



# A CRITICAL ANALYSIS OF ‘DIGI- PULLAMPARA – TOTAL DIGITAL LITERACY CAMPAIGN’

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*Abstract:* 'Digi Pullampara - Total Digital Literacy Campaign' by the Pullampara Gram Panchayat is the first successful total digital literacy campaign in Kerala. It ensured that all citizens of the local body are digitally literate and empowered to use digital applications for their benefits. The project was completed with active involvement of a dedicated team supported by the political systems, officials, community and other stakeholders.

*Index Terms* - Digital literacy, citizens, survey, training, information, evaluation, technology, participation, services.

## I. INTRODUCTION

'Digi Pullampara - Total Digital Literacy Campaign' is a classic example of a project that was the dream of an individual, which reached a group of people, later embraced by the entire inhabitants of a Gram panchayat and became a model for the State itself. The 'Digi Pullampara' initiative made Pullampara Gram Panchayat, the first totally digital literate panchayat in Kerala. 'Digital empowerment of citizens' through digital literacy is one of the key activity areas under the 'Digital India Initiative'. 'Digital Literacy' is the capability of individuals or communities to learn about digital applications and use them for meaningful actions in life situations. It also helps individuals to search, find, process, and communicate information over digital platforms. Hence, the benefits of information technology can be effectively extended to people only if all the citizens are digitally literate and empowered. Marginalized citizens who are among the most disadvantaged groups in rural areas are often exploited due to their illiteracy and lack of awareness in information technology. Inequalities due to economic impoverishment, low social status, health backwardness often leads to lesser participation of the marginalized in the development processes initiated by Government for their advancement, prosperity and security. Hence, very often they are unable to enjoy the actual fruits of such projects. After getting basic literacy in information technology, these marginalized can participate in various government schemes, benefit from them, and shield themselves from exploitation.

## II. ANALYSIS OF PREVIOUS PROJECTS

Based on the concept of digital literacy, the 'National Digital Literacy Mission' has been undertaking various projects under the 'Digital India' scheme. Those schemes have been undertaken to provide digital literacy to at least one person in a family through Akshaya Kendras or Common Service Centres. Hence all the members of a family were not turned digitally literate. A similar project along the lines of 'National Digital Literacy Mission', had been implemented through Akshaya Kendras in Kerala. Kerala I.T. Mission had taken up the project to provide digital literacy to one member of a family, in collaboration with the Students Police Cadet. As the first step, tablets were procured using State Government funds, and handed over to ten students each

from among the Students Police Cadets, from ten selected schools in Thiruvananthapuram district. Training was imparted to those students using the services of Tata Consultancy Services. Although the training was successfully completed, the project was not completely successful at the evaluation stage. Hence, it was revealed that projects were being implemented for imparting digital literacy to one member each from a family, no one had envisaged a scheme to provide digital literacy to the entire population of a panchayat or village thus far.

### III. OBJECTIVES AND BENEFITS OF 'DIGI PULLAMPARA'

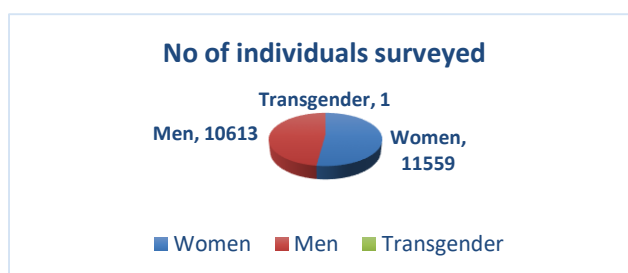
The main objective of the project was to make Pullampara Gram Panchayat, 'the first Gram Panchayat in the State to achieve Total Digital Literacy' by fulfilling the objective of ensuring digital literacy to all its citizens. Another aim was that if one gram panchayat is empowered this way, it will be a model for other local bodies and become a driving force for Kerala, to turn the State 'the first totally digitally literate State in the country'. The first and foremost benefit of this scheme is empowerment of all the citizens of Pullampara Gram Panchayat, especially women. The scheme would also facilitate the citizens to avail Government services easily and at a faster pace. This would accelerate socio-economic development of the Gram Panchayat.

