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Effectiveness and Scalability of Programs for Children Who Are Out of School and at Risk of Dropping Out in Nepal

END-LINE
REPORT **2023**



KATHMANDU UNIVERSITY | SCHOOL OF
ARTS



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This report comes up on the basis of initial field visits conducted by a team of researchers in the Madhesh Province of the Tarai belt of Nepal. The report is an output of the project titled 'Effectiveness and Scalability of Programs for Children who are out of School and at Risk of Dropping out in Bangladesh, Bhutan, and Nepal' funded by Global Partnership for Education's (GPE) Knowledge and Innovation Exchange (KIX) and International Development Research Centre (IDRC).

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To them all we are grateful.

Disclaimers

The views expressed herein do not necessarily represent those of IDRC or its Board of Governors.

Executive Summary

This report presents the findings of the impact assessment study conducted under the KU-ESP project. The study has focused on two main interventions: targeting parental perceptions and involvement in the education of their children and focusing on extracurricular activities after school that both encourage and enable students to continue their schooling. The report provides a comprehensive analysis of the interventions' outcomes, including their effectiveness and cost-effectiveness.

The study has adopted a rigorous methodology to evaluate the interventions' effectiveness and cost-effectiveness. A randomized controlled trial approach was utilized, with the treatment group receiving the interventions and the control group acting as a reference for comparison. Data was collected from both groups at different time periods to track pre- and post-intervention outcomes.

1. Campaigning

Key highlights

- In the treatment group, the impact of campaign activities led to a 20% decrease in out-of-school children compared to the control group. There was an 18% reduction in chronically absent students and a 2% improvement in enrollment. However, dropout rates remained unchanged at the end of the intervention.
- The campaigning intervention positively influenced parents' engagement in the education of their children, including changes in beliefs and self-efficacy related to their children's education, fostering confidence and commitment to active involvement.
- The intervention, however, did not show significant changes in male aspirations for sustaining livelihoods and had no discernible effect on child labor or over-engagement of children in household activities.

2. After-school program

Key highlights

- This study has identified regularity, participation in extracurricular activities, quality of those activities, academic performance, attendance, attachment to school, participation in school activities, and retention rates as key outcome areas where significant changes have been observed due to the intervention of after-school programs among students.
- Positive impacts were observed across all the assessed indicators. The most significant impact was seen in the students' emotional connection with the school and their attendance rate.

- Extracurricular activities play a crucial role in student development, and for better reinforcement, extracurricular activities need support from the school management and effective monitoring by education officers and local municipalities.

All in all, the findings of the study revealed significant positive impacts from both interventions. The first intervention, focusing on parental perceptions and involvement, resulted in a stronger sense of connection between parents and schools. Parents demonstrated increased self-efficacy in effecting positive changes within the school environment, leading to improved communication and engagement with teachers. The intervention successfully fostered a more supportive and participatory approach to education, positively impacting students' academic achievements and social development.

Similarly, the "extracurricular activities after school" intervention also showcased promising results. It led to a higher level of student participation, an improved frequency of extracurricular activities, enhanced academic performance, increased attendance rates, and a stronger emotional attachment to school. Lastly, the study's findings emphasize the importance of investing in parental involvement initiatives and incorporating extracurricular activities into regular school to enhance students' educational experiences.

The report has been structured into five main sections. First of all, this report provides the background of the KU-ESP Project, followed by the introduction of interventions, methodology, effectiveness of interventions, including cost effectiveness, and finally a conclusion.

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Introduction

'Effectiveness and Scalability of Programs for Children Who Are Out of School and at Risk of Dropping Out in Bangladesh, Bhutan, and Nepal' is a project supported by KIX. The International Development Research Centre (IDRC) and the Global Partnership for Education (GPE) have partnered to create KIX, which connects experience, innovation, and information to help low- and middle-income countries strengthen their educational systems and move closer to achieving Sustainable Development Goal number four. In Nepal, this project is currently being implemented by the Department of Development Studies, School of Arts, Kathmandu University (KU).

The primary focus of this research project is to enhance educational opportunities for children who currently do not attend school or are at risk of dropping out. This challenge is particularly prominent in the South Asian region, where millions of children lack access to quality education. The aim is to identify effective strategies and practices that can overcome barriers to inclusive, equitable, and gender-friendly education.

The project has three main objectives. Firstly, it aims to explore innovative approaches that address barriers to education for out-of-school children and those at risk of dropping out. Secondly, it seeks to share the knowledge generated through these explorations with educational stakeholders to influence policies and practices. Lastly, the project aims to build the capacity of key stakeholders to utilize and exchange knowledge and practices that promote inclusive education and improved learning outcomes.

Within the framework of project objectives, this report seeks to answer the following research questions: Can educational campaigns successfully encourage more children to enroll in school? Do after-school programs contribute to reducing dropout rates? Are these interventions effective for targeted beneficiaries? And to address these concerns, this project has focused on educational campaigns and after-school programs to harness the evidence on what works and what does not work, including practices, methods, and tools used to identify out-of-school children and those at risk of dropping out.

By testing and implementing effective strategies, the project aims to improve the educational prospects of children who are currently excluded from the system. The intention is to not only enhance enrollment and retention rates but also empower stakeholders to drive positive changes in education. Through these efforts, the project envisions a significant and positive impact on the educational landscape for all children in public schools in rural Nepal.

Intervention 1: Campaigning

The activities were primarily divided into two categories: the formation of functional parent-led action groups (PLAGs) and information sharing through action groups. The sole objective of the intervention was to enhance inclusive access to community schools for out-of-school children and children at risk of dropping out.

1.1 Theory of Change

The main objective of the intervention was to achieve enhanced inclusive access to community schools for OOSC and children at risk of dropping out. The desired outcome was to increase parents' engagement in their children's education and improve awareness of school monitoring procedures. The theory of change designed for the project is as follows:

Figure 1.1: Theory of Change

Goal	Enhanced Inclusive access to community schools for OOSC	
Outcome	Increased Parents' Aspiration and engagement in the education of their children	Increased awareness and understanding of school monitoring procedures, leading to more effective oversight of school activities and performance.
Output	<ul style="list-style-type: none"> Formation of functional PLAG Support and guidance provided to the households of OOSC through regular counseling visits 	<ul style="list-style-type: none"> Parents of OOSC informed about school functioning. Parents connected to the community schools for collaboration.
Activity	<ul style="list-style-type: none"> Parent-Led Action group (PLAG) formed in all the 5 wards of Durga Bhagwati RM with participants from treatment clusters. PLAG distribute Posters and calendars to the HH of OOSC in treatment group. Regular visit to the HH for counselling. PLAG discuss the issues identified during home visits, formulate monthly action plans and conduct it. 	<ul style="list-style-type: none"> Orientation - School Monitoring Orientation- PTA and its function Interaction between PLAG and schools for possible point of coordination Palika level consultation meeting for PTA formation Orientation - social audit and complaint hearing mechanism Orientation - School meal

The program's outputs include the formation of PLAGs, counseling for OOSC households, informing parents about school functioning, and fostering collaboration with community schools. The activities involved forming PLAGs, distributing informative materials, conducting home visits, and holding orientation sessions related to school monitoring, PTA functions, coordination, PTA formation, social audit, and school meals. Overall, the program aimed to empower parents, improve school engagement, and overcome barriers to education for OOSC.

1.2 Process Outline

The following sections provide the process outline, which breaks down the steps and sequence of actions undertaken to achieve the project goal. The section describes how the PLAGs were formed, their working mechanisms, and the distribution process of posters and calendars.

1.2.1 Formation of Parent-Led Action Groups (PLAGs)

The activities of the Action Group remain at the center of the campaigning intervention. In this study, the campaign activities have been designed by the PLAG through their collective effort. The objective of the formation of PLAG was to mobilize and sensitize the public on education, especially the importance of regular attendance, parent engagement at school, and a positive home learning environment. The specific objectives were,

- Development of participatory action research processes and tools to identify problems and solutions for positive engagement of parents at school and at home.
- Conducting community-led participatory action research to empower and engage communities by generating collective data, analysis, reporting, and action learning that strengthen local ownership of issues.

1. *Participatory Discussion*

A participatory action research (PAR) process was adopted to work with parents of students studying in Durga Bhagwati Rural Municipality. PAR is an approach focused on inclusion and social action through the mutual transfer of experience, expertise, power, and ownership towards those most directly affected by the issues under investigation. The process has a cyclical nature, with repeated rounds of collective analysis, taking and evaluating action, and learning from action. The term 'participants' refers to people engaged in the PAR process as co-researchers rather than passive research subjects.

At the beginning of the cycle, the parents in the community were informed about the meeting related to the education of their child. The meeting started with a discussion on common education-related issues in the region and their causes.

2. *Identification of the problem and its local solutions*

After listing out the issues, the discussion focused on obtaining subjective perspectives through shared forms of knowledge on the nature of the problem and building consensus on actions to address the issues identified. The sequence progressed as follows:

- The participants are briefed about child regular attendance, its importance, and various factors affecting it. Baseline data from the same region and national data are shared to show the severity of the issue.

