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## Transforming education Stories of change



# Foreword



“We learnt that there is not only an immense need but also boundless scope to improve education outcomes at the secondary level in India.”



**Transform Schools’ work\* is the result of almost a decade long journey.** As with most journeys, we have experienced some challenges, alongside many successes, and learnt lots of lessons. We learnt that there is not only an immense need but also boundless scope to improve education outcomes at the secondary level in India. We also learnt that we are not alone in moving towards this goal. Despite the challenges, we found that there is enormous support from several quarters – researchers, practitioners and State governments across India, and our board, advisors, donors and partners closer to home. We are indeed thankful for all of it,

and acknowledge that it would not have been possible to travel this far without it.

While the challenges, successes, failures and support have ebbed and flowed, the efforts that teachers and children make daily have remained constant. These students and teachers are the force behind our inspired action to advance learning. Hearing from them is what keeps us going, and what better occasion than this to share these stories with you all.

We have gathered these stories during our journey working with generous support from Kusuma Trust UK. I am confident these stories will inspire you too. You must join us in unlocking and realising the tremendous potential of the government schools of India, and this introduction might just be the first step towards doing that.

**Pankaj V Sharma**  
Executive Director,  
Transform Schools,  
People for Action

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\* Transform Schools is continuing to build on the work of the Kusuma Foundation in India. In 2019, the core team of Kusuma Foundation started its journey as a new independent organisation – Transform Schools, People for Action.

# Foreword



**We firmly believe that education can transform lives. It's why we're proud to support Transform Schools, as they take the vital improvement work we initiated from strength to strength.**

We've been supporting education projects in India for well over a decade, so that more young people can receive a quality education – especially those who are the most difficult to reach. The initiatives we've supported have grown in size and sophistication. Working with local partners, we've funded scholarship schemes, an accelerated learning programme, and several innovative teaching

projects. As we intensified our efforts to reach as many young people as possible, Kusuma Foundation, our grant-making partner in India, moved from funding individual projects to implementing large-scale programmes – and thus began the Kusuma Schools Partnership Initiative in 2013. The initiative worked with 50 schools in Hardoi and Sambalpur\* to improve their facilities, educational resources, teaching practices and, ultimately, student attainment.

By working in partnership with schools, Kusuma Foundation was able to develop a sustainable model that could be adopted by State governments, bringing about widespread and lasting change. By 2018, the initiative had reached more than 78,000 schools and nearly 2 million students and teachers.

Research has always been central to our approach, so that we can clearly understand what works

and what does not. The evaluation of our work with government secondary schools identified both challenges and great successes. Overall, we've learnt that these programmes both improve young people's learning, in all subjects, and have a positive effect on the way schools operate. It has encouraged us to share the experience, as we hope the benefit of these programmes can reach more pupils, teachers, schools and communities across India.

After nearly 10 years' working closely together, in 2018 the core Kusuma Foundation team in India began their journey as a new independent organisation – Transform Schools. This book illustrates the journey we have been on together, our learnings and our experiences. We hope these stories inspire you.

**Soma Pujari, Co-founder and Executive Trustee, Kusuma Trust**  
**Anurag Dikshit, Co-founder and Chair, Kusuma Trust**



**“Research has always been central to our approach, so that we can clearly understand what works and what does not.”**

\* KSPI schools in Sambalpur were randomly selected, KSPI schools in Hardoi were mostly low performing schools and therefore the two should not be compared directly against each other.

# Beyond the textbook

How a teacher in the remote tribal district of Sambalpur, Odisha, uses local resources to transform teaching and learning.

**Ms Rukmini Pradhan is a Science teacher at Kisinda High School in Sambalpur, Odisha.** In a remote area, surrounded by dense forests and agricultural farms, the school provides education to first generation learners from the Oraon, Kisan and Sabar tribes. Like most schools in remote districts of India, Kisinda High School lacked basic infrastructure. There was a shortage of classrooms, and no Science laboratory or library. Most of Ms Pradhan's students were not at their class appropriate learning levels. They were struggling to grasp concepts being taught in their Science classes. Without any

audiovisual aids or a proper laboratory, it was difficult for Ms Pradhan to explain basic scientific concepts.