### IV. IMPLEMENTATION OF THE PROJECT

As soon as Smt. Sajina Sathar, District Women Welfare Officer, Thiruvananthapuram and the co-author of this paper shared the idea behind the project to Sri. P.V. Rajesh, President, Pullampara Gram Panchayat, he invited her to make a presentation about the project in front of the Panchayat authorities. After the presentation and subsequent discussions, the members of the Panchayat Committee unanimously decided to go ahead with the project. A core team comprising of Sri. P.V. Rajesh, President, Pullampara Gram Panchayat, Smt. Sajina Sathar, District Women Welfare Officer, Thiruvananthapuram, Sri. Shammad Pullampara, a resident of Pullampara and an employee of the Technical Education Department, Sri. Sanob. S, then Deputy Development Commissioner of Rural Development Department and Sri. Dinesh Pappan, District Engineer of Mahatma Gandhi National Employment Guarantee Scheme, Thiruvananthapuram was formed to streamline and co-ordinate all the activities of the project. To ensure the assistance and cooperation of other departments, a meeting was convened at the panchayat level and officials were assigned to each ward for coordinating and supervising the project. Special meetings were held with the objective of securing technical assistance and human resources of voluntary organizations and volunteer workers, engineering colleges and other educational institutions.

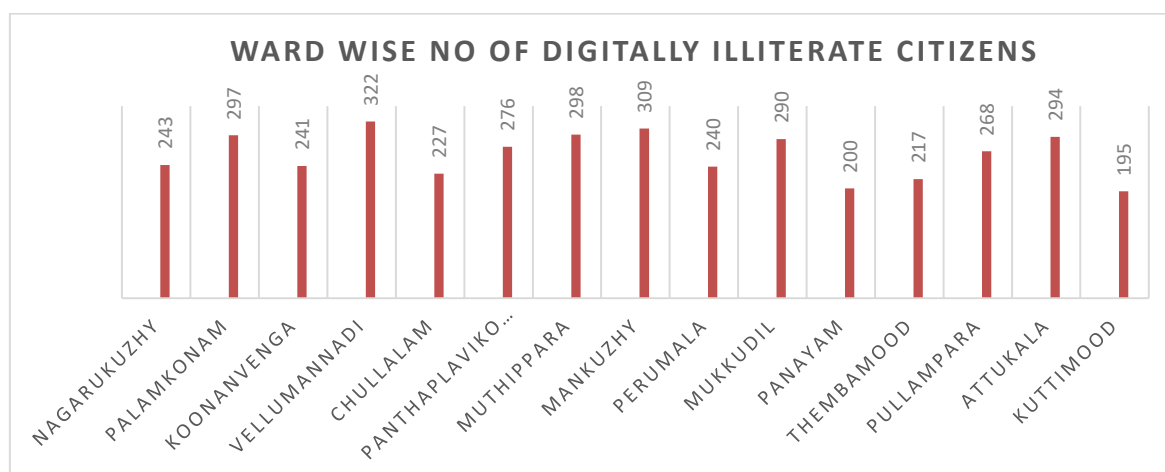
### V. DIGITAL SURVEY

To ensure digital literacy for all, it was necessary to identify citizens who didn't have it. As the first step, the core team contemplated on collecting the data using a digital method. For that they tried to develop an application using available IT tools. Meanwhile a startup company agreed to develop the mobile app as part of their social responsibility. The next hurdle was to find adequate personnel for collecting the data through a survey. Local volunteers were roped in to conduct the survey and train the learners identified through the survey, through a challenge called 'You can become a trainer' using WhatsApp groups in the panchayat. The trainers' challenge received an unprecedented and overwhelming response from the locals. Students, youth and volunteers were registered en masse and at least 15 local volunteers were deputed for each ward for data collection after training them in personality development, leadership skills and use of digital survey mobile app. This helped promote social responsibility and voluntary work among NSS students, young women and young men. The survey was inaugurated by Sri. D.K. Murali, Vamanapuram MLA on 15th August 2021.