- The factors affecting a child's attendance were identified using the participatory method. Tools like 'Problem Tree' were used to identify cause-and-effect relationships at various levels by building shared accounts and identifying and relating relevant social, behavioral, and other pushing factors. The issues identified are ranked based on their severity through a participatory process.
- The participants are then guided to identify solutions to the identified issues. Solutions that are achievable through collective action are listed below. Participants are divided into groups of females and children who can come up with different sets of solutions. The group leader was chosen to present the solutions at the end of the discussion.
- Based on the identified solutions, appropriate action plans' were developed using stepwise pathways specifying actors, actions, and outputs to achieve agreed-upon goals. The participants are encouraged to revisit and cross-validate each other's findings and to reflect on the experience and how the process could be carried forward.
- Discussions are recorded on meta cards or prepared flip charts to display a collective record, allowing for checking and rechecking of consensus views. Researchers co-facilitate the meetings, provide general assistance, and take observational notes.
- With separate permissions, workshops can be audio-recorded, transcribed verbatim, and translated into English. Data are stored in audio recordings, Microsoft Word, and image files. Data are managed by researchers and stored.

At the end of the exercise, participants are able to reflect on:

- A. Collective effort to enhance the quality of education
- B. Importance of school regularity and a positive home learning environment

1. Formation of a Parent-Led Action Group

After the development of action plans, the participants who were motivated enough to work on them were requested to come forward. A maximum of 12 people can be formed for a PLAG with one team leader. While forming the PLAG, the following criteria have been considered:

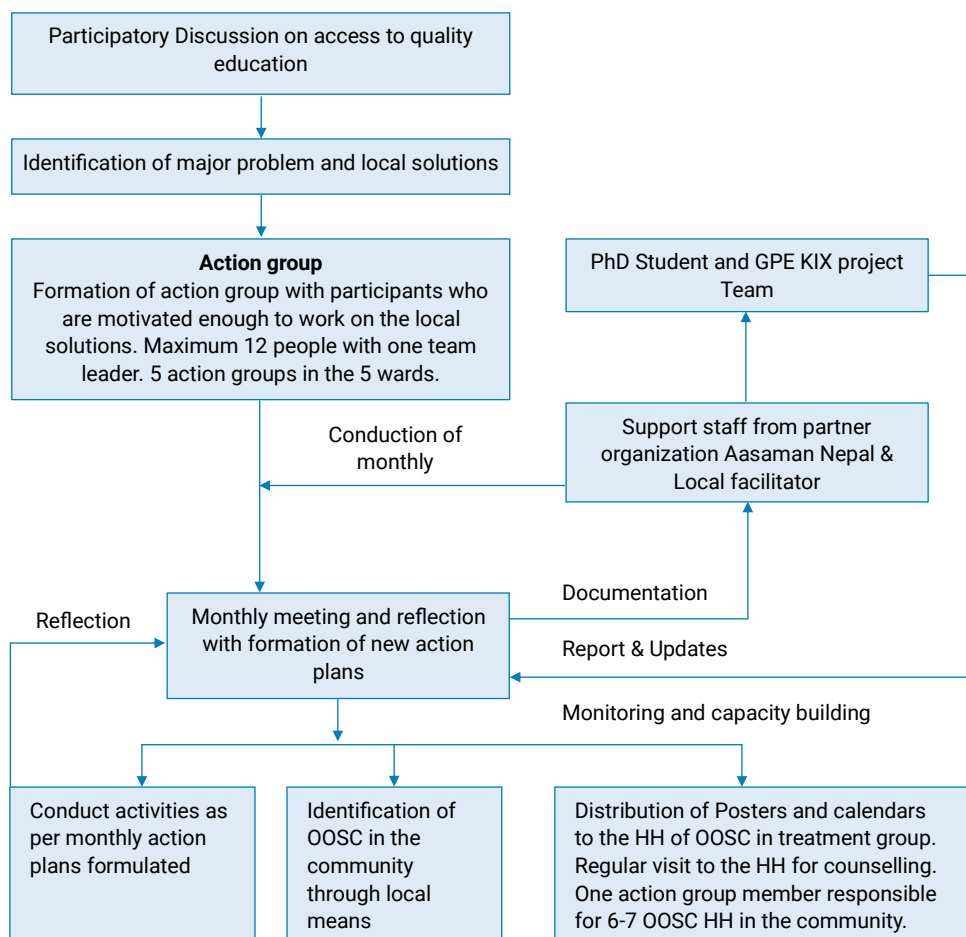
- The interested candidates were active during the discussion.
- The candidates are sufficiently motivated to achieve the goal.
- Candidates are willing to commit time over a nine-month period.
- Candidates are influential or 'opinion leaders' in their communities.
- Homogenous mix of people in the CAG, where youths are not put in the same group as adults. After all, combining them in groups with adults just leads to 'token' representation by youth, as they do not participate as fully as they would if they were in a peer group.
- Keep the focus on 'out-of-school children' and bring cohesion and positive engagement to society rather than its opposite.

The study team conducted the second meeting with the PLAG the next day. The group was briefed on monthly meetings, meeting minutes, participatory formulation of action plans, their revision, and documentation of learning every month.

A total of five PLAGs were formed in five wards of Durga Bhagwati Rural Municipality. The 5 PLAG met once every month for a progress update, revision of the action plan, reflection, and formulation of a new action plan. The group was facilitated by one salaried staff member and one supervisor from the partner organization (Aasaman Nepal), and the meeting minutes were maintained by the facilitator in a separate register with the major decisions of the group. The staff of the partner organization facilitated the group and maintained an action plan chart for every discussion. The pictures and videos of the meeting were recorded with prior consent. All the documents were sent to the PhD researcher every month, along with important notes. The PhD researcher, facilitator, and supervisor from the partner organization arranged for a virtual meeting every month to discuss the PLAG activities.

The field activities were conducted through the following process,

Figure 1.2: Process Outline



1.2.2 Poster & Calendar Distribution

The posters were distributed by the PLAGs in 5 wards. It was given to the 341 respondents from 20 treatment clusters. The PLAG members helped to stick the posters inside the Household of these respondents. The wall to stick the poster was the one where all family member sits together i.e., kitchen, dining table, TV room etc. The selection of the wall was done by the household members. The PLAG members and the enumerators convinced the household member to stick the poster and explain its contents, especially to the parents and children.

A local artist created the poster, incorporating elements that reflect the community's context. In the first image, parents are depicted sewing blankets while sending their children to school, symbolizing the hope that education will lead to a prosperous future. The lower image portrays the child assisting the parent in sewing, indicating that the occupation continues into adulthood.

Figure 1.3: Poster for campaigning



Despite this, the family's lifestyle remains unchanged and may even deteriorate over time. The posters were designed to enhance the aspiration of parents towards their children. The baseline data indicates that parents have very low aspiration towards their children as majority focuses on monetary benefits through wage labor rather than long term benefit through education. The poster aimed to change the perception of parents towards value of education. The idea behind displaying the poster daily in the homes of Parents and Out of School Children (OOSC) was to create an envisioning effect, where the repeated exposure to the image could potentially influence their future planning and aspirations positively.

The PLAG members, with one member assigned to seven houses, made frequent visits to inquire about the children's whereabouts and school attendance. This regular interaction held the potential to produce positive results, as observed and documented in the end-line study.

The calendar served the purpose of informing stakeholders (parents / students) about school openings, closures, and timings. The baseline data showed that a very small number of parents had knowledge about the school timing and holidays. This intervention was designed to reduce the gap and make parents more aware of the regularity of school attendance. PLAG members could discuss with the parents regarding attendance, reasons for absence, and holidays after observing the calendar.

Intervention 2: After-School Program

Through the after-school program, the project aspires to study if it can minimize the dropout rates of students from school. Instead of designing a new after-school program for schools that have not effectively implemented existing after-school programs, this project has decided to reinforce an existing after-school program and conduct extracurricular activities as suggested by the Education Policy of the Government of Nepal. Initiating and concluding the intervention involved the following steps:

STEP 1 | **Plan and design an intervention.**
Instead of designing a new after-school program, this project has focused on strengthening the existing after-school program, which includes extracurricular activities after school every Friday as prescribed by Nepal Education Rule, 2059, in its sub-article 14.

STEP 2 | **Preparing for intervention implementation**
A formal meeting with the mayors and education coordinators of each municipality was held, where our intervention and its objectives were shared. All three education coordinators issued letters to each treatment school to support us and our intervention.
A formal meeting with the school principals of all treatment schools was done, where our intervention plan was shared, and they were all willing to

help us implement our intervention in their schools. In collaboration with the principal, the researcher was also able to appoint extracurricular directors in all the schools.

The extracurricular in-charges of all the treatment schools were called for a workshop training where they were oriented about the: a) benefits of extracurricular activities in children; b) what Education Rule 2059 says about extracurricular activities; and c) the list of extracurricular activities that can be conducted with minimal resources.

The in-charges were provided with a handbook for their reference and ease. Additionally, they were also involved in making plans for extracurricular activities. All the extracurricular in-charges have also been issued with a template for planning their extracurricular lessons.

STEP 3

Start of intervention

The intervention was launched at all three treatment schools beginning on September 16, 2022.

The extracurricular in-charges started implementing the after-school program every Friday according to guidelines specified in Nepal Education Rule, 2059, sub-article 14, as well as keeping in mind the resources available for ECA in each individual school.

The ECA in-charge was provided with a log book to keep a record of all ECA activities and students' attendance in it every week.

ECA in-charges were also provided with a weekly ECA planning template to plan out activities possible in each school to systematically conduct ECA that would benefit the students.

STEP 4

Intervention monitoring

Regular monitoring and evaluation of the intervention were done to assess its effectiveness and identify areas for support in the schools and with teachers.

Based on the feedback from monitoring and observation and regular discussion with the ECA in charge, the intervention activities and modalities were readjusted.

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STEP 5

Intervention adjustments

In schools with more than one section in grade five, only one ECA in-charge was not enough, so three other teachers were trained by the ECA

in-charge so that ECA would happen smoothly in all sections of grade five.

