\_

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### Exhibit 3: Post-Survey

Did you notice any change in your behavior?

No

Yes

Maybe

Other: \_\_\_\_\_

Did you notice any change in the behavior of your family members?

Your answer \_\_\_\_\_

How much time were you able to spend with your friends and family daily?

2 Hours

5 House

More than 5 hours

## Post- Survey

1. When Covid-19 Pandemic started and lockdowns were imposed all over the country and most of the people faced issues like psychological problems i.e., stress, depression, anxiety and that's when people started taking mental health seriously. And, according to some studies the nos. of Suicide cases increased all over the world due to this Complete shut down in countries.

2. This sudden surge in the same maybe due to the Pandemic, lockdown, loss of jobs and Loss of Dear-ones, etc. This has resulted in increased nos. of stress and anxiety patients. It had affected both the young and the old.

Name

Your answer \_\_\_\_\_

Age

Your answer \_\_\_\_\_

Did you notice any change in yourself?

Your answer \_\_\_\_\_

What experience did it give you?

Your answer \_\_\_\_\_

Have you noticed any change in your daily schedule after talking to the Career Counselor?

Yes

No

Maybe

Have you started following a strict time table?

Yes

No

How are you feeling now?

Stressful

Neutral

Better than Usual

Other: \_\_\_\_\_

Any other suggestions for further interventions to be undertaken?

Your answer \_\_\_\_\_

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How much time do you devote to studies now?

Your answer \_\_\_\_\_

Have you started learning new skills?

Your answer \_\_\_\_\_

How useful were the counsellors and sessions with them?

1 2 3 4 5

Not at all Useful      Very Useful

How are you feeling now?

Stressful

Neutral

Better than Usual

Other:

# 11. Generating Income Opportunities for SHGs through Marketing and Innovation

## An Action Research Project

Shwetaleena Chopdar

### Abstract

*It is well said and a fact that “when women develop, the family develops, society develops and the country develops.” Micro-enterprises are opening the door to women's empowerment in rural India through self-help groups. Identification and development of skills, as well as motivation for starting an enterprise, are vital. Continuous handholding and awareness are required to tackle the challenges encountered in the process while undertaking any business. SHGs' collective efforts and activities can assist them in earning an income and becoming self-sufficient. Therefore, this has an overall impact on socio-economic aspects of their life.*

**Key Words:** Self Help Group (SHG), Arisha Pitha, market linkage, income generation, women empowerment

### Introduction to the SHG

Our country is home to around 900 million rural people, comprising 65.07 percent of India's total population. Rural India is still afflicted by poverty, unemployment, illiteracy, economic injustice and gender inequity, despite 65 years of independence and a slew of welfare programs launched by state and central administrations. A vast number of Self-Help Groups (SHGs) are currently functioning at the grassroots level in India, particularly in rural India, on the ideas of mutual aid, solidarity and shared responsibility. They are still lagging behind in terms of reaching their full potential and efficiency.

Self-Help Groups (SHGs) are small voluntary associations of poor people, preferably from the same socio-economic background, who unite together to save a small amount of money on a regular basis, mutually agreeing to contribute to a collective fund and satisfy their emergency needs. They are informal organizations of people that come together to take action for a common purpose. One of the objectives is meeting their immediate economic requirements without

relying on outside assistance. The loans are often small, for a short period of time and for traditional reasons. The interest rates differ depending on the group and the purpose of the loan. It is greater than the average for banks but lower than the average for money lenders. The members of the organization rely on collective expertise and peer pressure to ensure proper credit usage and prompt payback. Other than collecting money, economic and social issues are discussed at regular meetings. Defaults are minimal due to peer pressure and there is detailed awareness about the end-use of credit. SHGs are not a brand-new concept. Traditional Indian society was based mostly on self-help and mutual assistance. However, in recent years, SHGs have emerged as a significant source of assistance and informal credit to the poor, who are also supported by the government through the institutional credit system. The SHG concept has its roots partly in India's indigenous saving system and partly in the group-based model of Grameen Bank in Bangladesh, albeit it differs in several ways. (Vij, 2013)

### SHGs in Odisha

The self-help groups led by women have been in Odisha since the 1990s, but when the BJD, led by chief minister Naveen Patnaik came to power in 2000, they took on a new identity. Patnaik inaugurated the Mission Shakti program and the development of these SHGs a year after becoming CM. Women were organized into organizations for holistic empowerment and focused livelihood activities and self-help groups were formed. Mission Shakti now has a little over 6 lakh SHGs in Odisha, with 70 lakh members. According to the Ministry of Rural Development's data, there are 469938 SHGs in Odisha at present.

Income-generating activities are initiatives that have an impact on the economic lives of people through the use of economic tools such as loans. The income of women in a family is becoming increasingly recognized as being critical to the nutritional, economic and educational well-being of

the family. Economic independence, or access to an inherited or self-generated income, is widely seen as the most powerful tool for women's empowerment and this is true to a large extent, as economic dependence is the worst type of dependency. Many countries in the developing world have tried and advocated for this approach to enable women to stand on their own feet.

In regard to their complete identities and powers in all sectors of life, the income of women in the family is quite essential. Economic independence, like education, may not provide women with the requisite decision-making capacity or even allow them easy or smooth access to decision-making forums. Despite the fact that the current value system has erected numerous impediments to women's equality through economic empowerment, the importance of economic factors cannot be downplayed. The self-help

group is a good starting point for income-generating

### **Arisha Pitha**

Arisha pitha is a sweet pancake made from rice flour, jaggery and sesame seeds. It is a popular traditional cuisine

### **SHG and Village under Study**

Naxapali village is situated around 8 kilometers away from Sambalpur township. It is under the Maneswar block. It is beside national highway number 42, connecting Sambalpur to Cuttack. Around 2000 people reside in the village. Most of the villagers are farmers and others include businessmen, government servants, labourers and fishermen.

The number of SHGs in the village are 3. The chosen SHG is Sakhi Brundabati (A), consisting of 11 members. The names

### **Identification of the Challenge**

Despite their talent and expertise in making Arisha Pitha, these women lack the motivation and confidence to start a business. Finding market connectivity is often difficult and they lack experience in running an enterprise. Though

### **Review of the Literature**

In recent years, novel attempts have been made in the direction of institutionalizing rural people, particularly the weaker and marginalized sectors of the community, as well as the promotion of microenterprises. People in the development field believe it is necessary for empowering rural poor people, encouraging sustainable rural economic growth and reducing rural-urban inequities. As a result, the current SHG approach is to mobilize village women for savings and credit, as well as to bring economic empowerment to rural women through microenterprises. The demographic data is gathered and analyzed. Self-initiative and self-motivation were identified as critical characteristics for being a successful entrepreneur. Women who opted for non-farm sector trades were now able to earn enough money to escape poverty. It also discusses the challenges of running a business and the influence of NGO help, which is represented in the form of a SWOT analysis. (Veluchamy, 2014).

The report emphasizes that the efficiency and efficacy of SHGs are crucial to their success. The issues that SHGs encounter have been divided into three categories: personal,

activities and sustaining them. (Narayanaswamy)

from Odisha and is one of the state's delicacies. It is eaten at all times of the year and is also prepared for festivals and celebrations. Also, there have been attempts by the state government to seek GI (Geographical Indication) tag for this food item.

of the members are, Sakuntala Behera, Anupama Sanbad, Sunita Behera, Sujata Behera, Namita Behera, Narmada Behera, Godavari Behera, Rashmita Behera, Suphala Sanbala, Sindhu Sahani, Ahalya Behera. It has started in the year 2017. Mrs. Sakuntala Behera is the president and Mrs. Anupama Sanbad is the secretary of the SHG. The women in this village are skilled at making Arisha Pitha, as said by the people residing in the village.

currently, they have funds available from their savings, they are unable to make productive use of it. They are able to repay the debt taken previously, but they have not taken a loan with the purpose of investment in an enterprise. Hence, there is no additional income to augment the earnings of their family.

social and marketing. Male dominance, lack of economic freedom and fear of social security are some of the key restraints experienced by the majority of members, while dual roles and lack of family encouragement are also issues that arise occasionally. Regular visits by extension workers, a lack of proper credit flow from the government and the administrator's apathetic approach were all administrative obstacles that hampered their progress. Proper information dissemination, government assistance from government and voluntary organizations and training are a few of the solutions proposed. (Saravanan & HEMALATHA, 2019).