Fortunately for her students, the school began working with Kusuma. Ms Pradhan took a teachers' training programme, which transformed the way she approached Science teaching. "I learnt the use of innovative and experiential learning methods using local resources to aid teaching," she says. "The school also received Kusuma's support to develop a functional Science and Information Communication Technology laboratory which provided a great impetus to student learning."

- An effective teachers' training programme transformed the way lessons were approached at Kisinda High School.
- Classroom activities were based around children's traditions, culture and environment.
- The school's teacher won an award for her teaching practice and went on to train other teachers.

To find out how Transform Schools is continuing to help improve teaching, visit [www.transformschools.in](http://www.transformschools.in)

**Ms Pradhan designed experiential learning activities that relate to her students' culture, traditions and environment.** "I realised that the biodiversity around my school is one of the best laboratories to learn Science," she says. "I believe my students and their families living in the forest for generations have a treasure of knowledge, which would allow sustainable use of natural resources. I call it Science for sustainability."

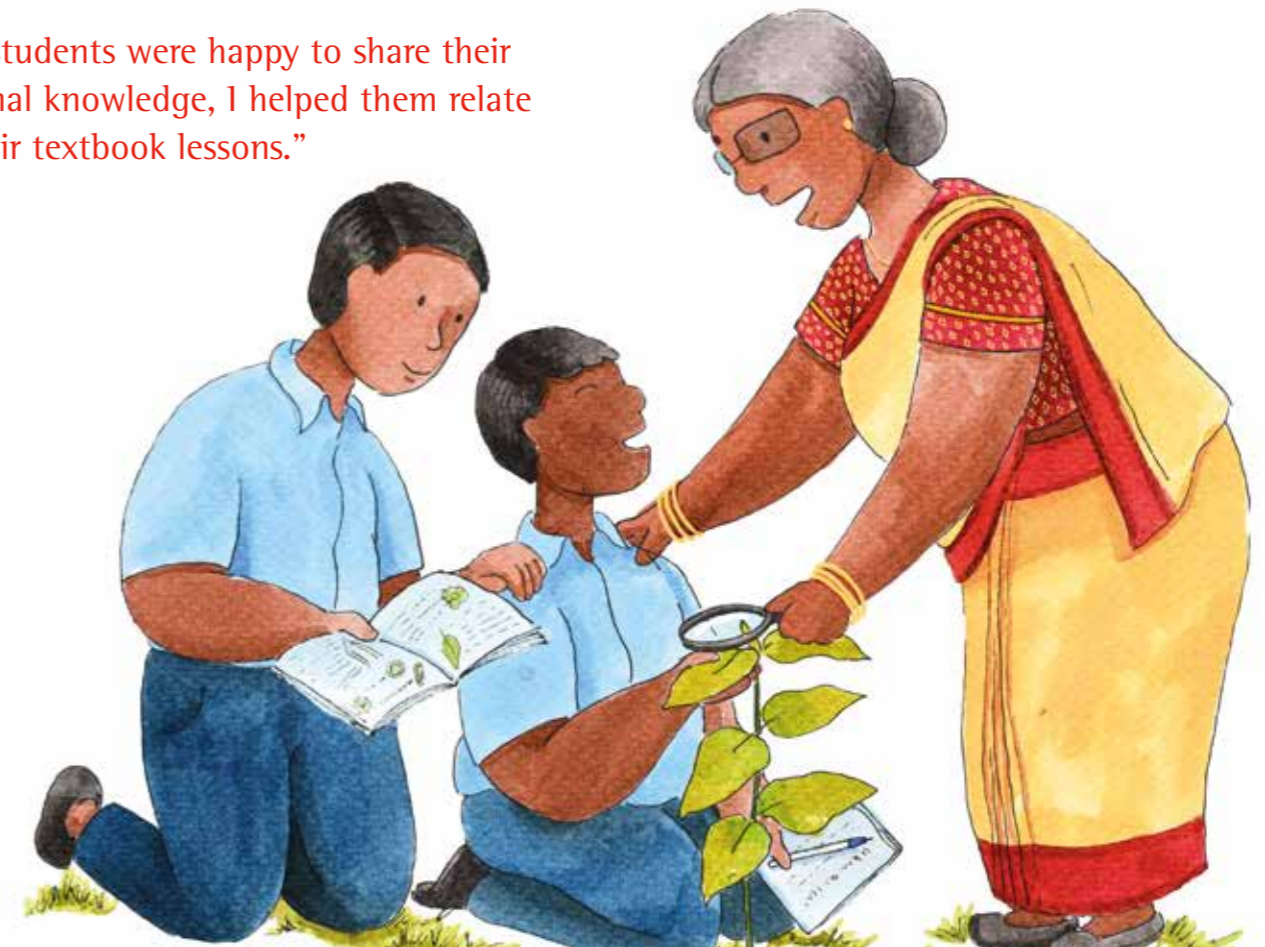
There was a huge transformation in Ms Pradhan's teaching