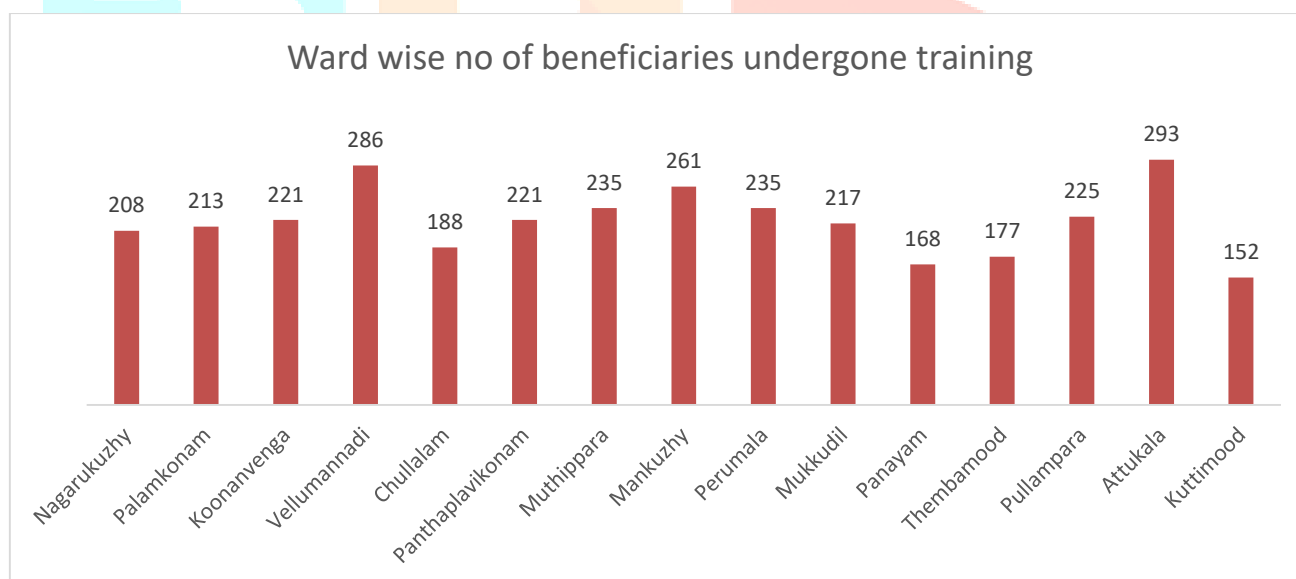
Out of 22173 individuals surveyed in 4386 families across 15 wards, 3917 were found digitally illiterate from their own responses.

The ward wise distribution is shown below.



## VI. TRAINING OF THE DIGITALLY ILLITERATES

National Digital Literacy Mission programmes provide digital literacy training to people between the ages of 14 and 60 years. But in this project, the Panchayat decided to train people from 14 years to 65 years of age. The survey found that a total of 3917 people in 15 wards of the panchayat needed digital literacy training. Of these, 617 were bedridden and could not be trained. Hence the number of trainees were limited to 3300 as shown below.



The training methods and modules for training the 3300 people identified, was designed and approved by the APJ Abdul Kalam Technical University of Kerala. The authorities of the Technical University approved three training modules to impart digital literacy to illiterates using smartphones as the tool for training them. The first module included the basic knowledge required to operate a smartphone, the second module introduced the importance and use of new media, and the third module introduced government services and online banking methods. The NSS volunteers and student of the nearby engineering colleges volunteered to train the citizens as part of Unnat Bharath Abhiyan. Students and NSS volunteers of Heera Engineering College, Mohandas Engineering College, Rajdhani Engineering College and Muslim Association College were clubbed with the local volunteers who were identified and trained through the 'trainer challenge'. Two students/NSS volunteers and one local volunteer formed a team. The training program officially named 'e-Vidyarambham' was inaugurated by Smt. Navjot Khosa I.A.S., District Collector Thiruvananthapuram, on 18th October 2021 at Vellumannadi Government School. The ward level trainings were inaugurated by prominent people from the fields of art, literature, administration, and culture. Training was provided at home visits, during free time at the Mahatma Gandhi National Employment Guarantee Scheme sites and in other

places where groups of learners converged. The training was completed amidst great difficulty by taking precautions and maintaining social distance even amid the wave of covid epidemic.