SHGs have been implementing numerous entrepreneurial activities to improve the socio-economic status of their members, in addition to their monthly meetings, savings and bank linkages. Fisheries, small businesses, agriculture, handicrafts and livestock are among the most important of these activities to supplement their family's income. SHG members are also taking part in many governmental awareness programs, such as 'Swachha Bharat Avijan,' and awareness programs on 'health, hygiene and cleanliness,' as well as COVID-19 awareness. SHGs are establishing significant institutions in village life to help backward women in various areas gain confidence. (University)



Sales, help received, entrepreneurship development and empowerment were evaluated among Self Help Group members who were involved in the business. The first section of the research findings shows the impact of sales on SHGs' socio-economic profile, while the second section shows the impact of SHGs before and after starting a business using indicators such as confidence building, capacity building, decision-making self-esteem and social empowerment. It also determines which of the challenges they confront has the greatest impact on them, such as difficulty in managing working capital/non-availability of products/lack of assistance from family/lack of support within or from other groups, etc. Finally, the impact of SHGs on entrepreneurship development and empowerment is discussed. (Suresh & Prasad, 2020)

The marketing issues faced by women entrepreneurs (members of SHGs) in Chennai are explored in this article. Price issues, advertising challenges, transportation challenges, storage and grading challenges are all addressed as challenges. In this region, the price and grading issues were more significant. It also evaluates the support of agencies in product marketing, such as the government, NGOs and other organizations. It includes crucial recommendations such as using new promotional chances such as stalls, exhibitions, college trade fairs and other seasonal market opportunities for product marketing, using media power and considering mass-production methods to meet the problems of big producers, sale of their products

through shops and shopping malls to reduce the advertising challenges. (Leelavathi & Sulaiman, 2017)

It showcases some of the major challenges faced by members of Self-Help Groups, such as a lack of machines and equipment to fulfil market capacity, as well as a lack of marketing knowledge. SHGs are usually short on resources when it comes to promoting their products. Other issues included a lack of branding, lower promotional efforts, increased competition and lower consumer pricing demand. According to the paper, effective training of the group is required before any linkage can be established. Many planners and implementers overlook this part of SHG in many projects and if it is planned at all, it is poorly implemented. Also, the role of government, as well as financial institutions, becomes important during implementation. (Venkatachalam, 2014)

To address the problem of inefficient fund management and the inability of generating income, action research is required in this domain. Women will be able to put their skills to good use while also earning money as a result of this endeavor. As a result of this income, the problem of poverty will be alleviated and people's living standards will improve. The self-earning capacity can make the women feel more empowered and confident. There is a dearth of awareness, exposure and opportunity for the group. Therefore, micro-level planning is essential to begin as well as improve the performance of such microenterprises.

### Objectives of the Action Research

- ✓ To discover entrepreneurial opportunities and challenges faced by SHGs
- ✓ To equip SHGs with the skills and resources they need to establish a business
- ✓ To establish market linkages to sell their produce
- ✓ To find out the linkages established by SHGs with banks/ financial institution
- ✓ To suggest steps, measures and changes in SHGs for long term viability and positive impact of microcredit availability to such groups
- ✓ To study the changes that occurred among members of Self-Help Groups before and after they became involved in a micro-enterprise

### Hypothesis

The following hypotheses were formed in order to provide a reference point and a direction to my research.

- The economic activities undertaken by women have increased as a result of their membership in Self-Help Groups.
- Women have gained economic empowerment through participation in Self-Help Groups.
- Women have become more socially empowered as a result of their economic empowerment.

### Actions Planned to Address the Challenge

- ❖ Examine the current situation in depth by gathering primary data. The task at hand is to get the SHG to generate income in a situation where it is currently not doing so.
- ❖ Motivate them to participate in the business of Arisha Pitha by explaining the benefits of doing so.
- ❖ Continuous handholding throughout the span of 21 days from procurement of raw materials, finding market linkages to product enhancement.

- ❖ Intervention and suggestions to boost sales and resolve issues that arise in the process.
- ❖ Survey towards the end of the project to determine its impact.

### **Implementation of Action Research Steps**

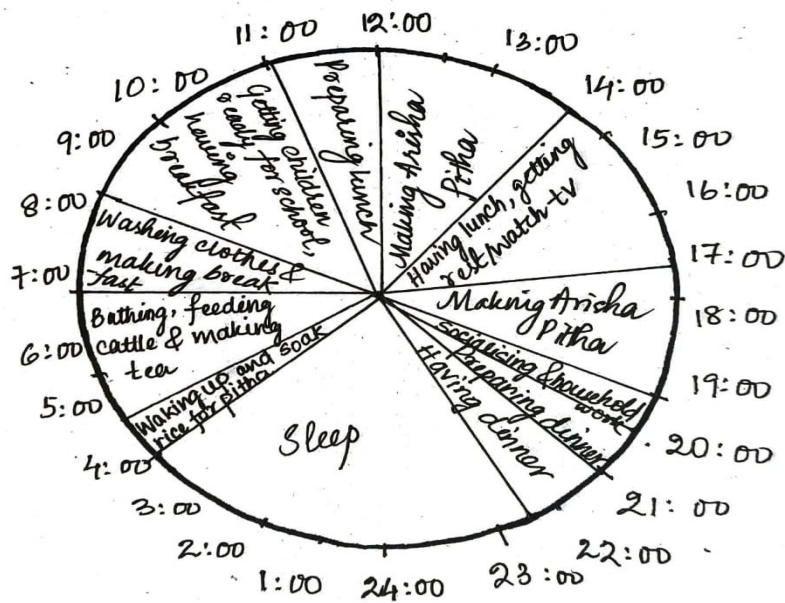
- Meeting with the SHG members and their families to make the objective of my study clear to them and get consent
- Conducting field visits to village to conduct pre-implementation survey for 2-3 days gathering primary data and situation analysis
- Ensuring the availability of raw materials, funds and storage for starting the operation
- Devise ways to find potential markets in the nearby areas
- Helping them in marketing the product by telling them about potential customers and ways to approach them
- Keeping track of the number of units sold and profit made using the practices to keep cost of production as low as possible
- Identifying volunteers to carry the product to the city for sales.
- Conduction of weekly field visits to oversee operations and tackle challenges faced by the group
- Conduction of post-implementation survey to determining the viability of the business and impact of the same on the group
- Making them aware of different entrepreneurial schemes existing in the state.

### **Process of Implementation of the Study**

The first step of the implementation process was to find bottlenecks regarding not initiating a business together. For that, a primary survey was conducted for analysis along with unstructured interviews. In rural areas, aversion by family members to entrepreneurship prevents women from pursuing their aspirations. So, the first step in implementing the plan was to convince family members to allow the women towards this initiative. This happened in situations where some women are confronted with this obstacle. When someone new comes to their village to start something, the villagers are usually apprehensive. Therefore, in addition to persuading them, it was essential to making their family members aware of the goal and purpose of this project.

The second phase in the implementation process was to ensure that the SHG has adequate knowledge of raw material procurement, appropriate funding and production and storage space. In addition to the primary survey, a PRA

exercise in the form of a daily activity clock was undertaken to estimate how much time they will devote to this business. Since it is COVID season and better management of time, it was unanimously decided that the production be done in batches, turn wise and with proper sanitation and hygiene in mind. First and foremost, they determined the amount of initial investment necessary to start the business (about ₹ 1000). They had to utilize money from their savings because they haven't taken a loan for the enterprise. They chose a one-room house that belonged to one of the members for storage and production. They decided on a time for making the Pitha after discussing it with their respective families. They decided to divide the work among them because some of the women are working in different sectors and the rest were housewives. After finishing their household chores in the morning, all of the housewives gathered at 12 p.m. to prepare the pitha. After 5 p.m., the remaining women gathered.



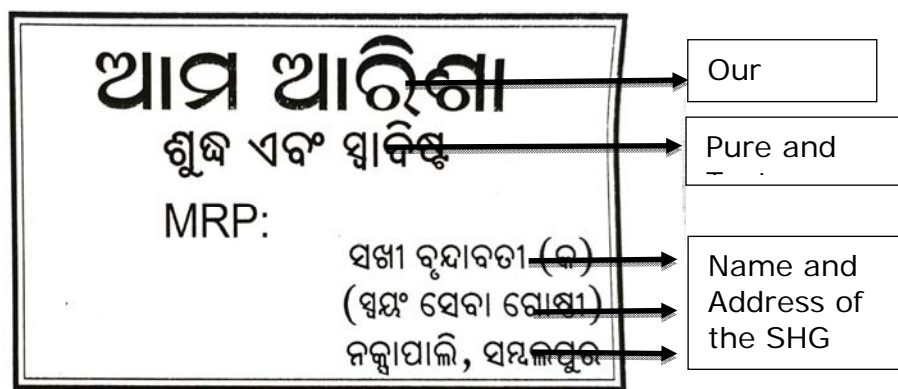
(Chart 1: The daily activity clock, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.)  
(Source: Field Survey)

There are two slots for making pithas, as illustrated in the diagram above. Women who are unable to come at the noon hour owing to other engagements or work come in the evening. Women arriving in the afternoon period experienced the same thing.