One or two other teachers were trained by ECA in-charges to ensure that ECA would not be hampered on days when the ECA in-charge remains absent.

as the students tended to escape school after they received their mid-day meal. In some schools where this problem was pressing, ECA was conducted before lunch time.

STEP 6

End of intervention

We stopped monitoring the intervention on March 15, 2023, as the Nepali academic session came to an end. The scope of scaling this intervention is being studied by other team members of the project. The intervention was developed keeping in mind each school's resources and infrastructure for ECA, so it should enable schools to keep continuing it even after our absence.

Methodology

2.1 Site Selection

2.1.1 Campaigning

The data presented in a report titled "Literacy Status in Nepal" by UNESCO (2013) indicates that Rautahat is the least literate district in Nepal. This finding directed the study team to consider Rautahat as the research area. Therefore, judgmental sampling was employed to select Rautahat for the study. Among the more than 20 municipalities in Rautahat, Durga Bhagwati Rural Municipality was chosen for the research. The assumption was that the issue of out-of-school children (OOSC) might be more severe in rural municipalities compared to urban municipalities. Out of the two rural municipalities in Rautahat, Durga Bhagwati was selected over Yamunamai due to its geographical advantages. Durga Bhagwati Rural Municipality has not had any functional School Management Committee (SMC) or Parent-Teacher Association (PTA) for the past seven years on paper. It is situated on the western bank of the Bagmati River and houses 2 secondary schools, 2 lower secondary schools, 12 primary schools, and 1 Madarasha.

2.1.2 After-School Program

Presently, Rautahat district of Madhesh province in Nepal has the lowest literacy rate in the country, with a literacy rate of only 57.75% (National Statistics Office, Government of Nepal, 2023). Based on this data, it was decided that our intervention would be most suitable in the district with the lowest literacy rate. It wasn't possible to cover all municipalities within the chosen district, so again, only two rural municipalities, which are Durga Bhagwati and Yamunamai, and a municipality, Rajdevi, adjoining both rural municipalities, were considered for the study.

2.2 Study Population

2.2.1 Campaigning

After conducting the situation analysis of the research site, it was revealed that very few students in the RM were not enrolled in schools; however, most of those who were enrolled in schools were not regulars in their classes.

During the start of each academic session, the school and teachers organize an enrollment campaign and go door-to-door in the community. Student enrollment is important for the survival of schools, as schools with a low number of enrolled students are often merged with larger schools in close proximity by the government. So, the school management was found to be more focused on enrollment than education continuity. On the other hand, parents from poor economic backgrounds often enrolled their children in school for free stationery, uniforms, scholarships, and a free school meal. It was also noted during the situation analysis that parents often enroll their children in more than one school to receive the above-mentioned amenities. So, it can be concluded from the evidence that school enrollment data cannot represent the school-going behavior of the students in the RM; instead, their daily attendance in school is a stronger indicator for the same.

Due to the above-mentioned circumstances, the definition of out-of-school children (OOSC) was broadened for the study, from those not enrolled in the school to those who were absent for more than 1 month during school days. The data were collected from the school attendance register using the above-mentioned criteria from Bhadra 20, 2078 (the day of official school re-opening after COVID) to Falgun 20, 2078, to identify the number of irregular students in the last 6 months. At the same time, the data on dropouts as well as the details of children above 6 years old in the community who were not enrolled in school were also collected from the teachers. There was a total of 6021 students enrolled in grades 1–8 in 17 schools of DBRM, according to the EMIS data for the fiscal year 2078 BS. Out of them, 386 (6.4%) were found to be dropouts, and 715 (11.8%) were absent for more than 1 month (chronic absentees).

2.2.2 After-school Program

Moreover, all the public schools in these municipalities are running at least grade five, and the Government of Nepal, UNESCO, and United Nations Children's Fund (2016) demonstrate that dropout rates increase sharply after grade five, and only 74.6% of students reach grade 8 from grade 5. According to CEHRD (2021), there are 3,780 children aged between five and twelve in Rautahat who do not go to school, and there are 66,063 children aged 5–12 in the entire country who are out of school. Another article published by Pokharel (2022) shows that the dropout rate of students at the primary level, i.e., grades one to five, is still 3.6%, making this evident for our study to focus on grade five. Hence, this study has only considered grade five students and the intervention's impact on them.

The choice of the population for study has been done through a judgmental sampling approach, as it is based on data and its relevance to the objectives of this study.

2.3 Sample size

2.3.1 Campaigning

The primary objective of the intervention was to address the total number of students who were dropouts, absent for an entire month, or not enrolled in the community. The

focus of the intervention was to actively involve parents in these children's schools and foster a positive learning environment at home, which had a direct impact on their school attendance and enrollment. To determine the sample size for the study, Cochran's formula (Cochran, 1963) was employed, resulting in a sample size of 384.

A two-group randomized controlled trial (RCT) was conducted, involving parents (both mothers and fathers) of students at the basic level. The aim was to examine whether a 10-month campaign conducted through community PLAGs would lead to an increase in their level of engagement at school when compared to a control group. However, the risk of potential contamination between parents and their practices in an individually randomized design was identified. Given that human beings tend to socialize and network, an individual randomization approach would have been unsuitable for the study.

Consequently, a cluster sampling method was employed to mitigate the spillover of the intervention between treatment and control units. In the cluster-randomized sampling, heterogeneous clusters were formed within each school to encompass all the characteristics of the population. Specifically, each school was divided into three geographical clusters known as EGRP teaching clusters, established by RTI, resulting in a total of 51 clusters for the study.

The study was designed to account for the possibility of a loss of effectiveness due to the use of cluster sampling in selecting respondents (Connelly, 2007). The design effect, also known as deff, quantified how the expected sampling error in the survey deviated from the sampling error expected under simple random sampling. Consequently, the design effect served as a constant used to correct the estimated sampling variance.

To address the potential influence of the design effect on the validity of the output, the initial sample size of 384 was multiplied by 1.29 (with cluster size $m = 30$ and $ICC > 0.01$), resulting in a final sample size of 495.36 parents, or approximately 500 parents. These 500 parents were then proportionately divided into 17 schools based on the number of out-of-school students.

2.3.2 After-school Program

In the municipalities, three categories of public schools exist: i) primary schools (that run classes up to grade five), ii) basic schools (that run classes up to grade eight), and iii) secondary or higher secondary schools (that run classes up to grade 10 or 12). These schools differed in terms of infrastructure, human resources, and school equipment and resources. To avoid the limitation of simple randomization, which may produce unbalanced numbers of people in each treatment and control group, stratified randomization has been done. Two schools were randomly selected in each stratum (primary, basic, and secondary/higher) aforementioned. Hence, 18 public schools have been considered for the study from the three municipalities selected. Further, the 18 schools randomly selected in each stratum were randomly assigned to treatment and control groups of 9 schools each.

The impact of intervention on students has been assessed individually. The same set of students who were the respondents during baseline data collection have responded in the end-line survey in both treatment and control groups. Usually, if the same respondents are followed up over time, it's called a cohort trial. The main focus in a cohort trial is the individual. The cohort trial is one of the types of cluster trial that helps in designing individually randomized trials. Using the approach suggested by Rutterford, Copas, and Eldridge (2015) to calculate the sample size for cluster sampling gives us a sample of 496 fifth grade students from 18 schools selected.

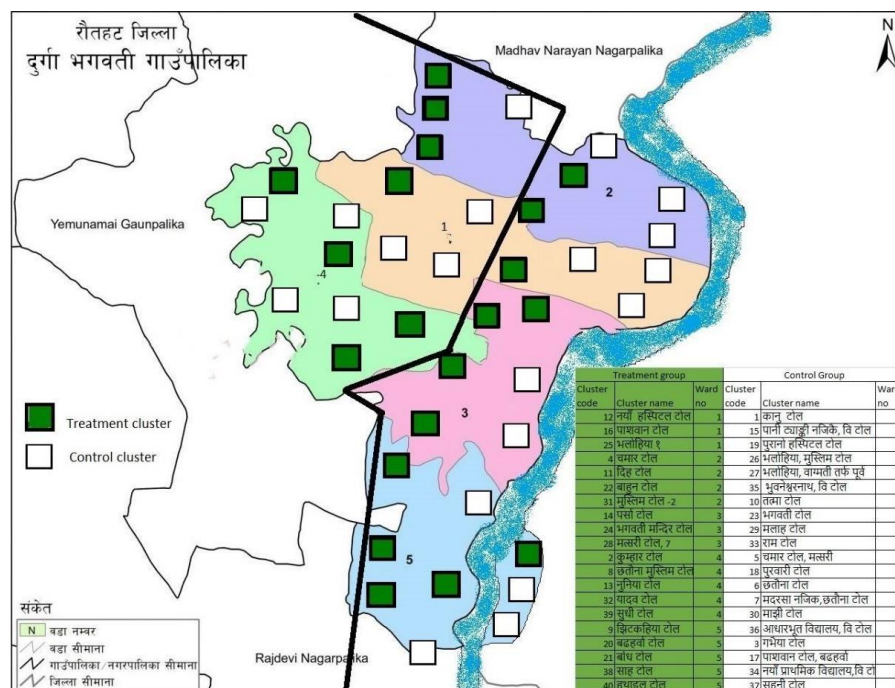
2.4 Applying a Randomized Control (RCT) Trial

2.4.1 Campaigning

The baseline data was collected as per the sample size from the catchment areas of 17 schools. After the analysis of the data, it was revealed that the community was not well differentiated into 51 individual clusters as anticipated (51 EGRP teaching clusters formed by RTI). Few of the topics covered larger geographical areas adjoining 2-3 teaching clusters. The data were collected from 40 toles of Durgabhagwati Rural Municipality spread across 5 wards. So, these 40 toles were considered the cluster for the randomized control trial.