style. To explain the concepts of environmental sustainability, she divided her students into small groups for learning trips to farms and forests. She used their existing knowledge, such as crop rotation, bio-composting, cultivation and use of various plant species. "While students were happy to share their traditional knowledge, I helped them relate it to their textbook lessons. This not only broke the monotony of rote learning in the classroom but also encouraged students to relate their textbook learning to larger issues of environmental sustainability, such

as depletion of natural resources and conservation of forests around them," says Ms Pradhan.

Ms Pradhan's teaching methods soon received positive attention both within Sambalpur and in other districts. She has been awarded for her 'Good Teaching Practices' in the Kusuma-supported 'Quality Circle Meeting' (a community of good practice) and gained first position in the Science category 2017-2018. She was selected as a District Level Science trainer to train other teachers on effective teaching and remediation programmes.

**"While students were happy to share their traditional knowledge, I helped them relate it to their textbook lessons."**



# Together we can

How the local community in Hardoi, Uttar Pradesh, came together to ensure quality education for children.

**It takes a long bumpy ride through remote rural areas of Uttar Pradesh to reach Baheria, a government secondary school in the Hardoi District.** When the school was built, it was just a basic structure with no running water, electricity or support staff. The State government could only allocate one teacher to the school, Ms Rajeshwari. She was also the Head Teacher and responsible for teaching 66 students in Classes 9 and 10.

“It was very challenging for me to run a newly established school alone, but fortunately the local community and the School Management and Development Committee (SMDC) in the area was very supportive,” says Ms Rajeshwari.

After the school building was built, a group of villagers had

come together to ensure that their children received a quality education. They decided to follow up with the State government and district administration and get an electricity connection for the school.

Mr Munnu Lal Pandey, a retired government employee and a farmer, was at the forefront of the efforts to get a school in the Baheria area, and has been one of the active SMDC members. He credits Kusuma-supported training for the effective approach adopted by the SMDC to improve the quality of education. “They trained us on school standards, school planning and academic monitoring, using participatory methods and simple tools,” he says. “Through their annual planning process we came to appreciate the importance of collaborations to address barriers to school improvement.”

- One teacher was responsible for teaching 66 students in Classes 9 and 10 at the Baheria government secondary school.
- The accelerated learning programme addressed learning gaps in Class 9 students.
- The pass percentage for Maths increased by almost 10% in one year.

To find out how Transform Schools is continuing this work, visit [www.transformschools.in](http://www.transformschools.in)

**Based on their plans, the SMDC members began working towards getting electricity for the school.** After a lot of liaising with the relevant departments, the school finally got an electricity connection. However, since the area suffers from regular power cuts, a diesel generator had to be installed. Mr Pandey offered to pay for running it so the students’ learning wasn’t disrupted.