The third step of implementation was the marketing of the product. Arisha Pitha is something that satisfies the four 'A's of rural marketing. It is affordable, which a rural consumer can buy at low prices. People are aware of this sweet dish; it is available in their vicinity and is acceptable by the rural mass. The target population for sale is the age group more than 30 years, who are more aware about this product. Segmentation is done according to geographical areas catering to local shops and places in the vicinity of the village. Psychographic factors are also considered, such as place of purchase to promote the product where potential buyers congregate. Here village shops are the commonplace where villagers come for daily purchase of products like tea, edible oil, salt, etc. Initially, the door-to-door sales is encouraged to estimate sales per day and the demand for the product. Also, it is easier to approach near and dear ones to become the customers and sales happened through word of mouth. After the initial sales inside the village and in and around the village, selling in the local grocery shops was encouraged. Since this village is connected to the Sambalpur town, many

grocery shops also fall in the connectivity road. Therefore, they could also find a market in Dhanupali. There is a tourist site called Maneswar, which is famous for Lord Shiva's temple. In that location, there are shops outside the temple where materials for worship are sold. Although the tourist inflow has reduced due to covid, people come there from all over the state. Moreover, this region falls on the road connecting to the famous Bakra Mandir in Dhama, which is yet another significant tourist site in this district.

So sales were made to happen there. Until now, the product was sold loose without any packaging. This was because there was initial difficulty to make available plastic packaging at an affordable price. The plastic bags sold at Sambalpur were of high rates, which were adding to their cost price. Eventually, affordable plastic bags were made available and it was decided that when they would start selling in Sambalpur, they will use packaging. The motive of packaging was to withstand sudden jerky movements on roads while carrying it to the city and longer shelf life in the urban market. The following label in local language was shown as a sample demonstration for inclusion of basic requirements of a label if in future they establish a brand. This provides the product with an identity, helps in differentiation and emphasizes quality.



(Picture 1: Illustration of sample label)  
 (Picture Credits: Shwetaleena Chopdar)

The cost price of this product mainly involved the cost of raw materials and fuel. For now, labour cost is not taken into account and there is not much significant distribution cost. For selling the product to comparatively far areas, the husbands of the women volunteered. Later if they earn significant profits, some remuneration can be paid to the person who carries it to far places. The husbands visit the city often for work purposes. Also, due to closure in colleges, youths are working in shops like mobile and clothes in the city. They also helped in carrying the product to the city. Here penetration pricing strategy is being used. This means the selling price of the product is set low as compared to

similar products already available in the market for wider market acceptance and beat competition. The usual rate at which Arisha Pitha is sold in Sambalpur is rupees 6 per piece, whereas the price they are selling it is rupees 25 per packet, which contains 6 pieces making the price of the per piece around 4. Production and distribution costs fall as sales volume increases. The price can be raised at a later stage when there is more acceptance and awareness about the product. Meanwhile, they also received an order for a wedding conducted in the nearby village once. Updates on profits were noted.

**Weekly Profit Table**

WEEK	NUMBER OF UNITS	PROFIT EARNED (in Rupees)
1	1900	2958
2	2900	3248
3	5400	6048
<b>TOTAL</b>	<b>10200</b>	<b>12254</b>

(Table 1: Weekly Profit)  
 (Source: Primary Survey)

The above table shows the profit earned in the course of 3 weeks. The cost price stands at 3.05 (approx.) per piece and the initial selling price was rupees 5, which was later revised to rupees 4 (approx.) when they started selling 6 pieces for 25 rupees.

**Awareness on Schemes**

Through discussions, I made them aware of some schemes which they can take to invest in this business if it becomes successful in the future.

**Mission Shakti (Interest Subvention Scheme)**

The State Government introduced the Mission Shakti Interest Subvention Scheme in 2013, which provided loans to SHGs at a 2% annual interest rate for loans up to Rs. 3 lakhs. To encourage SHGs to invest more capital in livelihood activities, the effective annual interest rate for women SHGs in the State was reduced to 1% on April 1, 2015, for loans up to Rs 3 lakhs. Given

the increase in credit demand and the desire to reduce the interest burden, the scheme was revised in 2019 to include a 0% annual interest rate as long as the loans are repaid on time. This facility is available for loans up to ₹ 3 lakhs and is accessible to both rural and urban SHGs, regardless of their promotion agency

**Interest Subvention under OLM (Odisha Livelihood Mission)**

Interest Subvention under the NRLM and Government of Odisha scheme intends to minimize the interest burden on WSHGs by assuring inexpensive credit and promoting timely repayment. Banks are lending to all WSHGs (Women SHGs) at a 7% interest

rate (under NRLM). In addition, the NRLM provides a 3% Interest Subvention and the Government of Odisha provides a 2% Interest Subvention for timely repayment by WSHGs, bringing the effective rate of interest to 2%. (Financial inclusion, n.d.)

Finally, a post-survey was conducted to find out the impact of this business on SHG, its aftereffects and future potential.

**Data Collection and Analysis**

The research was carried out in two stages; hence the research methodology was discussed in two phases. Both qualitative and quantitative methodologies were used in all steps of collecting information. To achieve appropriate reactions, regional language was used for communication. This is a cross-sectional

study in which data is collected from a chosen sample of the population at a single point in time. The sampling methodology used here is convenience sampling. It is a kind of nonprobability sampling in which individuals are selected only because they are convenient data sources for researchers.

**Pre Survey**

In this section, an attempt has been made to analyze the socio-economic conditions of the members, understand their functioning, fund availability and find out about the current

obstacles. This study is carried out using primary data collected through surveys and interviews.

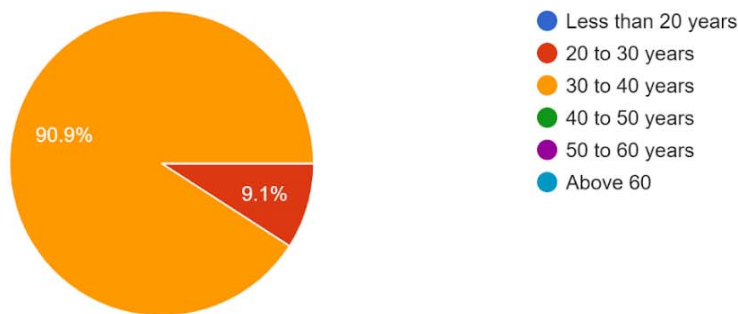
The women of the SHG are of OBC (Other Backward Class) category and belong to the Hindu religion.

**Age of the Respondents**

Age is a decisive factor that demonstrates the involvement of a specific age group in SHG economic activity. Since every work is time-bound and requires energy and skill, age becomes relevant

in women. Furthermore, age denotes the maturity and professional experience of a woman.

2. Age  
11 responses



(Chart 2: age of the respondents, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

The information gathered was based on age, with more responses coming from those aged 30 to 40. The data included people

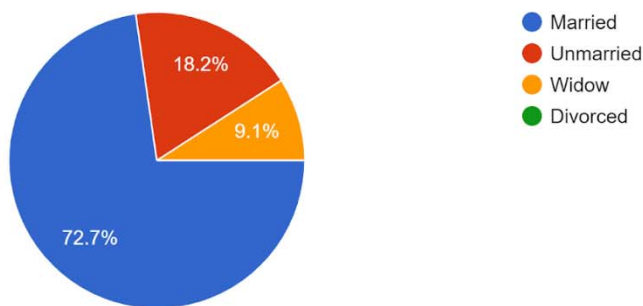
ranging in age from 20 to 60 years. The majority of the members (i.e., 90.9%) are in their 30s and 40s. A larger percentage of respondents in the 30-40 age bracket is ideally qualified to take on entrepreneurial responsibilities. They are part of a generation that understands their obligations to family and society. They are also capable of resolving any issues that may arise.

### Marital Status

Women's marital status is a significant aspect in determining their socio-economic level. The ego conflict between the husband and wife may prevent the wife from getting a job or working.

#### 3. Marital status

11 responses



(Chart 3: Marital status of the respondents, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

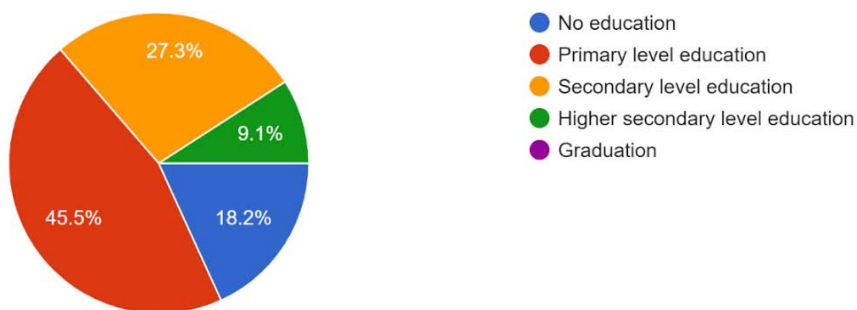
The most significant percentage of the responses, 72.7%, is certainly married. Unmarried women make up 18.2% of the sample followed by 9.1% as widow. It is encouraging to observe that the respondents' husbands have supported them in pursuing entrepreneurial endeavors. This is a positive development for rural society.

### Educational Status

Education is a valuable tool for the SHG members since it allows them to gain the necessary knowledge. The advancement of women's education in rural areas has the potential to increase their status in society and enable them to build self-confidence.