The 552 cases were scored against 19 study variables. An average of 19 different variables for each cluster was then calculated for comparison purposes. The data was fed into the R Studio software to identify the best possible combination of treatment and control groups based on the variable averages, and a set of results was selected by the software among 50000 possible combinations. The result is presented as follows:

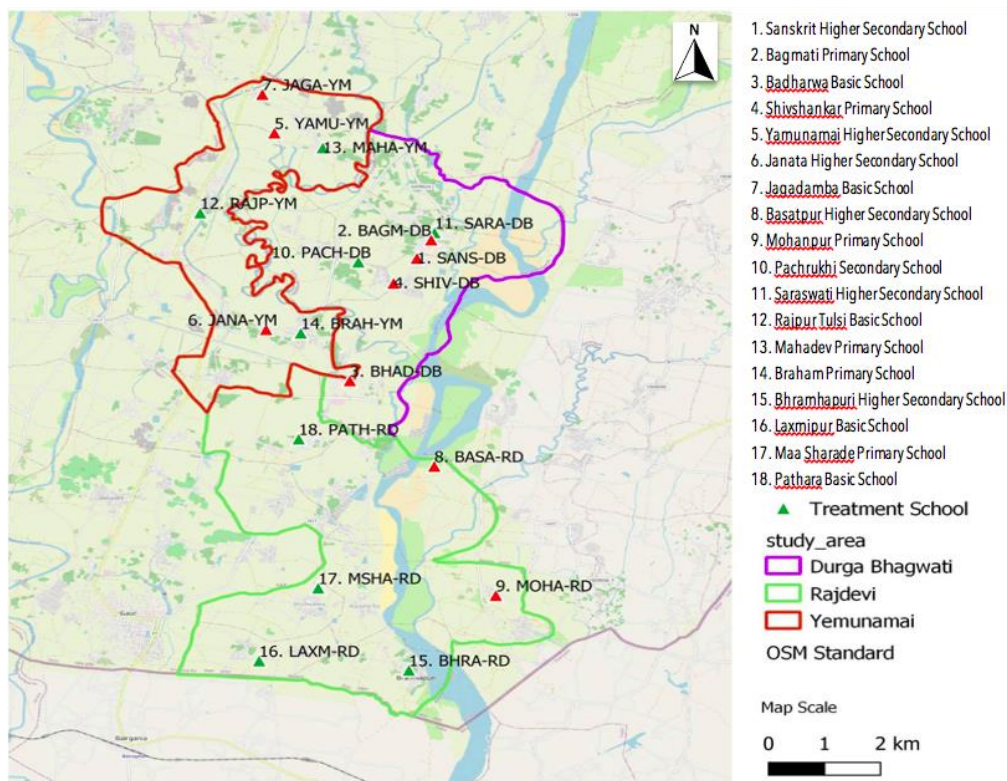
Figure 2.1: Treatment and control clusters



2.4.2 After-school Program

To implement the intervention, the 18 sample schools were divided into treatment and control schools. The intervention was not provided to control schools while the intervention was provided to treatment schools. The categorization of schools into treatment and control groups was based on various key variables, including students age, frequency of participation in extracurricular activities, student's engagement in extracurricular activities, disability status, ethnicity, number of younger siblings, hours spent studying at home, parents' employment status, parents' migration for work opportunities, involvement in early adult responsibilities, students' clothing, the quantity of clothes available to the family, adequacy of blankets for the family, availability of shoes for the family, number of daily meals consumed by the family, and the impact of flooding in the area.

Figure 2.2: Distribution of treatment and control schools



The map provides a visual representation of the distribution of treatment and control schools within the three municipalities, which are Durga Bhagwati, Yamunamai, and Rajdevi. It explains the positions of schools on the implementation of the intervention. In this map, two distinct categories of schools are distinguished. Control schools are represented by red-colored triangles, while treatment schools are denoted by green-colored triangles. The use of different colors and symbols ensures easy identification and understanding of the spatial distribution of each group.

Although the control and treatment schools are located in close proximity to each other, the spillover effect is controlled due to the implementation of the intervention at the school level. Implementation of intervention at the school level has ensured:

- a. **Reduced fear of contamination:** There is always a concern that subjects in the control groups can be exposed to the intervention provided to the treatment groups. In this study, intervention has been offered at the school level rather than the individual level. So, it will be challenging for another school to do everything done at the treatment school without proper direction and support. Hence, reducing potential chances for contamination
- b. **Convenience:** It is more convenient to deliver an intervention at the school level rather than offer it to students at the individual level. Moreover, offering intervention to schools will also help ensure more inclusiveness and equity for students.
- c. **Effectiveness:** It is more effective to deliver educational programs to groups. Students in the same grade will interact with each other and may enjoy and participate in the program better.

2.5 Selection of Indicators

2.5.1 Independent Variables

The study is designed to investigate the impact of an intervention on various aspects of parenting and students' educational experiences and outcomes.

The study includes two main independent variables for both interventions:

- **Treatment:** This variable represents the intervention implemented in certain schools or communities, creating two distinct groups: the treatment group (schools or communities receiving the intervention) and the control group (schools or communities without the intervention). The treatment group experiences the intervention's effects, while the control group acts as a baseline for comparison.
- **Time:** The time variable captures changes over time in the dependent variables. Data is collected at different time periods, allowing researchers to track pre- and post-intervention outcomes. By comparing changes in the treatment group with those in the control group during the same time periods, the analysis isolates the intervention's impact.

2.5.2 Dependent Variables

Campaigning

The study examines seven dependent variables:

- a. **Number of out-of-school children:** This combines the count of chronic absentees, dropouts, and children who are not enrolled in school.
- b. **Agency of parents:** This measures the parents' ability to advocate in public for the common good and their self-efficacy in effecting changes in the school environment.

- c. Knowledge about school functioning: This assesses parents' understanding of school timings, holidays, and amenities.
- d. Belief: This includes parents' perceptions regarding the school, the value of education, ownership of the school, their views on forming a parent forum, and their beliefs about their role as parents.
- e. Activities: This category encompasses the activities undertaken by parents in the last six months to improve the quality of education. It includes school visits for monitoring purposes, meetings with other parents to discuss their children's education, providing feedback or suggestions to the school, and engaging in protest or volunteering activities.
- f. Aspiration: This section explores the minimum education level parents believe a boy and a girl should achieve to sustain their livelihood, save for their child's future, and plan their education.
- g. Practice: This variable measures changes in children's involvement in household work, family members' engagement and encouragement towards education, and child labor practices.

The end-line questions omitted the socio-economic section as the responses were collected from the same set of parents. Since the respondents were from three different categories: parents of dropouts, parents of students with low attendance, and parents of children not enrolled in school, the skip pattern was introduced in different sections.

After-school Program

The study assesses eight dependent variables:

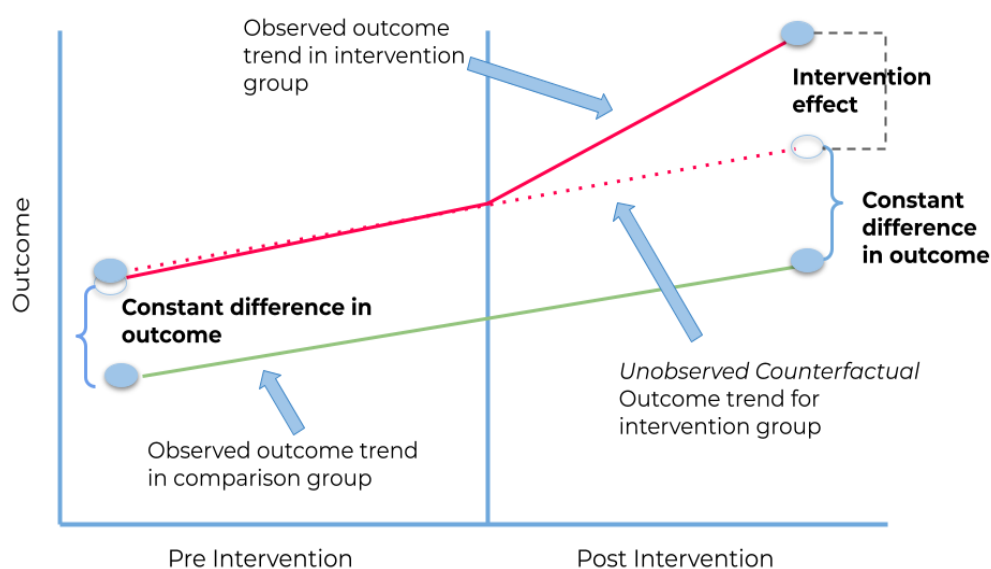
- a. Regularity in Extracurricular Activities: Evaluates how the intervention affects the frequency of conducting extracurricular activities in schools within both groups over time.
- b. Students' Participation in Extracurricular Activities: Measures the participation rate changes before and after the intervention in both groups.
- c. Quality of Extracurricular Activities: Examines how the intervention impacts the quality of extracurricular activities in schools, evaluating overall experience and outcomes changes in both groups over time.
- d. Academic Performance: Measures changes in students' academic achievements based on terminal test scores in both groups over time to assess the intervention's impact.
- e. Attendance: Investigates how the intervention affects students' attendance rates by measuring frequency changes in both groups over time.
- f. Student's Attachment with School: Evaluates the intervention's impact on students' emotional connection and value given to their schools in both groups over time.
- g. Student's Participation in School and Its Activities: Assesses how the intervention influences students' involvement in school-related activities and changes it in both groups over time.
- h. Retention: Examines the intervention's effect on student retention rates, measuring changes in the proportion of students continuing their education and not dropping out in both groups over time.