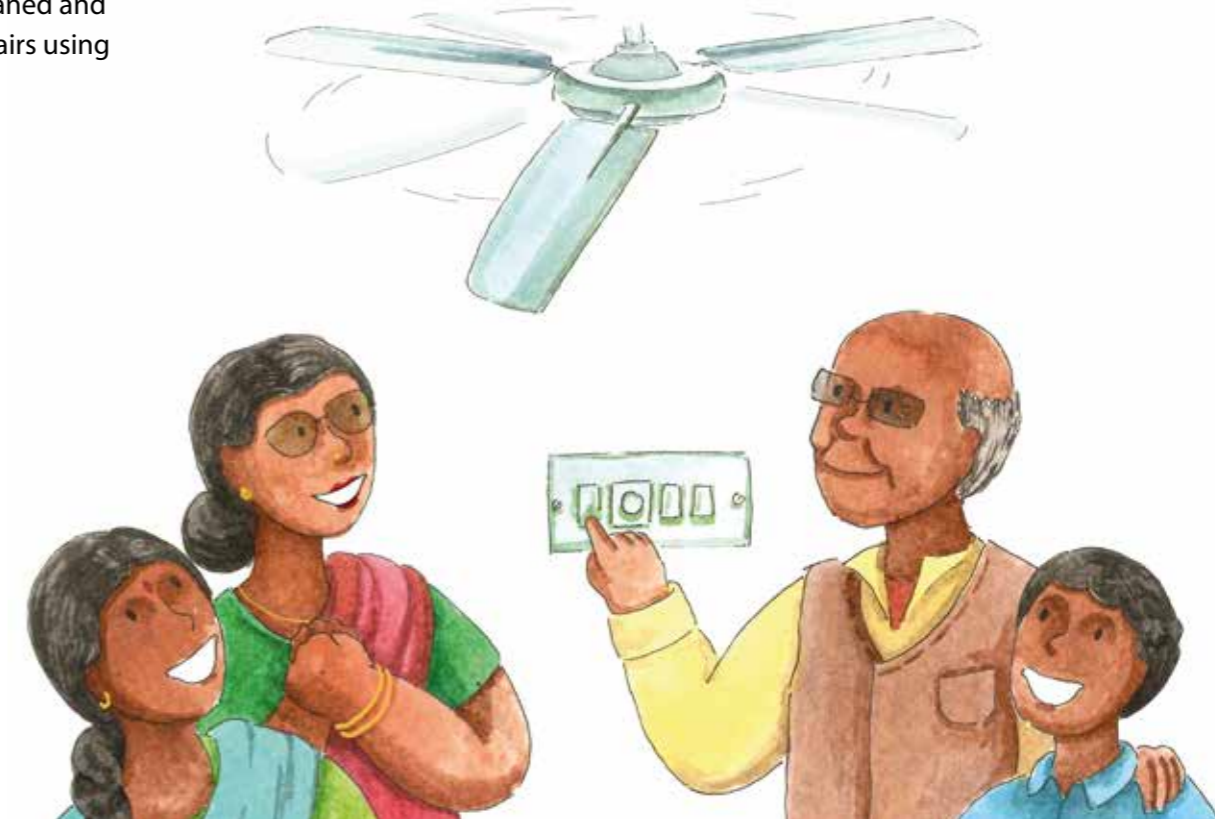
After regular follow-ups with the Education Department, the SMDC also managed to get funding from the central government scheme and drill a bore well in the school grounds. SMDC members also support the Head Teacher in day-to-day management and general upkeep by sharing responsibilities such as opening the school, making sure it is cleaned and managing small repairs using SMDC funds.

“Kusuma supported an accelerated learning programme to address learning gaps amongst Class 9 students for over two years,” says Ms Rajeshwari. “This directly helped in improving the performance of students. The pass percentage for Maths has increased from 60% to 68.8% in just one year. I am able to manage the school and teach students within the limited resources only

because of the active engagement of the SMDC members and support from the wider community. Our aim is to have more subject teachers appointed for the school.”

The SDMC has been asking the Chief Minister’s office to allocate more teachers to the school. They are positive that their efforts will mean the government takes action soon.

**“I am able to manage the school and teach students within the limited resources only because of the active engagement of the SMDC members and support from the wider community.”**



# Complex problems, simple solutions

How the School Management and Development Committee of a village school in Odisha successfully tackled absenteeism.

**Thirteen-year-old Kulamani Bhoi has a clear career goal – to get a government job. The first step towards it is to complete his secondary education. To get to school each day, Kulamani has an hour-long bicycle ride on a mud path, through a jungle filled with wild elephants and sloth bears.** “It gets worse during monsoon season when there is not even a proper path to reach school,” says Kulamani. “I make my way through muddy puddles and slippery rocks. Sometimes my books get wet, and of course there is the fear of wild animals. Often I have to miss school on such days.”

Many other students studying in Government Upgraded High School, Mahulpali, have to deal with similar obstacles to Kulamani.