#### 4. Educational status

11 responses



(Chart 4: Educational status of the respondents, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

The pie chart shows that 45.5% of women could avail education until primary level, few of them (27.3%) have acquired up to

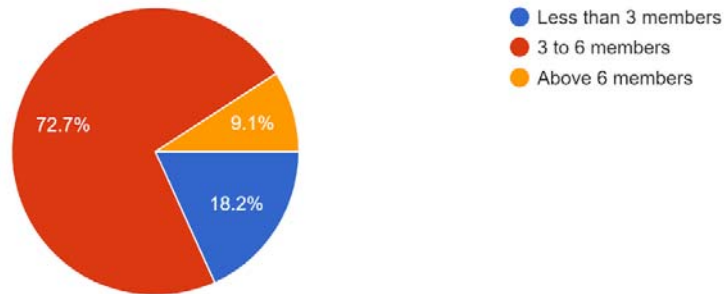
secondary level and rest of them are educated till higher education or no education at all. Despite a lower level of education, they have basic knowledge about mathematics to run the enterprise and understand the information required in bank documents.

**Size and Type of the Family**

Nuclear and joint families are the two categories of families in which the respondents stay. Today, it is quite rare to see a normal rural joint family. Rural workers migrate to cities in order to enjoy a more prosperous lifestyle, get quality medical care and educational opportunities for their families. Nuclear families account for 72.7% of the 11 respondents, while joint families

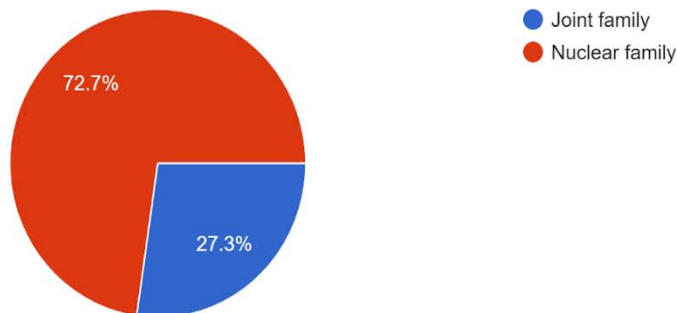
account for 27.3%. Women in nuclear families have more free time and are more independent in their planning and decision-making. There is a direct link between the number of family members and women's participation in entrepreneurial activities. Here, the number of family members of the women is between 3-6. In joint families, they must devote more time to home responsibilities and wait for the opinions and consent of all family members before embarking on any new venture.

7. Size of the family  
11 responses



(Chart 5: Size of the family of the respondents, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

8. Type of the family  
11 responses



(Chart 6: Type of the family of the respondents, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

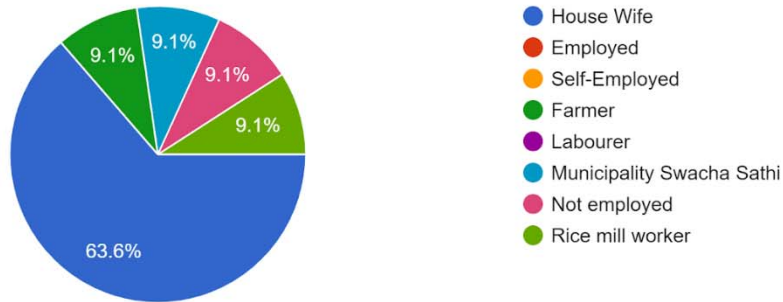
## Occupation

The employment of women in a variety of fields is a source of household income and also fosters sociocultural transformation. Apart from being a member of SHG, the majority (63.6%) of the women are housewives; three of them work at a rice mill, farm and as a municipality Swacha Sathi. Only one of them is unemployed. The women who are

housewives are willing to give more time towards this proposed business as compared to other women. The occupation of family heads of these households is labourer, farmer, general shop owner, the tea stall owner and cattle farmer.

### 9. Occupation

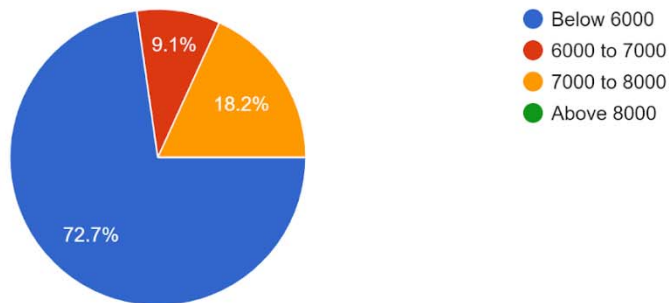
11 responses



(Chart 7: Occupation of the respondents, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

### 10. What is the monthly income your family? (In Rupees)

11 responses



(Chart 8: Monthly income of the respondents, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

The above pie chart also depicts the monthly income of families, majority of which stands at below 6000 followed by 7000-8000 and 7000 to 8000.



## SHG and its Functioning

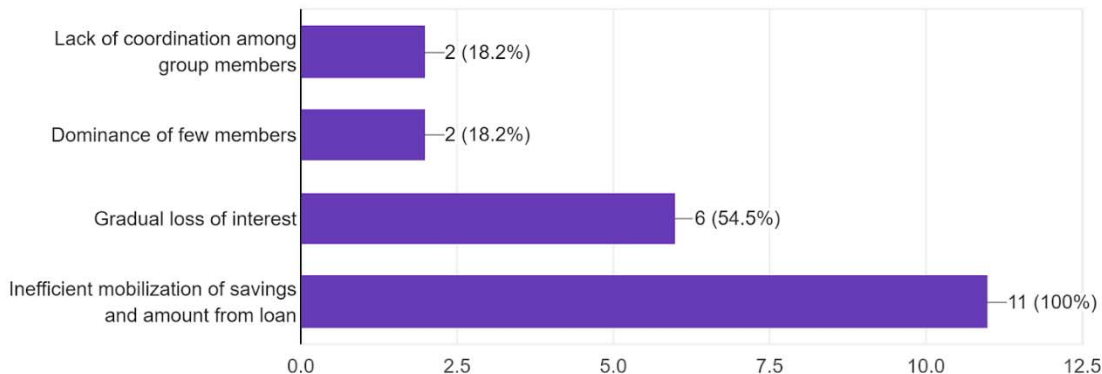
### Challenges faced while working in SHG

The challenges encountered slowed down SHG's performance and deviated it from its intended goal. The main issue was discovered to be unproductive utilization of money from savings (inefficient mobilization of savings and amount from loan). It was also discovered that this SHG has not taken a loan for entrepreneurship purposes. The

lack of income generation was cited as the reason behind the gradual loss of interest (54.5%). 36.4% of the total sample also indicated the dominance of a few members (18.2%) and a lack of coordination among group members (18.2%) as challenges.

11. What are some of the challenges that you are facing while working with SHGs?

11 responses



(Graph 1: Challenges faced by the respondents while working in SHG, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

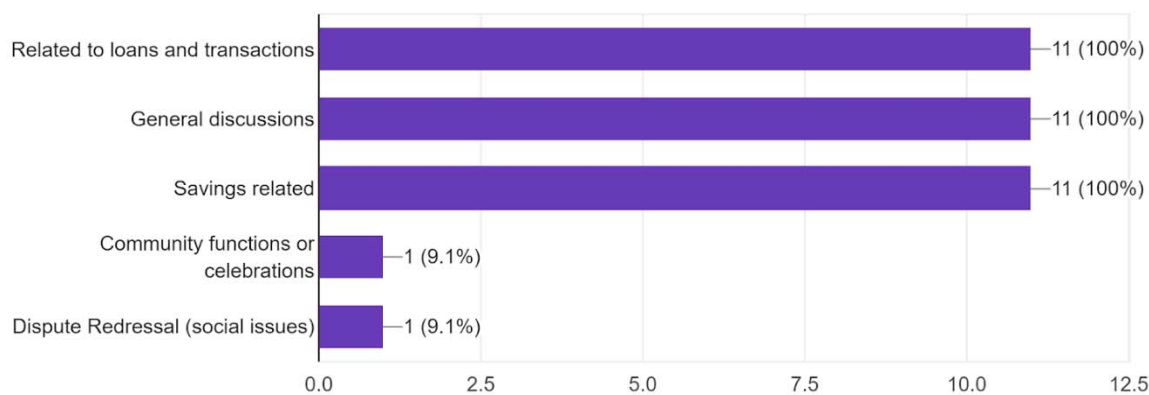
### Agenda of discussion in the meetings

The agenda of meetings largely revolved around the loans, savings, monthly installments to be paid and general matters. The general conversations cover topics such as daily life, family, children, village, society and so on.

Community functions, village celebrations and resolving disputes among members or families were also discussed. The meetings are held on the 6th of every month and all members attend it regularly.