Effectiveness of Interventions

Difference in Difference Analysis

In this research, the Difference-in-Differences (DID) technique has been employed to evaluate the impact of both the interventions. DID regression analysis is a statistical method used to estimate the causal effect of an intervention or treatment on a specific outcome (Schwerdt & Woessmann, 2020). The fundamental assumption underlying the DID analysis was that, in the absence of the intervention, both groups would have followed a similar trend over time. By examining the differences in changes between the two groups, the study was able to estimate the causal effect of the intervention.

Figure 3.1: Difference in Difference Analysis (DiD)



Difference-in-Differences (DID) regression analysis graph involves illustrating the changes in outcomes over time between the treatment and control groups. The change in percentage mentioned in the following section refers to the constant difference in outcome between the treatment and control group, as mentioned in the above figure.

Effectiveness of Intervention 1: Campaigning

During the baseline study, the number of OOSC and other indicators in both group was recorded, which served as a baseline to account for any pre-existing differences between them. Subsequently, the study compared how these variables changed over time, taking into account the differences observed in the baseline. Any difference between the changes in the treatment and control groups during the End line survey was attributed to the impact of the intervention.

3.1 Demography and distribution of Out of school children

The table provides demographic information along with options, groups, and total counts. The first category is "Caste," with options of "Non-Dalit" and "Dalit." The count and percentage within each group are displayed for the control and treatment categories. Overall, the table presents a breakdown of demographic information for different categories and provides the corresponding counts and percentages within each group for the control and treatment categories.

Table 3.1: Demography of OOSC

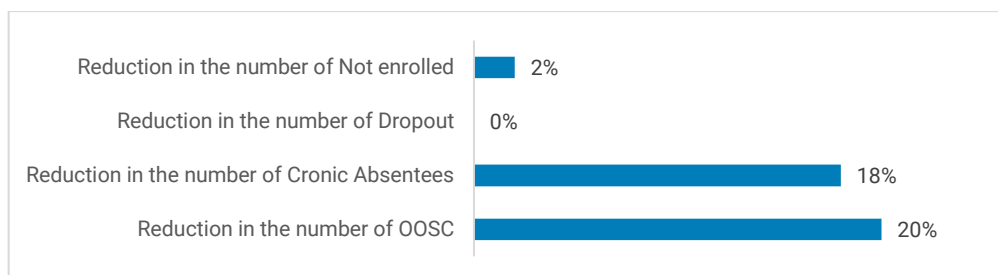
Variables	Options		Group		Total
			Control	Treatment	
Caste	Non-Dalit	Count	82	132	214
		% within group	39.20%	38.50%	38.80%
	Dalit	Count	127	211	338
		% within group	60.80%	61.50%	61.20%
Gender	Male	Count	90	180	270
		% within group	43.10%	52.50%	48.90%
	Female	Count	119	163	282
		% within group	56.90%	47.50%	51.10%
OOSC Age Group	6-10 years	Count	73	151	224
		% within group	34.90%	44.00%	40.60%
	11 to 14 years	Count	112	148	260
		% within group	53.60%	43.10%	47.10%
	More than 14 years	Count	24	44	68
		% within group	11.50%	12.80%	12.30%

Both Non-Dalits and Dalits OOSC are present in both the control and treatment categories. The counts show that there are more Dalits than non-Dalits in both groups. Also, there are more females than males in both groups, with the control group having a higher count of females and the treatment group having a higher count of males. The percentage within each group of OOSC shows that the "11 to 14 years" category has the highest percentage, followed by the "6-10 years" category and then the "More than 14 years" category.

3.2 Change in the number of Out of School Children

The graph presents data on the reduction in the number of out-of-school children using a Control and Treatment group.

Figure 3.2: Change in the percentage of Out of School Children



The coefficient for the interaction is -0.2054 ($p = 0.0000157$). This suggests that the treatment group experienced 20 percent decrease in the number of out-of-school children compared to the control group over time. Additionally, there was an 18% reduction in the number of chronically absent students, suggesting that the program was effective in encouraging regular school attendance. However, the program did not show any improvement in reducing dropout rates, as the percentage remained unchanged at 0%. On a positive note, there was a 2% reduction in the number of children not enrolled in any educational institution, indicating that some children who were previously not in school were successfully reached and enrolled through the intervention. The decrease in percentage of OOSC varies across different subset as follows:

Table 3.2: OOSC across subsets

Subset	Category	Difference in Difference (DiD)	p value
Gender	Male	-0.152	0.025
	Female	-0.196	0.003
Caste	Dalit	-0.179	0.003
	Non- Dalit	-0.151	0.046
Age of Child	6-10 years	-0.222	0.001
	11-14 years	-0.259	0.000
	15 years and more	0.084	0.558
Mothers education	Illiterate	-0.152	0.005
	Basic education	-0.186	0.108
	secondary education and more	-0.156	0.599

The DiD estimate of -19 percent (p -value = 0.003) for female students indicates a significant reduction in female OOSC compared to male OOSC (-15%). Similarly, there is more reduction in the number of Dalit OOSC (-17%) compared to non-dalit (-15%). Percentage of out-of-school children decreased by 22 percent more in the treatment group compared to the control group among children aged 6-10 years, and the percentage is even more for children aged 11-14 years (25%). However, no such significant reduction in number of OOSC was recorded for the age group of 15 years and more.

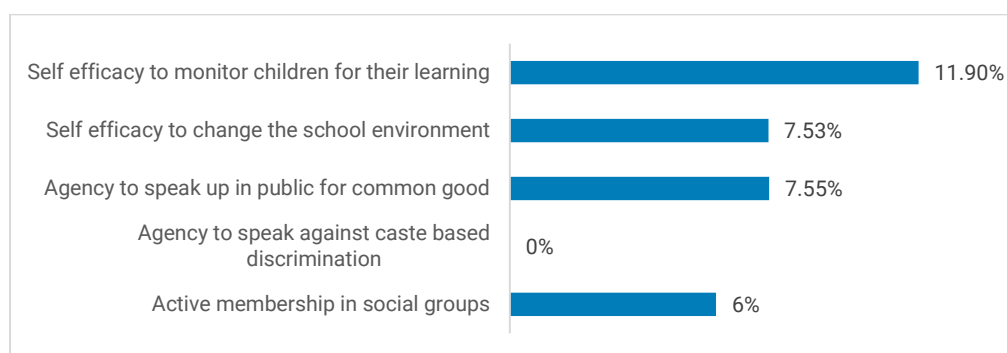
3.3 Engagement of Parents in the Education of their children

This sub-section explores the knowledge of parents about the school functioning, their engagement at school and education related practices. The questions in this section were asked to only those parents who had their children enrolled in school at some point of time.

3.3.1 Agency

The active membership of parents in control group (76.60%) and the treatment group (83.90%) is significantly different. These findings suggest that a higher percentage of individuals in the treatment group are involved in social groups, indicating a potential positive effect of the intervention on social group participation.

Figure 3.3: Change in Agency of parents



Apart from this, the analysis indicates a slight positive impact on this aspect, as approximately 7.55% of individuals demonstrated an agency to speak up in public for common good causes after the intervention. This suggests that the program may have encouraged some individuals to become more active in advocating for social causes beyond their personal interests.

The intervention also had a similar effect on self-efficacy to change the school environment, with around 7.53% of respondents expressing greater confidence in their ability to influence and improve the school atmosphere. It refers to the enhanced belief among individuals that they have the capability to voice concerns about school misconduct, provide suggestions, and actively participate in making the school a better place.

Likewise, 11.90% of respondents report increased self-efficacy in monitoring children's learning progress. However, the result shows that the intervention did not result in any significant change in the percentage of individuals who felt empowered or confident enough to speak out against caste-based discrimination.

3.3.2 Knowledge, Belief & Practices

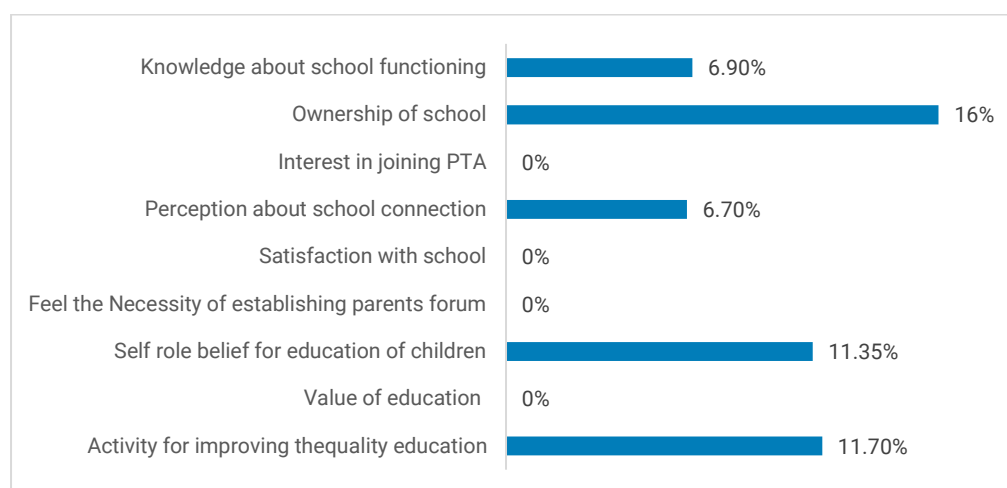
Literature shows that Parents' knowledge about school functioning, beliefs about education, and commitment to regular schooling, as well as their active involvement in activities for the betterment of the school, play a crucial role in the education of their children (Sheldon & Epstein, 2004; Mapp, 2013). When parents have a comprehensive understanding of how the school operates, they can make informed decisions about enrolling their children and ensure that the school is a safe and suitable learning environment.