## VII. MOBILE NETWORK PROBLEM AND OTHER CHALLENGES

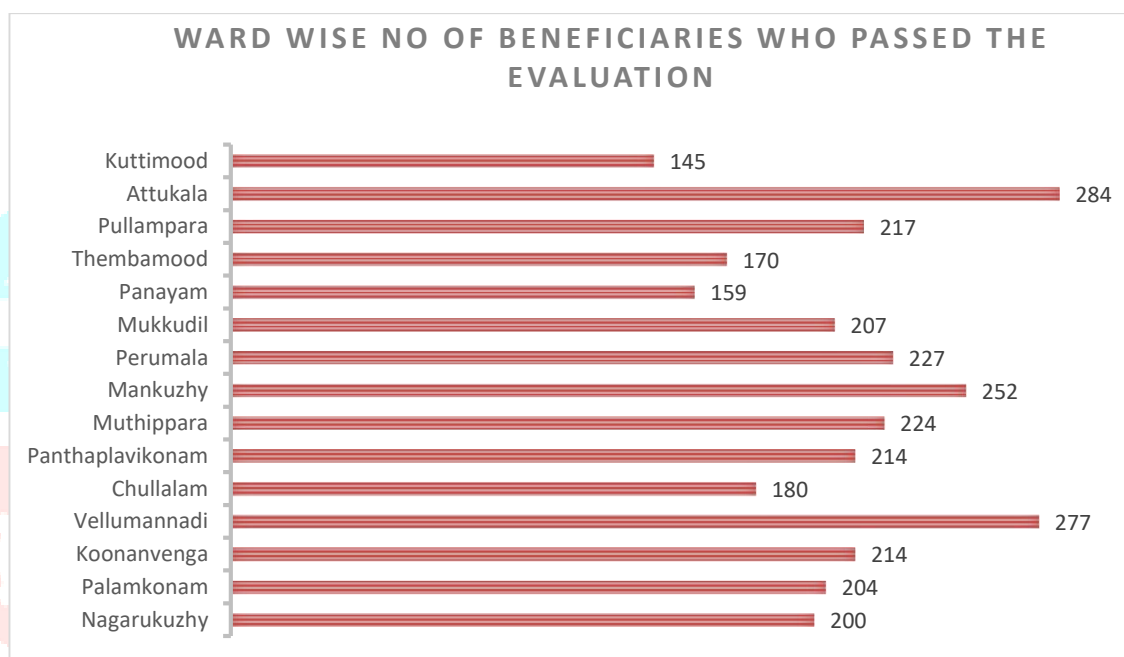
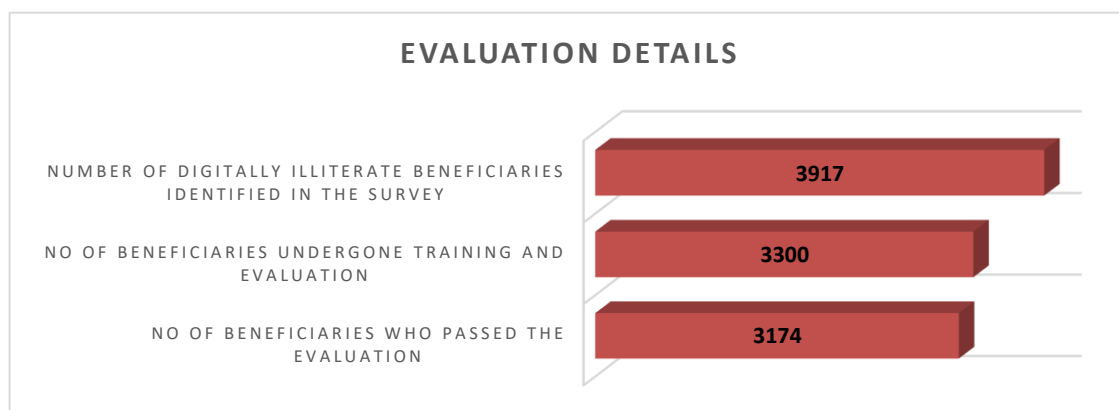
Although the project received warm welcome from the local people, during the training phase, non-cooperation was faced from the learners of six wards due to non-availability of mobile range. The citizens were facing serious network problems and sluggish data speeds, which proved very difficult for students to attend online classes due to COVID restrictions. Some families were not able to register in the COWIN portal for vaccinations. To overcome this, Smt. Navjot Khosa I.A.S., the District Collector, convened a meeting of all telecom service providers and demanded a permanent solution to the mobile range problem. The meeting was conducted in the presence of Sri. D.K. Murali, Vamanapuram M.L.A., who had been constantly giving advice and help since the beginning of the project. All the service providers extended their co-operation during the meeting, but the field issues could not be sorted out. It was decided to identify the pockets facing network issues and hand over the latitudes and longitudes of those pockets to the service providers. After the meeting, the spots which faced acute network shortage were identified with the help of the local people. The spots were then visited by the core team members and latitudes and longitudes were collected using the GPS facility available with smartphones. As decided in the meeting all the details were shared with the service providers. Subsequently, Reliance Jio deputed a team of engineers to visit the locations and submit a project report for setting up a new mobile tower to solve the range issues. Accordingly, a proposal was submitted to their corporate office at Mumbai but the delay in the commissioning of the tower badly hit the training and the whole project. Sri. John Brittas, MP Rajya Sabha, who is also a prominent media person, intervened in the matter and followed up with the IT Secretary of the State and with Jio authorities. He arranged to commission a new mobile tower at the highest point in Pullampara ward, on 25th February 2022. Thus, a perennial social problem faced by the residents of Pullampara was solved under the 'Digi-Pullampara' project. After the installation of the mobile tower, the training process was completed very quickly. It must be specifically noted that the local citizens never raised any complaint or opposition to the erection of a mobile tower in their area. Moreover, the commissioning of a tower in this panchayat was followed by another one in the adjacent Gram panchayat of Manickal.