14. What is the agenda of discussion of the meetings?

11 responses



(Graph 2: Agenda of discussion of the meetings, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

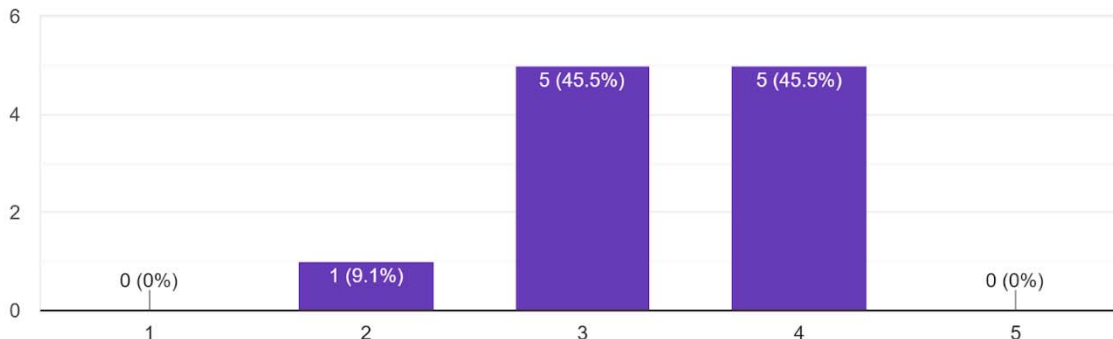
**Opinion of members**

This question was posed in order to learn more about SHG's current situation in order to assess its long-term viability and future operations. As can be seen from the bar graph

below, their opinions were more skewed towards the positive

15. Opinion of members regarding the functioning of SHG

11 responses



(Graph 3: Opinion of members about functioning of SHG, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

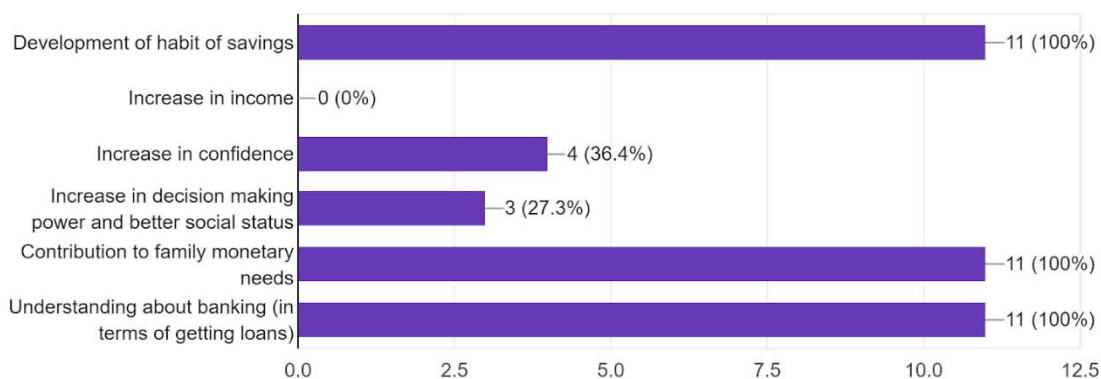
**Current benefits of SHG**

The following chart depicts the impact of SHG on the socio-economic aspects of women. Through loans and savings, they are able to make a contribution towards family needs. In addition to that, every member, regardless of their level of education, understands how to obtain a bank loan and

complete the necessary formalities. As seen from the graph, there is no increase in income. SHG has also contributed to empowering women by increasing their confidence, decision-making power and social status.

16. What are the benefits you are getting by being a member of SHG?

11 responses



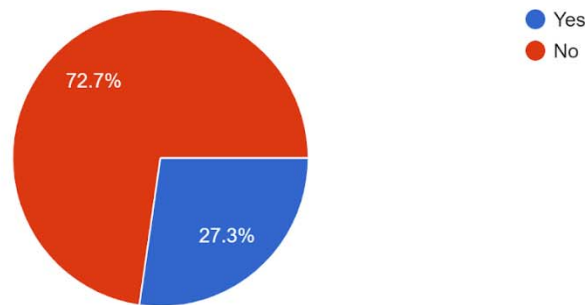
(Graph 4: Benefits by being member of SHG, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

**Business Related**

This was asked in order to determine the willingness and reasons for not starting a business by the SHG. Problem identification further helps in solving them and planning future actions. 72.7% of women had not considered starting a business together. The reasons for this were discovered to be a lack of incentive/motivation and a lack of a unanimous motive (90.9%). Women in rural areas are hesitant to take risks and a lack of self-confidence and an optimistic attitude toward the success of a business creates apprehension about making mistakes. In some cases, family members and society are unwilling to support the entrepreneurial growth of SHG members. They have to manage their time while also respecting and accommodating the views of family members. Hence, women struggle to strike a balance between family

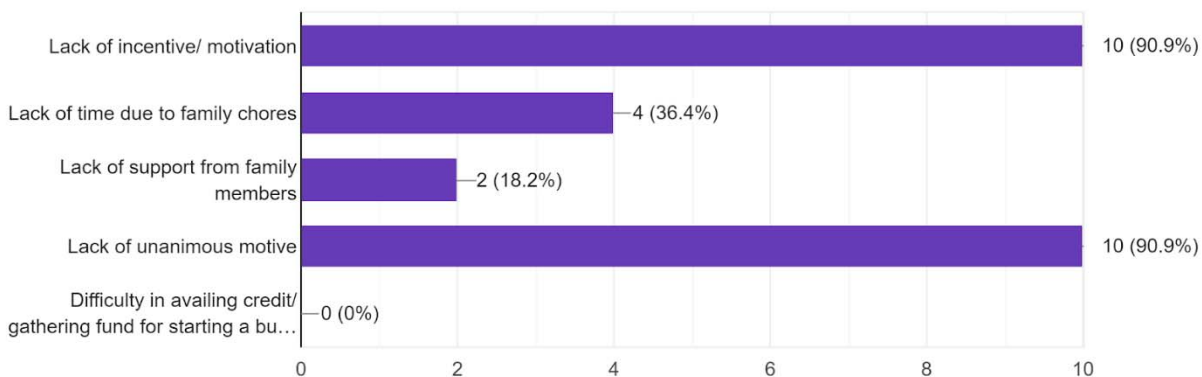
and business. However, family support is critical for the success of any business. The problems of lack of time due to family chores and lack of support of family members have been cited by 36.4% and 18.2% of the women, respectively. Although they had some ideas about starting a business, they could not figure out how and were unsure about which business to start. Aside from Arisha Pitha, these women can also make chat and rasi laddu, which are some of the other local food items. It was also important to convince each of the members to be a part of the business. Since they did not have a concrete plan, they could not take a decision unanimously. Most of them are housewives and some of them live in joint families; lack of time and support from family members were also some issues.

17. Have you ever thought about starting a business together?  
11 responses



(Chart 9: Thoughts about starting a business of the respondents, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

18. Please mention reasons for not starting a business.  
11 responses



(Graph 5: Reasons for not starting a business by the respondents, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

Through multiple discussions with the members and their families and encouragement, it was decided that they are going to start

the business of making Arisha Pitha. They also agreed to utilize a fraction of the amount from their savings towards this business.

### Estimated time and production of Arisha Pitha

The estimated time per person varied between 2-3 hours and production per day ranged from 60-70 to 70-80 per day. The production figures may change depending upon sales. They are aware of the location of procurement of raw materials and also identified a place for storage and production. The date of starting the business is set as 19<sup>th</sup> July 2021.

21. How much time are you willing to spend on this business per day?

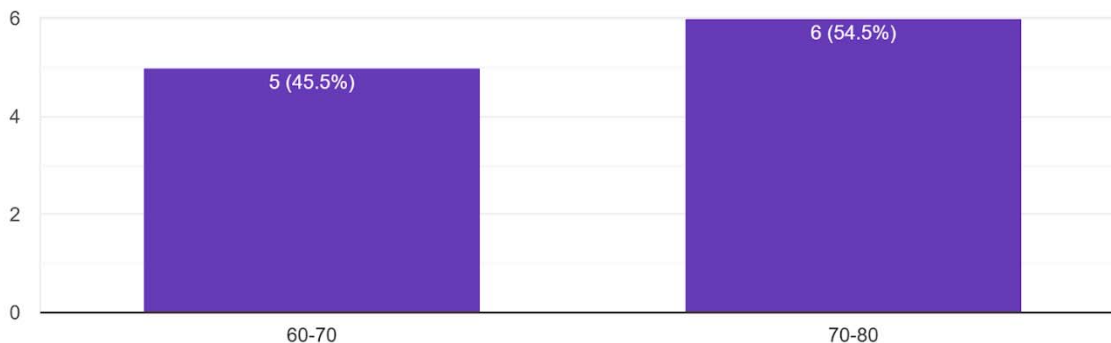
11 responses



(Chart 10: Time available to be spent on business by the respondents, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

24. What is your estimated daily production (per person)?

11 responses



(Graph 6: Estimated production per person, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

### Funds Related

The funds available with them are from savings and they can avail of a loan from the bank. Previously they have availed loans at the interest rate of 1% and have repaid the amount with monthly installment. All of them have taken a loan at least once previously. Whenever a loan is taken as a group, it is usually from a bank to help even one member. If ever they had taken any loan, the data about sources is shown below. It

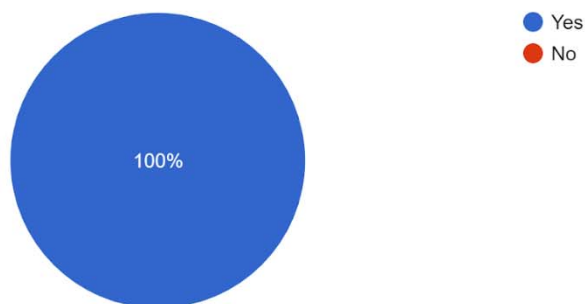
shows that most of the time, they took a loan from formal sources (63.6%) and the rest (36.4%) includes both sources. Presently 72.7% of them are under debt which is either from informal sources or their own SHG. Regarding the purpose of the loan, it was taken when some member had some health necessity or wedding from formal sources as shown below. If any amount is needed for necessary household consumption

or emergency repayment of a debt by any member, the amount is lent by the SHG to the member from their savings. Loan for household consumption is provided by SHG to all the

members when required and that includes the purchase of any electrical appliances like television or mobile phone, farm equipment or raw materials, education of children, etc.