“Most students of our school live in tribal hamlets which lie deep in the forest and come from low income families,” says Mr Arakshita

Mallik, the school’s Head Teacher. “Absenteeism is one of our major challenges which gets worse during monsoons.” According to Mr Mallik, there are various other factors preventing children from going to school, such as poverty. Most students need to work with their parents to supplement their family’s income. Some girls are forced to stay at home to take care of their siblings while their parents go out to work. Illnesses, especially malaria, are common in the region. Getting a midday meal motivates children to attend school but by Class 9 even that incentive stops.<sup>1</sup>

“Student absenteeism was one of the key issues on my mind, when I was attending Head Teacher professional development training supported by Kusuma,” says Mr Mallik. During the training, he was inspired and given the tools to engage with the School Management and Development Committee (SMDC)<sup>2</sup> to address these problems.

- Many Mahulpali High School students were missing school to work or take care of family.
- The School Management and Development Committee educated parents on the importance of attending school regularly.
- Absenteeism reduced and the school recorded regular 80% attendance.

To find out how Transform Schools is continuing this work, visit [www.transformschools.in](http://www.transformschools.in)

**The SMDC set a target to increase the average student attendance from 65% to 95%.** The members decided to reach out to the children’s parents and educate them on the importance of attending school regularly. They also wanted to discuss ways in which parents can offer support. They developed a plan to have meetings in each village, where SMDC members highlighted the learning gaps that result from children missing school

frequently. They motivated parents to send their children to school by sharing examples of people from their own communities who had improved their socio-economic situation through education. At the end of the meeting, parents signed a pledge to commit to fulfilling their responsibilities. Within the school, members of the Student Cabinet were assigned the role of motivating and supporting students with a history of missing school.

“We are aware that we will have to continue multiple cycles of home visits and phone calls to check absenteeism,” says Mr Mallik. “Working together with the SMDC shows that collaborative efforts and creative thinking can solve problems.”

As a result of the attendance drive, absenteeism in the school reduced. It often records 80% attendance. The SMDC was also successful in retaining 12 students at risk of dropping out.

**“Working together with the School Management and Development Committee shows that collaborative efforts and creative thinking can solve problems.”**



<sup>1</sup> The Midday Meal Scheme is a Government of India programme, under which students in primary and upper primary Classes (until Class 8) in government schools get free lunch on working days

<sup>2</sup> The SMDC comprises of the Head Teacher, elected representatives of the village panchayat (council), parents, representatives of the marginalised communities, and teachers

# Making a song and dance of learning

How a language teacher is transforming his Class 9 students' experience of learning English.

**"I know it is very important to learn English to get a good job and be successful in life," says Simran, a Class 9 student at Shree Dev Darbar Ashram Inter College in Hardoi. "But I used to be terrified of the language." Most of Simran's classmates share her feelings.**

"My students are mainly first generation English learners," says Mr Fareed Ahmed, their teacher. "The language is foreign in a real sense as they have little opportunity to hear conversational English or practise their language competencies. They begin learning English from Class 3, but even after reaching Class 9, most of them do not know the English alphabet, have limited vocabulary and almost no understanding of grammar rules. Only a few of them are equipped to deal with the Class 9 syllabus."

However, for the last few years, Mr Ahmed has been able to facilitate a change in his students' experience of learning English, with support from Kusuma. Transform Schools has developed the Transform learning programme that focuses on bridging students' learning gaps

in key subjects, through less than 200 hours of teaching, which is undertaken during school hours. The aim is to strengthen their listening, speaking, reading and writing skills. The approach emphasises activity-based learning and allows the students to draw from their own experiences to express, interact and contribute to classroom discussions.

Mr Ahmed's innovative teaching and learning techniques were already popular with his students. Through Kusuma-supported effective teaching training workshops, he learnt the phonics approach to teaching English. This helped students identify sounds associated with each letter that forms a word. It's also used to explain how these sounds and spelling patterns correspond. The process helps students recall spellings and become fluent readers.

"As a teacher, I always challenge myself to plan and teach better than before," says Mr Ahmed "I like to use different teaching and learning methods every time to garner higher interest amongst my students. The

trainings really expanded my knowledge, creativity and repertoire of innovative teaching methods. I believe the teaching and classroom management techniques I have gathered and practised can be used to improve learning outcomes in other subjects as well."

- Few Class 9 students at the Shree Dev Darbar Ashram Inter College were at the appropriate learning level for English.
- The learning programme focuses on bridging students' learning gaps in key subjects, through less than 200 hours of teaching. This has been scaled in four States by Transform Schools.
- The school's teacher received an award for 'Innovative Teaching Methods' from the District Education Officer.