Positive beliefs about education and the value of regular schooling motivate parents to prioritize their children's education and encourage consistent attendance. Additionally, parents' active engagement in school-related activities fosters a sense of community ownership and accountability, leading to improved school facilities, teaching quality, and overall academic performance. So, the following section measure each of these indicators through DiD analysis, representing the changes in various indicators between a treatment group and a control group over time.

Knowledge about school functioning. Parents were asked about the time when the school starts and when the school ends to know about their knowledge regarding schools' timetable. During summer (May-July), the schools operate on morning shifts, from 6:30 am -11:30 am. The rest of the months it runs from 10:30 am - 4:00 pm. Both these answers were considered correct for the analysis. Similarly, the parents were asked about school vacations and school meals.

The coefficient for Difference in Difference interaction is 6.987 ($p = 0.000564$). This coefficient captures the differential effect of time on knowledge about school functioning between the treatment and control groups. The positive coefficient indicates that the treatment group experiences approximately 7 percent increase in knowledge over time compared to the control group.

Figure 3.4: Change in Knowledge, Belief and Activities of Parents



Belief. The results revealed that there were relatively smaller changes in parents' willingness to join the Parent-Teacher Association (PTA) and the necessity of establishing a parents' forum after the intervention. These changes were not statistically significant, indicating that the intervention might not have been successful in motivating parents to actively engage with the school's activities through these channels.

However, there were positive effects observed in other areas. The intervention led to an increase of approximately 11.35% in the percentage of respondents who displayed strong self-belief regarding their role and responsibilities of their children's education. This suggests that the intervention may have positively influenced parents' confidence and commitment to actively contribute to their children's learning journey. Similarly, there was a minor increase of approximately 6.70% in the percentage of respondents who perceived a strong connection with the school.

Interestingly, the intervention also resulted in a significant change regarding the perceived responsibility for managing community schools. The percentage of respondents attributing this responsibility to the community increased by 16.68% after the intervention, suggesting that the intervention successfully fostered a greater sense of attachment and dedication among parents to the school community.

However, some aspects remained unaffected by the intervention. The analysis showed that there was no significant change in the percentage of respondents who recognized the importance of education throughout the intervention period. Additionally, the intervention did not result in any change in the percentage of respondents who reported satisfaction with the school.

Activity. The graph illustrates an 11.7% rise in parents' involvement in the treatment group compared to the control group after the intervention. The treatment group exhibited higher percentages of parents engaging in various activities, such as visiting the school for monitoring, discussing education with other parents, providing complaints or suggestions, participating in past parent protests, volunteering in the school, and involving community members in school monitoring. These findings demonstrate the successful impact of the intervention, indicating that it effectively motivated parents to actively participate in their children's education.

Overall, the graph demonstrates the remarkable success of the intervention in motivating parents to take on more active roles in their children's education. By fostering increased engagement and collaboration among parents and the community, the intervention effectively empowered parents to advocate for their children's educational needs and contribute positively to the overall educational environment.

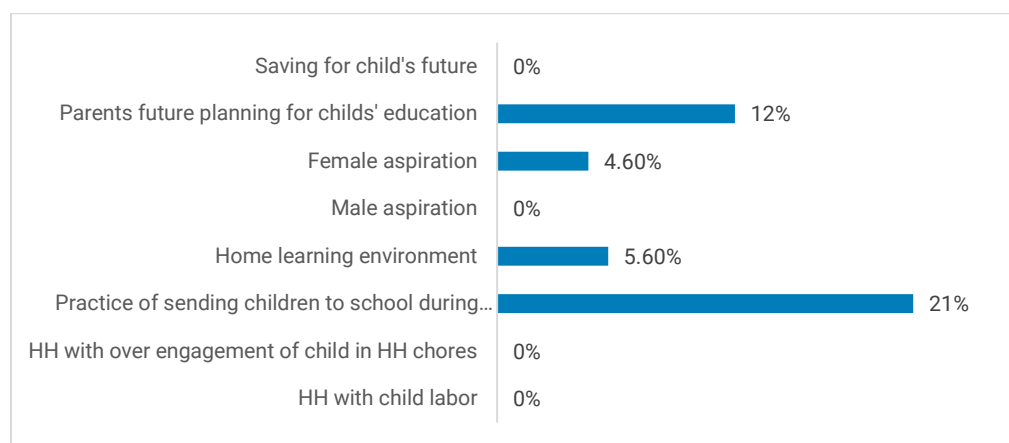
3.4 Parents' Aspiration & Practices

Parents were surveyed about their future plans for their children's education after grade 5, and marks were assigned to those who had clear plans in place for their child's future education. The data shows that there is a significant difference (p-value = 0.035) between the control and treatment group in the response for the same. According to

the difference-in-difference analysis, there was a notable increase of 12 percent in the treatment group regarding parents who were able to clearly articulate where their child would study after grade 5.

However, there were no discernible differences between parents in both groups in terms of confirming that they had made any savings to support their children's future studies.

Figure 3. 5: Change in Aspiration and home learning environment



The parents were asked about the minimum level of education level a boy and a girl need to achieve to sustain their livelihood. The results of the DID (Difference-in-Differences) analysis show that the intervention had no significant impact on male aspirations for the minimum level of education needed to sustain livelihoods, as the percentage remained unchanged at 0%. However, for female aspirations, there was a slight increase of approximately 4.60% after the intervention. This suggests that the intervention might have had a positive effect on encouraging girls to set higher educational aspirations for themselves in order to achieve sustainable livelihoods.

Analysis revealed significant positive effects of the intervention on both the practice of sending children to school during family functions and the home learning environment. After the intervention, there was a notable 21% increase in parents encouraging their children to attend school even during family functions, indicating a shift in attitudes towards prioritizing education over other commitments. Additionally, the intervention led to a 5.60% increase in parents fostering a supportive home learning environment for their children, suggesting a positive influence on parental involvement in their children's education at home.

The daily activity of children in household were recorded to understand their engagement in various activities in day-to-day basis. The activities of last Monday (school day for school going children) were recorded for every hour from 6 am to 10 pm. Activities such as involvement in income generating activities and involvement in HH chores/ family business for more than 3 hours was recorded prudently. Those children who were found to be involved in such activities were further interviewed to identify the effect of these activities in their studies and leisure. The daily activity of up

to 2 children were recorded if they were of different gender. If there are 2 children of same gender in the household, the activity of the eldest child was recorded.

The result of difference and difference analysis shows no significant difference in child labor and over engagement of children in household activities in the treatment and control group. These results imply that the intervention implemented over a period of 10 months did not effectively address the problem.

Effectiveness of Intervention 2: After-school program

In this section, we present the findings and discuss the results of the intervention on various indicators in both treatment and control group schools. The findings discussed in this section are the results of difference-in-difference (DID) regression analysis. Let's explore the results for each indicator (dependent variable) below against independent variables; intervention and time. Here, the mean values for indicators 1, 2, 3, 6, and 7 are rated on a Likert scale ranging from 1 to 5. A rating of 1 indicates the lowest value, while a rating of 5 represents the highest value.

3.5 Regularity in ECA (Indicator 1)

Here, data interpretation includes a comparison of mean values and their corresponding percentages representing the impact of an intervention on regularity of extracurricular activities across treatment and control schools and further into two time periods: baseline and end-line.

During the baseline period, the treatment schools had a mean value of 2.35, accounting for 47% of regularity in extracurricular activities. In contrast, the control schools had a slightly lower mean value of 2.208, representing 44.16% regularity in extracurricular activities.

Moving to the end-line period, there was a notable increase in the mean value for the treatment schools, reaching 4.16, which corresponds to a significant 83.21% regularity in extracurricular activities. On the other hand, the control schools experienced a slight decrease in their mean value to 2.087, constituting 41.75%.

When analyzing the difference between the end-line and baseline values, the treatment schools exhibited a substantial increase of 1.81 units, accounting for 36.21% of the intervention's effect. In contrast, the control schools had a decrease of 0.12118 units, which translates to a reduction of 2.414% without the intervention.

The difference-in-difference effect between the two groups is $1.81 - (-0.12118) = 1.93$, or 38.6%. The estimated difference-in-difference of 38.6% suggests that the regularity of ECA was increased due to the intervention.

3.6 Students' Participation in ECA (Indicator 2)

The participation of students in extracurricular activities (ECA) is analyzed through mean values and their corresponding percentages of the intervention's impact across treatment and control schools. The data is categorized by two time periods: baseline and end-line.

At baseline, treatment schools exhibited a mean value of 0.913, contributing to 18.259% of ECA participation by students. In contrast, control schools had a higher mean value of 1.498, constituting 29.963%.

Transitioning to the end-line period, treatment schools experienced a substantial increase in their mean value, reaching 2.480, which corresponds to 49.6022% of ECA participation by students. On the other hand, control schools witnessed a mean value of 1.308, equivalent to 26.159%, which suggests that without intervention, the rate of students participating in extracurricular activities decreased.

The difference between end-line and baseline values reveals a noticeable rise in the rate of students participating in extracurricular activities in treatment schools, with a difference of 1.567 units accounting for 31.3432% of the intervention's effect. In contrast, control schools displayed a decrease of 0.190 units, translating to a reduction of 3.80% in the rate of students participating in extracurricular activities.

The difference-in-difference effect between the two groups is $1.56716 \text{ minus } (-0.19017) = 1.75733$, or 35.1466%. The estimated difference-in-difference of 35.15% suggests that the students' participation in extracurricular activities increased due to the intervention.