Another big challenge faced during the project implementation was that of COVID pandemic. It was very difficult to mobilize people, conduct survey and training with covid restrictions and by observing social distancing. Although the restrictions eased over the course of the project, the evaluation was also completed by observing ample precautions. Fund availability was also a big challenge for the completion of the project. Right from the core team members, all the stakeholders who partnered in this project were extending voluntary service with a noble vision. However, during the survey and training stages, adequate food, refreshment and transportation facility needed to be provided to the volunteers. This was made possible by the generous help from some philanthropists who sponsored food and other requirements over the course of the project. There were also challenges in convincing some illiterate people, especially belonging to the old ages. However spontaneous improvisations by the trainers eased the issues.

## VIII. EVALUATION OF THE PROJECT

For every project to be fruitful, a third-party evaluation must be done to verify whether the project has fulfilled its potential and achieved its aim. In this project also, the evaluation process to measure the digital literacy of the learners who have completed the training in four phases was a very important task to ascertain the successful completion of the project. The APJ Abdul Kalam Technical University Kerala who prepared and approved the modules for training the digital illiterates agreed to do the evaluation of the project. The task was assigned to the NSS Units of the four Engineering Colleges who participated in the training process. All of them were under the APJ Abdul Kalam Technical University. Like the digital survey, the evaluation process was also done using a mobile app The startup which developed the survey app free of cost developed the evaluation module as well, free of cost. Training was imparted to the volunteers for conducting evaluation. The first phase of evaluation was started by the students of Heera Engineering College and Mohandas Engineering College. The NSS unit of Rajdhani Engineering College conducted the final evaluation. As part of this, a weeklong camp was organized at Janata School, Thembamood. The volunteers were trained at the camp inaugurated by the MLA. The volunteers then proceeded to the houses of the trainees and completed the evaluation. One volunteer would assess the capability of the trainees and another volunteer would

complete the evaluation in the mobile app. Thus, a total of 3300 people were trained at various stages and evaluated. 3174 trainees passed the evaluation process, but 126 trainees failed. Hence, 96.18% of those trained passed. The volunteers also ensured that those who needed additional training are given the same.