To find out how Transform Schools is building on this success, visit [www.transformschools.in](http://www.transformschools.in)

**He helps his students improve their vocabulary using games, which increase in complexity.**

For example, on level 1 he begins with a 'word map' game where he lists an object, for example a tree, and asks students to contribute any word they associate with it. To ensure every student is able to contribute, they are allowed to say the word in Hindi if they do not know it in English. He encourages the class to help the student find its synonyms and spelling. In this way, from the word 'tree' they can learn and comprehend words like leaf, green, branch, fruit and sweet.

Level 2 of the game is called 'toss a word', where a ball is thrown among the students and whoever catches it is encouraged to say any word in English along with its spelling. If the student is unable to give the spelling, the

entire class is encouraged to support them.

This leads to the next level of the game, where Mr Ahmed has adapted Antakshari, a popular game in India that involves recalling and singing songs. In his version of Antakshari, students are divided into groups and the teacher gives them a word. The first group is asked to recall a new word beginning with the last letter of the first word. The next group picks up the last letter from the second word and so on.

To improve participation of the students with weaker English language abilities and build their confidence, Mr Ahmed has developed a unique point system for games and activities. He divides his class into smaller groups of five, with a group

leader who has better English skills. The group leader helps their group members in all language activities. However, during the activities, if a group leader answers the question, the group only gets half a point, but if any other member gives answers, they receive one full point. This encourages the weaker group members to speak up in the class and gradually builds their confidence in expressing themselves.

Mr Ahmed's unique teaching style and its impact on student learning has been recognised within and outside the district. He was selected to be part of the expert District Resource Group, set up by Kusuma Foundation to mentor other teachers to improve their teaching effectiveness. He received an award for 'Innovative Teaching Methods' from the District Education Officer.

**"The trainings really expanded my knowledge, creativity and repertoire of innovative teaching methods. I believe the teaching and classroom management techniques I have gathered and practised can be used to improve learning outcomes in other subjects as well."**



# Collaboration is key

This government school in Ghaziabad, Uttar Pradesh, is using innovative fundraising to tackle access and resource issues.

**Geeta and Megha are best friends. They are both 15 years old and study at the same government school in Class 10.** They share many things in common, including the fact that they both belong to single parent households. Having lost their fathers very early in life, their mothers are now sole breadwinners, working as farm labourers.

Geeta and Megha are conscious that education is their only means to break away from the cycle of poverty, but their situation demands that they help their mothers with household chores before and after school. Their mornings at home are busy, often delaying their three and a half kilometre walk, on a lonely road through tall sugarcane farms, to the Noorpur government high school. Demotivated, they were often missing school or arriving late. Long distances between home and school, without reliable transport, is a common challenge

for students in rural India, leading to low enrolment, absenteeism and low academic performance. For adolescent girls, there's the additional challenge of ensuring personal safety.

Fortunately for Geeta and Megha, things changed this year as their School Management and Development Committee<sup>3</sup> (SMDC) decided to build a bicycle bank and run a student engagement campaign to help students like them.

"We had heard about book banks where schools loaned textbooks and reference materials to students who could not afford them," says Head Teacher Ms Sushma. "I thought why should we not have a bicycle bank on similar lines, which could help students like Geeta and Megha? I spoke with one of my relatives and asked her if she would be willing to donate a bicycle to a needy student. She readily agreed."

- The Head Teacher at the Noorpur government high school asked individual donors and institutions to donate resources to her school.
- The school benefited from a computer, projector, library books and new furniture.
- They also campaigned to increase student enrolment – Class 9 and 10 increased from 40 in previous years to 103 in 2018-2019.

To find out how Transform Schools is continuing this work, visit [www.transformschools.in](http://www.transformschools.in)

**This was the first step to asking individual donors and institutions to donate resources to the school.** Along with bicycles, soon the students gained access to a computer, projector and several library books. The SMDC also managed to get some good furniture from a large private school in the district, which was going to be thrown away. Ms Sushma carefully maintained a record of each donation and contribution received.