3.7 Quality of extracurricular activities (Indicator 3)

The explanation below portrays mean values and their corresponding percentages, representing the intervention's effect on the quality of extracurricular activities in both treatment and control schools across two distinct time frames: baseline and end-line.

During the baseline period, treatment schools exhibited a mean value of 1.74273, equivalent to 34.8546% of the quality of extracurricular activities. In comparison, control schools had a slightly higher mean value of 1.80595, accounting for 36.119%.

As the study progressed to the end-line period, treatment schools experienced a significant increase in their mean value, reaching 3.49492, corresponding to a 69.8984% increase in the quality of extracurricular activities. Conversely, control schools displayed a mean value of 1.69328, equivalent to 33.8656%.

The difference between end-line and baseline values revealed a notable rise in the quality of extracurricular activities in the treatment schools, with a difference of 1.75219 units, which accounts for 35.0438%. However, in control schools, there was a decline of 0.11267 units, translating to a reduction of 2.2534% in the quality of extracurricular activities as experienced by the students.

The difference-in-difference effect between the two groups is 1.75219 minus (-2.2534)=1.86486, or 37.2972%. The estimated difference-in-difference of 37.2972% serves as evidence that the intervention played a crucial role in enhancing the quality of extracurricular activities.

3.8 Academic Performance (Indicator 4)

This indicator focuses on examining how our intervention impacted the academic performance of students in both the treatment and control groups within schools across two distinct time periods: baseline and end-line.

During the baseline period, treatment schools displayed an academic performance percentage of 41.7231%, while control schools had a slightly higher percentage of 42.425%. As we progressed to the end-line period, treatment schools experienced an increase in academic performance, reaching a percentage of 49.5127%. On the other hand, control schools maintained a relatively stable academic performance percentage of 42.7547%.

Analyzing the difference between end-line and baseline values, treatment schools demonstrated a rise of 7.7896% in academic performance, highlighting the positive impact of the intervention. In contrast, control schools exhibited a marginal increase of 0.3297% in academic performance. The difference-in-difference effect between the two groups is $7.7896\% - 0.3297\% = 7.4599\%$. The estimated difference-in-difference of 7.4599% suggests that academic performance increased due to the intervention.

3.9 Attendance (Indicator 5)

The indicator Attendance aims to understand the influence of the intervention on students' attendance rates. In the baseline period, treatment schools exhibited a mean attendance rate of 71.98%, while control schools, on the other hand, had a slightly lower mean attendance rate of 61.6331%.

At the end, the treatment schools demonstrated a noteworthy increase in attendance, reaching a mean rate of 91.588%. This increase signifies the positive impact of the intervention. In contrast, control schools saw a mean attendance rate of 56.78%, which means the attendance rate of students further decreased in the absence of the intervention.

The difference between end-line and baseline values reveals a substantial improvement in treatment schools, with an increase of 19.6011% in attendance. Conversely, control schools experienced a decrease of 4.8531% in attendance over the study period.

The difference-in-difference effect between the two groups is 19.6% minus (-4.8531%)=24.4542%. The estimated difference-in-difference of 24.4542% serves as strong evidence that the intervention played a significant role in increasing attendance among the students of treatment group schools.

3.10 Student's attachment to school (Indicator 6)

This indicator provides insights into the emotional connection that students feel towards their schools, which we call students attachment with school". In the baseline period, treatment schools had a mean value of 1.81283, indicating the strength of the emotional connection at 36.2566%. However, the control schools had a slightly higher mean value of 1.90954, representing 38.1908% of the emotional connection.

As we move to the end-line period, treatment schools showed a significant increase in the mean value, reaching 4.19769, and remarkably, 83.9538% of students felt an emotional connection with their school. On the other hand, control schools had a mean value of 1.92117, reflecting a 38.4234% emotional connection with their respective school.

The difference between the end-line and baseline values unveils a substantial increase in students' attachment to schools in the treatment schools, with a difference of 2.38486 units. This positive change equates to a 47.6972% increase in emotional connection due to the intervention. In contrast, control schools only showed a slight increase of 0.01163 units, which translates to a mere 0.2326% change in emotional connection.

The difference-in-difference effect between the two groups is 2.38486 minus 0.01163=2.37323, or 47.4646%. This indicates that the students' attachment could be considerably improved by the continuity of the treatment.

3.11 Student participation in school and its activities (Indicator 7)

With this analysis, this report aims to understand how the intervention has affected the students' level of participation in their school and school activities. During the baseline period, treatment schools exhibited a mean value of 2.51846, which accounts for 50.3692% of the student participation in school activities. In comparison, control schools had a slightly higher mean value of 2.6705, reflecting 53.41% of the student participation.

At the end, the treatment schools experienced a noteworthy increase in the mean value, reaching 4.64042. This increase corresponds to a substantial 92.8084% increase in student participation in school. In contrast, control schools displayed a mean value of 3.12002, representing a 62.4004% level of participation.

The difference between the end-line and baseline values reveals a notable increase in treatment schools, with a difference of 2.12196 units. This positive change equates to a 42.4392% increase in student participation due to the intervention. On the other hand, control schools showed a smaller increase of 0.44952 units, indicating an 8.9904% change in participation.

The difference-in-difference effect between the two groups is 2.12196 – 0.44952 = 1.67244, or 33.4488%. The estimated difference-in-difference of 33.4488% suggests

that the student's participation in school and its activities increased due to the intervention.

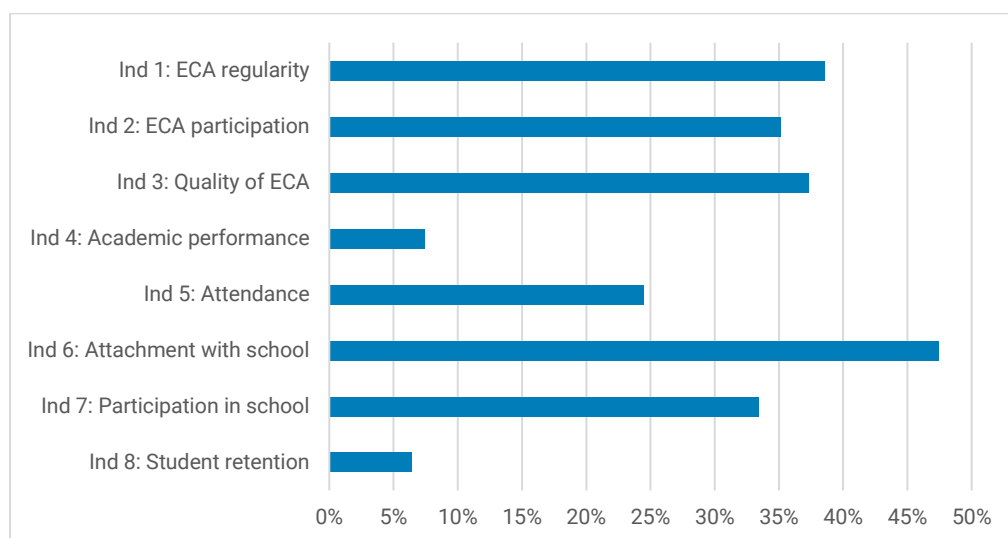
3.12 Retention (Indicator 8)

Retention focuses on understanding how the intervention impacts the ability of students to stay in both treatment and control schools across the baseline and end-line periods. At the baseline, responses of 231 students from treatment schools and, responses of 269 students from the control schools were taken.

During the end-line period, there were 4 students that dropped out from treatment schools and similarly, there were 22 students that dropped out from control schools. This means that without our intervention, approximately 6.45% of students out of every 100 would have left school. This indicates that the intervention had a positive impact on helping students stay in school.

The findings discussed above can be concisely summarized in the graph below.

Figure 3. 6: Difference in difference analysis for After school Program



Overall, the findings demonstrate that the intervention focusing on extracurricular activities after school has been highly effective in promoting various aspects of children's development and their school attendance. The positive impact on regularity, participation, and quality of extracurricular activities, academic performance, attendance, attachment to school, participation in school activities, and retention rates indicates that the intervention has been successful in enhancing students' overall educational experience. Moreover, the intervention's effects were consistent across various indicators, reinforcing the credibility of the results. Additionally, the positive impact on students' emotional attachment to school indicates that the intervention helped create a supportive school culture that enhanced students' satisfaction with their educational experience.

Cost Effectiveness of Interventions

Cost-effectiveness analysis is a method used to evaluate the efficiency of different interventions, programs, or treatments by comparing their costs to their outcomes or benefits. It is commonly used in various fields, including healthcare, education, and social services, to help decision-makers allocate resources optimally and make informed choices about which interventions provide the best value for money. Cost-effectiveness analysis involves calculating the cost-effectiveness ratio, which is the ratio of the cost of the intervention to the unit of outcome or benefit achieved (Dhaliwal, Duflo, Glennerster, & Tulloch, 2012).

Cost Effectiveness of Intervention 1: Campaigning

Cost-effectiveness here involves assessing the relationship between the cost of implementing various interventions aimed at addressing the issue of out-of-school children and the effectiveness of those interventions in bringing these children back into the education system.

The goal is to identify interventions that achieve the maximum impact in terms of reducing the number of out-of-school children while minimizing the financial resources required. A cost-effective intervention yields positive results at a reasonable cost, making it a preferred choice for policymakers and organizations involved in addressing the problem of out-of-school children.

The research took place in five wards, where five PLAGs led by parents were formed to implement and evaluate interventions. The main expenses primarily consisted of compensating the facilitator, co-facilitator, and change champions and providing snacks to the PLAG members for their monthly meetings over a period of ten months. Additional costs included printing and designing posters, calendars, and stationery. The total amount invested in the intervention amounted to NPR 29,8590.