## IX. OFFICIAL DECLARATION

The announcement of the completion of the 'Digi-Pullampara Total Digital Literacy Project', which has made Pullampara Gram Panchayat the first fully digital Gram Panchayat in the State by providing digital literacy to all citizens, was announced at a grand function held on Wednesday, September 21, 2022, at 4 PM at the Pullampara Stadium Ground by Hon'ble Kerala Chief Minister Shri. Pinarayi Vijayan. The function was presided over by Sri. M.B. Rajesh, Minister for Local Self Government Department and Excise. Sri. D.K. Murali, Vamanapuram MLA, Smt. Sarada Muralidaran, Additional Chief Secretary Local Self-Government Department, Sri. Joy Ilamon, Director General, KILA, Smt. M. S. Rajshree, Vice Chancellor, APJ Abdul Kalam Technical University, Core team members of Digi-Pullampara and others participated in the function. Although Sri. John Brittas, MP Rajya Sabha, who was instrumental in commissioning a new mobile tower in the Panchayat, was unable to attend the event in person due to some official obligations, he extended his greetings via a video message. Smt. Sarada Muralidaran, Additional Chief Secretary to Local Self Government Department released the Phase 2 activity document.

## X. RECOGNITIONS

Acknowledging the importance of the project in imparting digital literacy to the inhabitants of an entire panchayat, the Ministry of Electronics & I.T. mentioned the Digi-Pullampara project on its Digital India website and gave a full-page feature on the project. Apart from this, an official invitation was received to

present the project in the National Webinar of the 'Digital Literacy Project' conducted by the National Institute of Rural Development on November 21, 2021. The core team members of the project, Smt. Sajina Sathar, Sri. Sanob.S and Sri. Dinesh Pappan participated in the webinar and presented the project before the dignitaries. Besides this, the announcement of the completion of the 'Digi - Pullampara Total Digital Literacy Project' had attracted active attention from the local and national media and the Ministry of Panchayati Raj. Apart from this, the 'Digi-Pullampara' project has been nominated under the 'Digital Empowerment of Citizens' category in the Digital India Awards 2022 and the 'Prime Minister's Annual Award for Excellence by District Level Officers' 2022.

## **XI. IMPACT OF THE PROJECT**

The initiatives taken under 'Digi Pullampara' propelled the speed of implementation of e-governance projects such as National Mobile Monitoring System (NMMS), Integrated Local Governance Management System (ILGMS), Installation of Smart Garbage bins under the aegis of Suchitwa Mission, etc. Since most of the trainees in 'Digi Pullampara' were ladies and majority of them earn their livelihood in Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) it was very easy to teach them National Mobile Monitoring System (NMMS), which is the latest m-governance application launched by the Ministry of Rural Development for marking attendance of employees and taking geo-tagged photographs of work sites. The State Government under the Local Self Government Department has launched the Integrated Local Governance Management System (ILGMS) for providing services to the citizens. Considering the progress made by Pullampara Gram Panchayat in imparting digital literacy to rural people, the launching of Integrated Local Governance Management System (ILGMS) was done at Pullampara Gram Panchayath. Pullampara Gram Panchayath was also one among the pioneers in the Installation of Smart Garbage bins, an innovative project launched by Suchitwa Mission. Since all the inhabitants are digitally literate, it was easy to launch the project, use QR Code based mobile application for data collection and registration of Haritha Karma Sena members and households.

## **XII. SUSTAINABILITY PLAN**

If the achievement of Pullampara Gram Panchayat must be more meaningful, it was necessary to start phase 2 activities to impart Digital Education as well. The panchayat authorities and the core team has already laid down a detailed plan for further activities by pooling the financial and human resources that can be mobilized from various sources and with the help of other departments, voluntary organizations and other stakeholders. The following activities have been listed in Phase 2 with the optimism that the cooperation and encouragement received for the 'Digi – Pullampara' Total Digital Literacy Project will be available in the future as well.