### 26. Have you taken any loan previously?

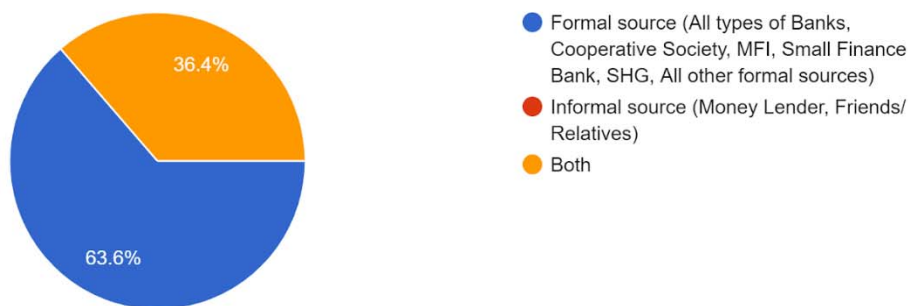
11 responses



(Chart 11: Status on loan, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

### 27. Source of loan

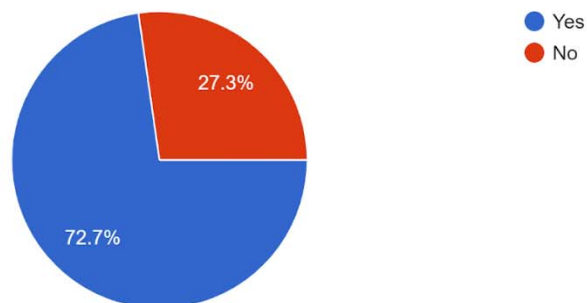
11 responses



(Chart 12: Source of loan, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

## 28. Are you under any debt?

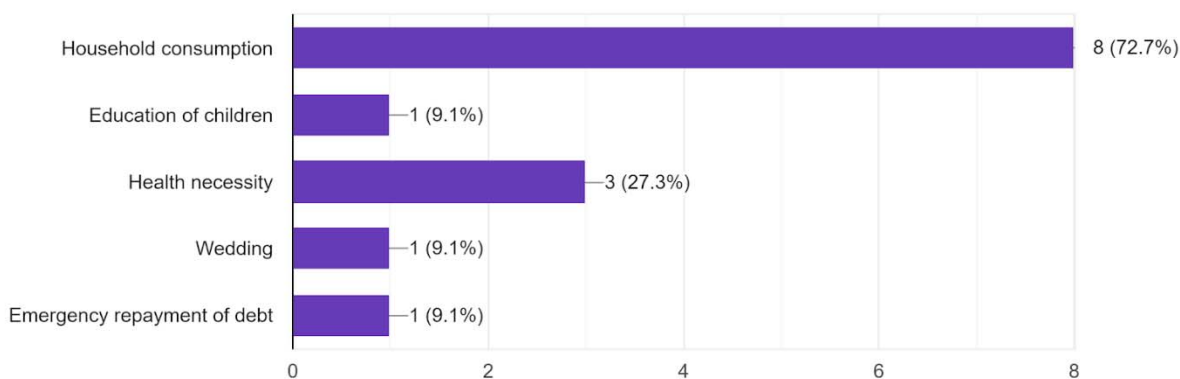
11 responses



(Chart 13: Status on debt, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

## 29. Purpose of loan

11 responses



(Graph 7: Purpose of loan, taken during pre-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

Until this time, they are not aware of any other schemes offered by the government related to loans for enterprise for SHGs.

## Post Survey

### Challenges faced by members during implementation

- The initial unavailability of individuals for marketing the products to distant locations is one of the obstacles experienced while starting the business. They later enlisted the support of family members and acquaintances to perform the job.
- Because the use of plastics is restricted, finding a low-cost solution to wrap the products proved tough. Sal leaves were offered as an alternative, but due to the lack of trees and woods in the area, there was an insufficient and daily supply of leaves. Furthermore, this food item must be stored in an airtight container to prevent spoiling and oil spillage.
- They experienced changes in their daily lives as a result of starting something new. As a result, they had some time management issues at first, balancing time spent on household tasks and time spent on business.

- They rely solely on word-of-mouth for product promotion. They cannot opt for other means to promote their product because of financial constraints.

**Changes/ improvements observed by the members of SHG**

- ✓ There has been an improvement in the group's coordination in terms of task distribution, participation and time management.
- ✓ They could come and work whenever it was convenient for them in the morning and evening.
- ✓ There was equal participation and completion in the production process, as well as equal profit distribution.
- ✓ Frequent meetings allowed them to be informed about one other's situations and internal communication improved, which was previously limited due to monthly meetings. Apart from discussing work, they now have time to talk about their personal lives.
- ✓ Apart from the members of the SHG and family members, they could start interacting with other people from the village when they were selling their product.
- ✓ Previously, they were unable to profit from their money, but they have finally discovered a means to do so.
- ✓ They also learned how to assess competition by tasting and observing the same products sold in the market of Sambalpur. This will help them to improve the product's quality and match the standards of the competitor's product.

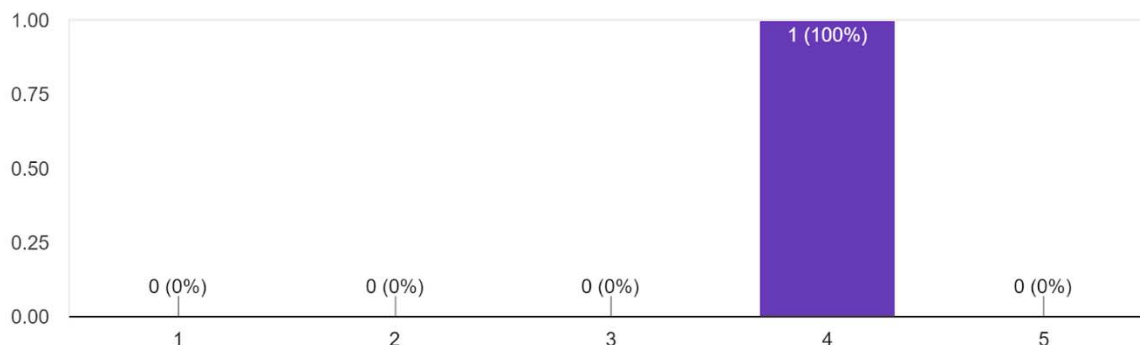
In the future, using their full potential, according to them, they can increase the production to 2500 pieces per day. But this amount depends upon their sales in the different markets.

**The way forward for the business from the perspective of SHG**

- They agreed that this business had assisted them in making a profit and that they could make money using their skills. However, the profit they make is minimal. Due to local competition, they can only raise their selling price by 1-2 rupees for each piece. This establishes a ceiling for them, beyond which they will not be able to increase. Therefore, they believe that as their business grows in popularity, they may be able to expand in the future.
- Their family members will not be able to assist them in marketing their product in cities or places that are far away from the village indefinitely. So, they are considering hiring someone to assist them with transportation on a daily basis. That person can be paid a remuneration of rupees 200 per day.
- They expressed agreement towards availing loan under Mission Shakti for this business based upon its performance and volume of sales.
- If their business expands and they make good profits, they can also sell in the Palishree mela, which is a fair organized in the city every year solely devoted towards handmade products.
- Since their village is located on the side of the road, which is a national highway, they can set up a small stall on the road to increase sales.