Cost-effectiveness of intervention

To decrease the number of OOSC, 20% of NPR 298590 was spent.

So, to decrease 1%, OOSC NPR 14929.5 will be required.

The result indicates that, without the intervention, there would have been 128 additional students falling into the Out-of-School Children (OOSC) category in the treatment group.

The data indicates that the intervention had a positive impact on reducing chronic absenteeism and dropout rates in both the control and treatment groups. The treatment group showed a more significant reduction in both chronic absenteeism and dropout rates, suggesting the intervention's effectiveness in improving attendance and retention.

So, from this result, it can be concluded that it will require NPR 2331.7 to bring 1 OOSC back to the education system.

Cost Effectiveness of Intervention 2: After-School Program

The strengthening of the intervention "Extracurricular Activities after School" was implemented with the aim of enhancing retention rates in schools. The intervention involved providing extracurricular activities in schools, offering students opportunities to engage in activities beyond their regular academic curriculum.

The study was conducted in a total of 18 schools, with 9 schools assigned to the treatment group and 9 schools as the control group. The baseline study included a total sample of 500 students, with 269 students in the control group and 231 students in the treatment group. The end-line study was conducted after the intervention, with 247 students in the control group and 227 students in the treatment group. It is important to note that some students dropped out during the course of the intervention, resulting in a reduction in the number of students in both groups. The intervention involved a total investment of NPR 121305 only to implement and sustain extracurricular activities across the treatment schools for the duration of 6 months.

The major objective of the intervention is to positively impact the attendance rate and the retention rate of the students; the cost-effectiveness of the intervention will be examined against these two indicators. The difference-in-differences (DID) regression method has been used to evaluate the intervention's effect on these indicators.

Cost-effectiveness of attendance

NPR 121305 was spent to increase attendance by 24.5%.

So, to increase attendance by 1%, NPR 4951 will be required.

Cost-effectiveness of student retention

To retain 18 students in school, NPR 121305 was spent.

To retain one student in school, NPR 6739 will have to be spent.

Other than positive impacts on these two indicators, this intervention has positively impacted all other indicators, such as regularity in extracurricular activities, students' participation in extracurricular activities, quality of extracurricular activities, academic performance, student attachment to school, and student participation in school too. The extent of improvement in

each of the indicators has been discussed in the section on effectiveness of interventions above.

In the context of rural public schools in countries like Nepal, these costs incurred to benefit from the impact of the intervention "Extracurricular Activities after School" can be considered high. The school management and teachers often face resource and budget constraints at the local municipal level, making it challenging to conduct extracurricular activities.

Despite Education Rule 2059, which directs schools to conduct extracurricular activities every Friday after regular classes, teachers and school management are hesitant to take on this responsibility due to a lack of monitoring and governance. Education officers in each municipality are tasked with visiting schools, providing support for improvement, and ensuring compliance, but their workload and lack of additional allowances often discourage them from fulfilling this duty effectively.

To ensure the intervention's success, additional costs were incurred for training and deploying intervention monitors. Without these monitors, teachers did not regularly conduct extracurricular activities in a well-prepared and planned manner. However, the presence of intervention monitors positively impacted the proper implementation of extracurricular activities in schools.

It is important to note that the intervention did not offer any financial or material resources to the schools or the assigned ECA in-charges. Instead, it focused on training teachers to plan ECA activities according to the school's infrastructure and available resources. However, the requirement to pay intervention monitors for their weekly visits contributed to the higher overall cost.

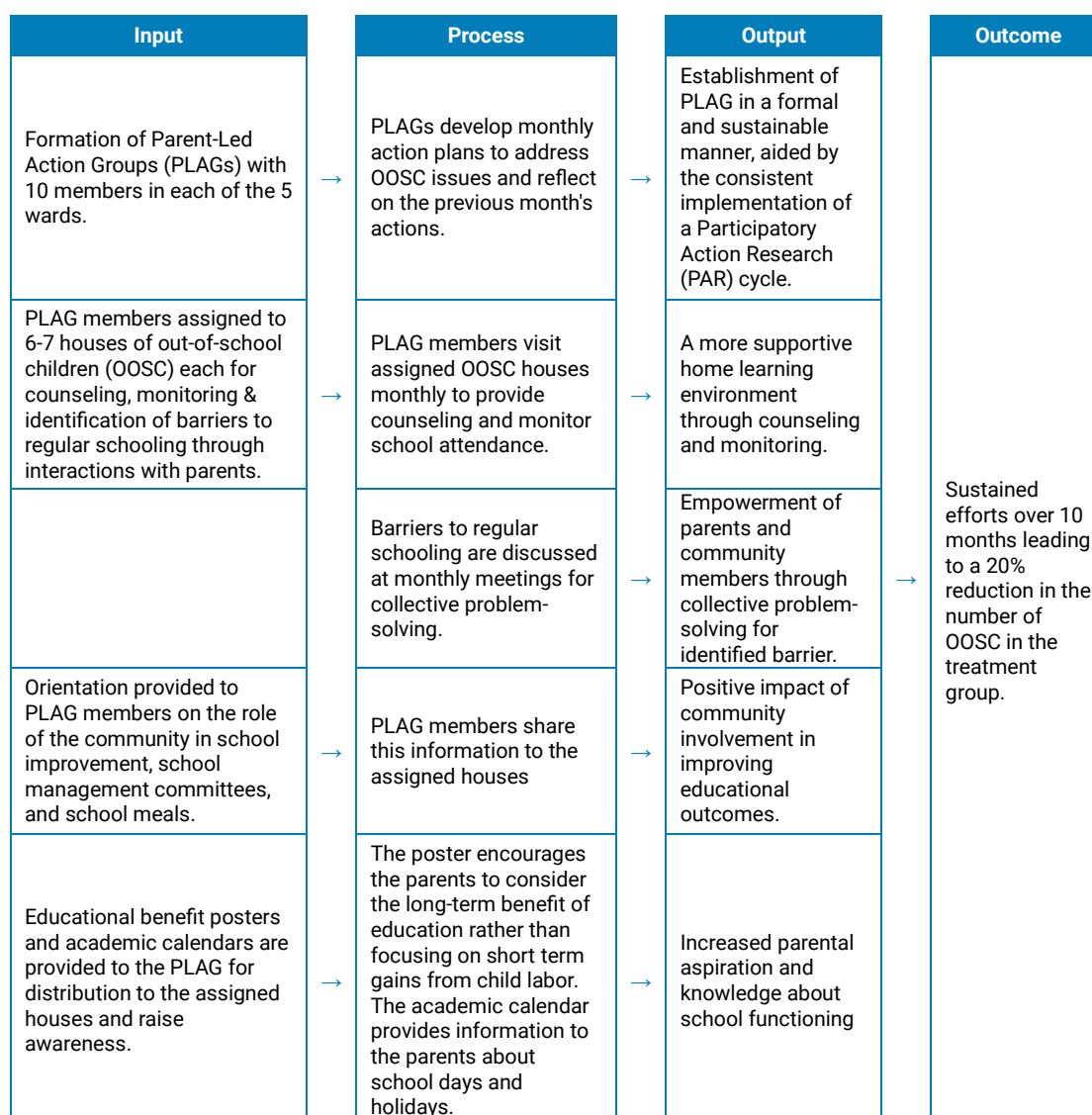
A potential solution to reduce costs and make extracurricular activities more feasible in schools would be for education officers and local municipalities to empower and support teachers in making extracurricular activities a regular part of their school activities while also monitoring their activities on extracurricular activities and all other duties and assignments regularly. If education officers do their task of mentoring and ensuring that each school, its management, and teachers fulfill all their assigned tasks properly, the need for expensive intervention monitors can be minimized.

In conclusion, the high cost of the intervention primarily stems from the deployment of intervention monitors, but with proper support, teacher empowerment, and improved monitoring by education officers and local authorities, the implementation of extracurricular activities in schools could be more sustainable and cost-effective.

Conclusion

In conclusion, both the interventions in this study have demonstrated noteworthy impacts on different aspects of the educational experience. Indeed, the campaigning intervention that focused on parental perceptions and involvement in their children's education have provided sufficient stimulus for fostering a stronger sense of connection between parents and schools. The inputs, process and output of the intervention are represented diagrammatically as follows,

Figure 5. 1: Input, Process and Output of Campaigning program



PLAGs develop action plans, counsel parents, and identify barriers, leading to a reduction in OOSC and increasing parental aspirations for education. Monthly meetings empower parents, and educational materials raise awareness about education benefits, resulting in a 20% reduction in OOSC in 10 months. It empowered parents with greater self-efficacy to bring about positive changes within the school environment and encouraged them to play a more active role in their child's academic journey. Moreover, parents exhibited increased belief in their role and involvement in their children's education, leading to improved communication and engagement with community schools. Overall, the intervention successfully promoted a more supportive and participatory approach to accessing basic education.

On the other hand, the "Extracurricular Activities after School" intervention had a significant and positive impact on various aspects, including student participation, extracurricular activity quality, academic performance, attendance, attachment to school, participation in school activities, and dropout rates. The intervention's consistent effects across multiple indicators reinforce the credibility of the results, affirming that the observed improvements can be attributed to the intervention itself. While the "Extracurricular Activities after School" intervention demonstrated promising results, the cost-effectiveness analysis revealed challenges in sustaining it due to the cost of deploying intervention monitors. However, with proper support, teacher empowerment, and improved monitoring by education officers and local authorities, the integration of extracurricular activities in schools could become more sustainable and cost-effective.

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