### **i. 'Satyameva Jayate' - Training on cyber security and cyber awareness**

To create awareness among citizens regarding cyber security and etiquettes to be followed while communicating in cyber space, awareness of cyber scams, how to recognize fake news propaganda and how to respond to it, the government has launched a scheme called 'Satyameva Jayate'. The panchayat has decided to give detailed training about this project in collaboration with the police department at the next stage.

### **ii. Provide advanced training for conducting financial transactions using UPI**

'Digi - Pullampara' has given only digital literacy training to the locals. Training for using UPI for conducting financial transactions could not be given widely. It was avoided because more than one person in the same household had bank accounts but only one smart phone was available in most homes. And financial transactions through online media are vulnerable to financial frauds if not done carefully. Training on UPI based financial transactions will be given to the appropriate beneficiaries in the next phase.

**iii. Apps and projects related to women safety**

75% of the beneficiaries of the 'Digi - Pullampara' project were women. Mobile applications useful for women and girls, other IT mechanisms developed by departments such as women and child welfare, social justice, police, etc. are of immense help to women and girls. Awareness about them and training to use them effectively is also intended to be provided in the next phase.

**iv. Make the panchayat a paperless panchayat by providing government services completely online**

All the services provided by the government have been shifted to online platforms like ILGMS, eDistrict, ReLIS, CMO Portal and other departmental websites. Another objective in the second phase is to make the panchayat a completely paperless panchayat by imparting higher level training to all the families so that they can enjoy all these services from the comfort of their own homes.

**v. Digital Gram Sabha**

Gram Sabhas are the functional units of local governance and decentralization. However, over a period the importance of Gram sabhas has declined. Pullampara Gram Panchayat intends to conduct Gram Sabhas entirely through digital platforms. It will help the citizens who are employed outside the panchayat to participate in the gram sabhas and participate actively in the democratic processes.

**vi. Training to use ATMs, Panchayat to provide insurance to all citizens**

There are a few people in the panchayat who still do not know how to use bank ATMs. A demo ATM shall be set up in the panchayat with the help of banks and plans to train the use of ATMs. There will be an initiative to enroll the entire panchayat in schemes like Pradhan Mantri Suraksha Bima Yojana and Pradhan Mantri Jeevan Jyoti Bima Yojana which will provide insurance cover at a very low premium.

**vii. A digital hub at panchayat level using CSR**

With the objective of skill development of the youth and children of Pullampara Panchayat, the panchayat desires to start a digital hub using CSR funds. There will be programmes to identify students who show excellence in academics, train them in areas such as advanced programming, coding, etc. considering their aptitude and place them in reputed institutions. In the same manner, dropouts at higher education levels will be identified and given further training and organize special skill development programs. The vision of the panchayat is to set up a digital education studio with facilities like Augmented reality and Virtual reality to enable the students to learn things faster and in a more meaningful way. An American native from the Gram panchayat has expressed willingness to donate CSR funds for developing the hub. There are also plans to identify students excellent at coding and advanced programming, train them to form an indigenous startup, and to become the first Gram Panchayat in the State to donate a startup.

**XIII. SCALABILITY & REPLICABILITY OF THE PROJECT**

Impressed by the successful implementation of 'Digi Pullampara – Total Digital Literacy Mission', the Minister for Local Self Government Department asked the Kerala Institute of Local Administration Director General, to convene a meeting to share the experiences of the core team of 'Digi Pullampara' in realizing the project and to prepare a document to roll out the project in all local bodies in the State. Accordingly, meetings and brain storming sessions were conducted at Kerala Institute of Local Administration Thrissur and Digital University Thiruvananthapuram, wherein a document named 'Digi Keralam' was drafted and submitted to Government for approval. The project report is under the consideration of the Government and the project is expected to roll out soon. Meanwhile other local bodies have inquired about the project and shown interest in replicating it. Kilimanoor Block Panchayat of Thiruvananthapuram district has already started planning to become the first block panchayat in the State to achieve total digital literacy.