5. How effective was this business for you in aiding your family income?

1 response



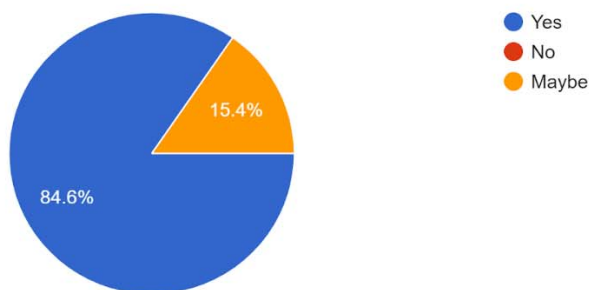
(Graph 8: Measurement of effectiveness of business, taken during post-survey, Naxapali village, Sambalpur District, Odisha.)  
(Source: Field Survey)

The above question was asked to assess the overall impact of this business on income generation and thus some addition to the family income. And it was advised to provide the rating collectively as a group. They mentioned that they feel good about their talent is started to be recognized and this activity has a good improvement on their individual self and group. The following questions have been asked to measure the factors which indicate women's empowerment. Women's empowerment is about providing them power, creating power within them and enabling women to contribute to their families and communities. Women's empowerment enables them to fulfill their full potential in all areas of life. It confers

various powers on them, including social respect, dignity, affluence, property, worth and security. Hence, the concept of women empowerment is concerned with acquiring the ability to participate in income-generating activities, has gained substantial relevance over time. SHGs serve as a medium of women empowerment for the rural poor. The data below clearly indicates the same. 84.6% of women out of 11 respondents believe that they feel more independent after earning money on their own through their efforts. However, 15.4% expressed uncertainty regarding this.

6. Does earning income make you feel more independent?

13 responses



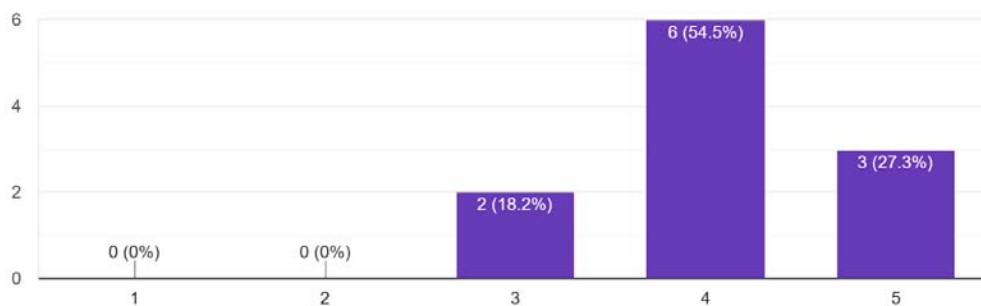
(Chart 14: impact of earning on independence, taken during post-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

Good decision-making leads to good life choices and the freedom to make decisions regarding something important is a factor of empowerment. The following bar graph shows that 54.5% of the 11 respondents felt improvement in their decision-making for the business. This involves the act of planning every step to be executed, right from

production to selling. This is followed by 27.3% who observed great improvement and 18.2% of them remained neutral. In the household, they could take decisions regarding savings and spending of money, but the decisions are taken by male members of the house still had significant influence.

7. Has there been improvement in your decision-making abilities for the business and at household?

11 responses

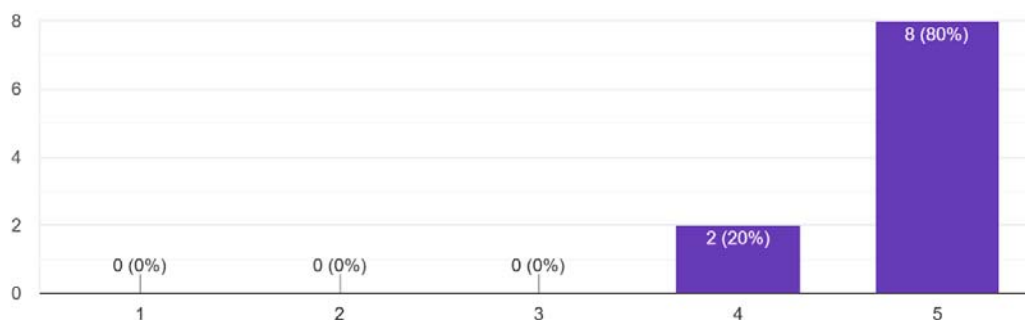


(Graph 9: Status on decision making, taken during post-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)



8. Has there been an improvement in teamwork and member participation in group activities?

10 responses

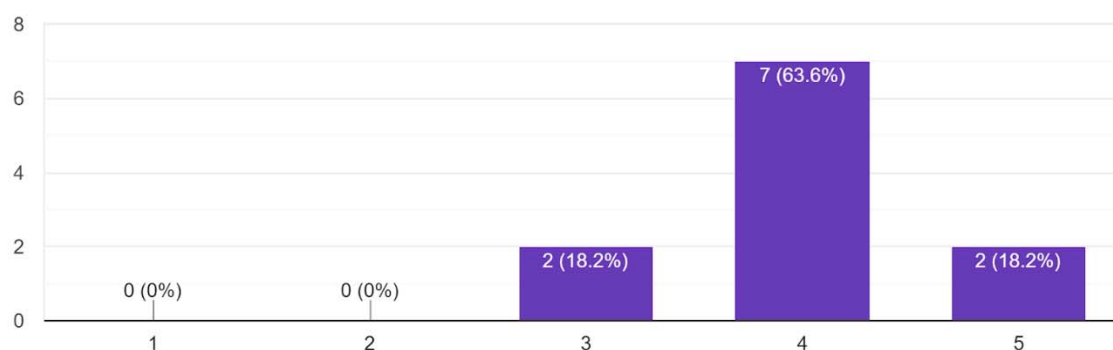


(Graph 9: Status on teamwork and participation, taken during post-survey, Naxapali village, Sambalpur District, Odisha.)  
(Source: Field Survey)

As mentioned in answer to the previous question that their coordination and cooperation has increased as a result of this activity, the above graphs reflect the same. 80% of the women observed greater participation and improvement of teamwork and 20% of them felt that there was a significant improvement.

9. Have your communication skills improved while interacting with customers or retailers?

11 responses



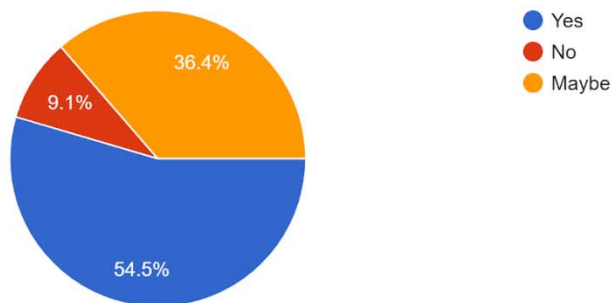
(Graph 10: Status on communication skills, taken during post-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

This data shows that there has been great improvement in terms of communication by 18.2% of the total respondents, the highest being 63.6% observed significant improvement and 18.2% remained neutral. They were able to communicate with a greater number of people due to this business, which had an impact on their bargaining skills in terms of setting the price and persuasion.

Pursuing an entrepreneurial activity has made them more recognized in their village. 54.5% of them believe that the importance given to them by their SHG and family has improved. They have realized the role, importance and contribution of every member. Providing additional income to the family is appreciated by the family members.

10. Do you believe there has been an increase in the importance accorded to you by family and community as a result of running this business?

11 responses

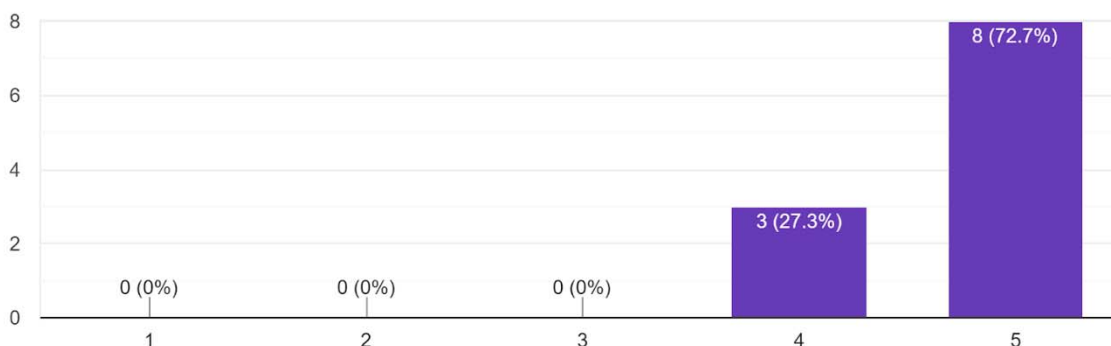


(Chart 15: Status of importance given to women by others, taken during post-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

This was asked to assess the confidence of the members to continue this business or take up any other business in the future. The initiation of this business has made them aware of the operation steps that can later help them expand their business. 72.7% women have expressed very likely followed by 27.3% shows fairly likely chances to pursue business in future.

11. How likely are you to pursue this business or any other business in future?

11 responses



(Graph 11: Likelihood of pursuing business, taken during post-survey, Naxapali village, Sambalpur District, Odisha.) (Source: Field Survey)

## Findings

- It is critical to provide suitable direction in order to establish an entrepreneurial spirit among the people. These self-help groups gave a forum for women to become more than just housewives and key community contributors.
- The majority of SHG members are between the ages of 30 and 40, showing that they are part of a young demographic with the ability to drive change in rural areas. They can promote rural products that are not readily available in the market.
- The above data indicates that the group has a lower level of education. It is vital to educate women so that, as members of SHGs, they can function and understand every aspect of their business. This includes devising strategies to gain maximum profits and proper financial planning. However, it should be noted that despite having lower educational qualifications, these women are capable of availing of the loan and understand bank procedures.