#### XIV. CRITICAL ANALYSIS OF THE PROJECT

The successful implementation of this project has been encouraging for other local bodies to take up the initiative by themselves. The State government is also planning to replicate project in all local bodies. The COVID pandemic and the undulated geography of the panchayat were some of the difficulties faced during implementation. A critical analysis of the project reveals some of the positives that contributed to the success of the project.

1. The positive attitude from the peoples' representatives towards the idea of the project. As soon as the idea was shared with Sri. P.V. Rajesh, the Gram Panchayat President, he was so enthusiastic and asked the team leader to present the idea before the panchayat committee. Similarly, Sri. D.K. Murali, the local MLA was very encouraging and remained a patron throughout the implementation of the project. When the project faced a serious challenge due to network issues in six wards, the issue was solved by the active involvement of Sri. John Brittas, Member of Parliament (Rajya Sabha). Besides these, all the members of the panchayat and other local politicians extended their full support to all the activities. The Minister of LSGD was also supportive to the project and urged other local bodies to replicate the same.
2. For every community-based project to end successful, the support of local people is needed. Although there were some oppositions from some corners due to range issues and some old-aged people reluctant to undergo training, by and large the local people were very supportive and actively involved in all stages. The response to 'trainers' challenge' in WhatsApp was unprecedented. Similarly, the local volunteers joined hands with the students and NSS volunteers in imparting digital literacy to the illiterates. The camaraderie between the local volunteers and the students augured well for the success of the project. During the commissioning of the new mobile tower, the local people did not raise any opposition as well.
3. The support of engineering colleges towards the project was humongous. Unnat Bharat Abhiyan aims to enable educational institutions to work in hand with people of rural India to alleviate developmental challenges. The students and NSS volunteers of four nearby engineering colleges were instrumental in imparting training to the citizens. The NSS volunteers were also used by the APJ Abdul Kalam Technical University for evaluating the project as well.
4. The active involvement of Kudumbasree volunteers of Community Development Society, Area Development Societies, and neighborhood groups in spreading the idea of the project among the local community made the job easier for the implementation teams. They were actively involved in locating illiterates to the training teams and evaluation teams thus facilitating the project at grass root level.
5. The District Collector, district level officials and prominent persons from art and culture helped in motivating the local community through their active participation in training inaugurations at panchayat and ward levels. The ward level officers identified from among Government officials and teachers assigned with the task of monitoring and supervision of the project at ward levels helped its smooth completion.
6. Although the telecom service providers work on a revenue generation basis, as their name suggests they are service providers as well. One of the service providers understood the importance of mobile tower and did the best to commission that. After the commissioning of the new tower, the local people who were suffering from acute network shortage moved to the new service provider and paid them back for their positive efforts.



7. The dedicated core team who was working without any profit motive made sure that the project was always on track. The field level coordination of students, NSS volunteers and local volunteers was so important for the smooth training and evaluation. This was ensured by the panchayat level coordinator Sri. Shamnad Pullampara.
8. The startup named M/S PAN ENVIRON Pvt Ltd. who developed the mobile application for survey and evaluation contributed to the successful completion of the project.
9. The release of two films in local language namely 'Home' and 'Android Kunjappan Ver 5.25' helped the message of digital literacy reach the local community very easily.
10. The institutional arrangements made at panchayat and ward levels helped in the monitoring of the project and ensured that there was always someone to interfere in issues if any, solve it and complete the tasks on a fixed time frame.

## **XV. CONCLUSION**

The digital literacy initiative undertaken by the Pullampara Gram Panchayat enabled the citizens to avail services delivered by the local bodies and the Government in a more convenient and robust manner. It also enables the citizens to actively be involved in the overall development of the society. Proper planning combined with support from the stakeholders resulted in the successful implementation of the project. Being a community-based project, the support of the community to own up the project was significant. The analysis of previous projects of similar nature helped in proper planning and chalking out different stages of implementation. This project showed that voluntary contribution of students, volunteers and other philanthropists can be properly utilized to address societal and developmental issues. The panchayat needs to give continuous education to the trainees and implement the phase 2 activities in the same manner, to sustain the achievement.

## **XVI. ACKNOWLEDGMENTS**

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