- Until now, they have maintained regular repayment of loans whenever it was taken. This increases their chances to approve loan amounts meant for their entrepreneurial activities in the future. They attended the SHG meetings regularly.
- Though there was a lack of coordination in the group initially, with the initiation of this business, the participation and collaboration have increased. This shows us the collective action for a common cause can be successful.
- After the completion of the project, there is growth in their income. And they have also developed the habit of saving for themselves, which is their personal savings. They have gained social recognition in the village and the interaction with other residents in the village and shopkeepers has increased. The profit earned is distributed equally among all the members. It demonstrates that all members are committed to the development of each other. They also exhibited good time management by manufacturing in batches.
- Though they had the expertise in the production of Arisha Pitha, doing business with it was new to them. There was initial hesitation while conducting the sales, but they adapted well. They have mentioned the difficulty in managing household work and giving time to the business.
- It was also observed that support from the family members is crucial for the success of a business or any initiative by the SHG. Their families have played a significant role in marketing the products and making them reach faraway places from the village. Overall, this project had a positive impact on them in terms of earning income and establishing an enterprise.

## Conclusion

It is said that "The hands that rock the cradle rules the world." This emphasizes the significance of women in the development of a nation. The financial resources of every country determine its economic growth and development. Therefore, entrepreneurship is regarded as one of the most significant components in the socio-economic development of a country. Through women's entrepreneurship, SHGs are a medium of economic empowerment. The perspectives of rural women towards innovative and economic thinking should be channelized for the growth of women entrepreneurs. They just need a little push, moral support and a concrete plan to move forward with their ideas to pursue anything. Individuals have a natural aversion to change, so the procedure to encourage them should be implemented gradually to overcome this reluctance.

The government at the local level can take actions to bring their dormant entrepreneurial abilities to the limelight by conducting surveys and providing initial aid to start a business. This can facilitate active participation in developmental endeavors. It should be assured that individuals are informed of the essential schemes, allowing them to plan their future actions and learn about financial aid prospects.

Later, the plastic quality can be altered such that it is not less than 40 microns, allowing it to be recycled and reused. This will be determined by their profitability and ability to afford to switch to such an alternative, as it will elevate their production costs.

They can register as a company and obtain a food license in the future in order to expand their business and gain recognition for their work through a brand. Obtaining a Basic FSSAI license will demonstrate that their product is safe and hygienic, which will help them improve their brand image. After that, they will be able to sell their products at the Palishree mela, the annual fair.

They can apply for a loan under the Mission Shakti interest subvention scheme if they decide to pursue this business on a large scale. Connecting with Mission Shakti will help them in obtaining various forms of support.

The village has two more SHG groups. They constitute a cluster if this group later collaborates with the rest of them and be engaged in the production of massive quantities of Arisha Pitha. The government aids this cluster group in terms of product marketing, promotion and sales. Here, the District Rural Development agency works as the facilitator.

If they are given assistance in the future as how to handle online selling accounts, it may be a viable platform for them to reach a huge number of customers. Arisha Pitha is now accessible on well-known online stores such as Amazon and Flipkart.

As Robert Collier puts it, "success is the sum of small efforts, repeated day in and day out." These women can achieve great heights one day if they keep their enthusiasm and keep moving towards their goals every day.

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## About the Author

Shwetaleena Chopdar is a student at XIM University, where she is pursuing an MBA in Rural Management. She was drawn to this degree because of her desire to work in the development sector and make a difference in the lives of rural people. She is studying rural life in depth for one and a half years of the programme. She performed various interviews, surveys and awareness campaigns on women's health and sanitation, child labour and marriage and migration while living in Jamui village in Bihar for 40 days as part of the Rural Learning and Living Experience programme. Education and empowerment, she believes, are the most important components in bringing rural people into the mainstream and ensuring their fair representation. As part of her internship program at MGNCRE, she has conducted this action research project.

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## Annexures

### Questionnaire for first survey

#### Demography

1. Name of the respondent
2. Age  
 a) Less than 20 years b) 20 to 30 years c) 30 to 40 years d) 40 to 50 years e) 50 to 60 years f) Above 60
3. Marital status
  - Married
  - Unmarried
  - Widow
  - Divorced
4. Educational status
  - No education
  - Primary level education
  - Secondary level education
  - Higher secondary level education
  - Graduation
5. Religion
  - Hindu
  - Muslim
  - Christian
  - Other
6. Social category
  - General
  - OBC
  - SC/ST
  - other
7. Size of the family
  - Less than 3 members
  - 3 to 6 members
  - Above 6 members
8. Type of the family

- Joint family
- Nuclear family
- 9. Occupation
  - House Wife
  - Employed
  - Self-Employed
  - Farmer
  - Labourer
  - Other
- 10. What is the monthly income in your family? (in Rupees)
  - Below 6000
  - 6000-7000
  - 7000-8000
  - Above 8000

#### SHG and it's Functioning

11. What are some of the challenges that you are facing while working with SHGs?
  - Lack of coordination among group members
  - Dominance of few members
  - Gradual loss of interest
  - Inadequate mobilisation of savings and amount from loan
  - Others, please specify.....
12. What is the frequency of SHG meetings?
  - Weekly
  - Monthly
  - Specify if none of the above-----
13. Do you attend the meetings regularly?
  - Yes
  - No

14. What is the agenda of discussion of the meetings?

- Related to loans and transactions
- General discussions
- Savings related
- Others, please specify.....

15. Opinion of members regarding the functioning of SHG. (Likert's scale)

- 1- Very dissatisfied
- 2- Not Satisfied
- 3- Neutral
- 4- Satisfied
- 5- Very Satisfied

16. What are the benefits you are getting by being a member of SHG?

- Development of habit of savings
- Increase in income
- Increase in confidence
- Increase in decision making power and better social status
- Contribution to family monetary needs
- Understanding about banking (in terms of getting loans)

#### **About Enterprise**

17. Have you ever thought about starting a business together?

- Yes
- No

18. Please mention reasons for not starting a business.

- Lack of incentive/ motivation
- Lack of time due to family chores
- Lack of support from family members
- Lack of unanimous motive
- Difficulty in availing credit/ gathering fund for starting a business
- Others, please specify.....

19. Are you willing to start a business together for making Arisha Pitha?

- Yes
- No

20. How much time are you willing to spend on this business per day?

- Less than 1 hour
- 1 hours
- 2 hours
- 3 hours

21. Do you know from where to procure raw materials?

- Yes
- No

22. Do you have a space for making as well as storage of Arisha Pitha?

- Yes
- No

23. What is your estimated daily production (per person)? \_\_\_\_\_

24. When can you start this business?

#### **Funds**

25. Have you taken any loan previously?

- Yes
- No

26. Source of loan

- Formal source (All types of Banks, Cooperative Society, MFI, Small Finance Bank, SHG, All other formal sources)
- Informal source (Money Lender, Friends/Relatives)
- Both

27. Are you under any debt?

- Yes
- No

28. Purpose of loan

- Household consumption
- Education of children
- Health necessity
- Wedding
- Others, please specify.....

29. Are you aware of other schemes offered by government related to enterprise loan for? SHGs?

- Yes
- No

30. If yes, please mention  
\_\_\_\_\_

#### **Questionnaire for second survey POST implementation**

##### **(Questions for the group)**

1. What are the challenges faced while implementation?
2. What are the changes or improvements you observed in the SHG?
3. How many units are you willing to increase in the future?
4. What do you think is the way forward for your business?
5. How effective was this business for you in aiding your family income?  
(Likert's scale) (1- below average 2- average 3- neutral, 4- good, 5- very good)
6. Kindly rate the following factors of empowerment.

##### **(Questions for individuals)**

(Likert's scale) (1- not much improvement observed, 2- minimal improvement, 3- neutral, 4- significant improvement, 5- great improvement)

- i. Does earning income make you feel more independent?
  - Yes
  - No
  - Maybe
- ii. Has there been improvement in your decision-making abilities for the business and at the household?
- iii. Has there been an improvement in teamwork and member participation in group activities?

- iv. Have your communication skills improved while interacting with customers or retailers?
- v. Do you believe there has been a shift in the importance accorded to you by family and community as a result of running this business?
  - Yes
  - No
  - Maybe
- vi. How likely are you to pursue this business or any other business in future?  
(Likert's scale) (1- not likely, 2- less likely 3- neutral, 4- fairly likely, 5- very likely)

(Pictures 2,3 and 4, Process of making the Arisha Pitha, Naxapali Village, District Sambalpur, Odisha)



(Pictures 5 and 6, Arisha Pitha as final product and author taking survey, Naxapali Village, District Sambalpur, Odisha)



(Pictures 7,8,9 SHG women in making Arisha Pitha, Husband of one of the women helping in packaging, Naxapali Village, District Sambalpur, Odisha)







(Picture 10, Author with the members, Naxapali Village, District Sambalpur, Odisha)







सत्यमेव जयते

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