Ms Sushma emphasised the importance of collaboration for driving school standards. Under her leadership, the school also initiated a campaign to increase

student enrolment as part of their annual plan. The SMDC engaged stakeholders like the head of the local governing body (the village 'panchayat'), organised school visits for prospective students and held home visits to engage with parents. As a result, the enrolment for Class 9 and 10 students increased from 40 students in previous years to 103 in 2018-2019.

The innovative initiative sent a positive message to the community. Parents now felt a sense of responsibility to ensure that their children would not miss school often and receive a quality education. Students were

thrilled to get access to bicycles, computers and projectors. "We were ecstatic when we heard that we were getting a bicycle," says Geeta standing by her bicycle with Megha. "We travel together on the bicycle. My mother says I must value the support the school has given me and study sincerely."

Ms Sushma was a part of the school management trainings organised by the State Education Department of Uttar Pradesh with technical support from Kusuma. The trainings focused on strengthening agency of the Head Teachers and SMDCs to impact school development.

**"We were ecstatic when we heard that we were getting a bicycle... My mother says I must value the support the school has given me and study sincerely."**



<sup>3</sup> The SMDC is comprised of the Head Teacher, elected representatives of the village panchayat (council), parents, representatives of the marginalised communities and teachers.



# Learning improvement programmes make a difference

How a government high school in Kurauni village, Uttar Pradesh, achieved a 100% pass rate in Class 10.

**Kurauni in Uttar Pradesh is less than 20 kilometres from the State capital of Lucknow, but after turning from the State highway towards Kurauni, the landscape changes from urban to rural.** The government high school has a staff of five teachers and a Head Teacher. It caters for children of farm labourers, vegetable vendors, snake charmers, and unskilled workers.

“Most of our students have to work to support their family income,” says Dr Anjum Tahir, the school’s Head Teacher. “Finding the next meal is the highest priority for the families.”

“When students come to our school in Class 9, most of them

cannot do basic addition and subtraction, and struggle to deal with the Class 9 syllabus in other subjects including English and Hindi,” says Ms Sapna Upadhyay, one of the teachers at the school. “A large amount of our time in the first year is devoted to bringing them to the learning level of Class 9. It is a difficult task given varied learning levels among children and meagre teaching tools at the school’s disposal.”

**“Most of our students have to work to support their family income ... Finding the next meal is the highest priority for the families.”**

- The accelerated learning programme helps Class 9 students attain appropriate learning levels in Hindi, English, Maths, and Science. This has now been scaled in multiple States by Transform Schools.
- It uses specially developed teaching and learning resources.
- Students who took part in the programme in Class 9 achieved a 100% pass rate in Class 10.

To find out how Transform Schools is building on this success, visit [www.transformschools.in](http://www.transformschools.in)

**Despite these challenges, the school secured a 100% pass rate two years in a row.** “A huge credit for these results goes to Kusuma-supported accelerated learning programme and the dedication of our teachers in ensuring its implementation,” says Dr Tahir.

The programme helps Class 9 children attain learning levels appropriate for their class in Hindi, English, Maths and Science. Government teachers are trained to deliver the session spanning less than 200 hours, using specially developed teaching and learning resources. The programme was implemented in partnership with the State Education Department of Uttar Pradesh.

“When we first attended the teachers’ training programme supported by Kusuma a couple of years ago, we were quite impressed by its design, teaching methods and resources,” remembers Ms Smriti, one of the teachers. “We were convinced that our students would benefit from it but were concerned about incorporating it in our teaching schedule which was already filled with competing demands.” After much deliberation, the school agreed that two hours every day would be dedicated to implementing the programme.

Ms Upadhyay says: “Teachers benefitted from learning to use group work, peer learning techniques and supplementary

teaching resources. The best part was the excellent quality of student handbooks – students enjoyed working on them. The methods were activity oriented and kept students engaged and focused. They taught students to approach the same problem in several ways which they found fun. Sometimes students went well beyond the course work allotted for the day, out of sheer fun of the process. Many parents also came to us and appreciated the books that the students were provided with.”

Both sets of students who took part in the programme in Class 9 achieved a 100%. Class 9 achieved a 100% pass rate in Class 10.

**“The methods were activity oriented and kept students engaged and focused. They taught students to approach the same problem in several ways which they found fun.”**



# Seeing is believing in Science lessons

A teacher in Odisha is using innovative methods to help her students understand complex scientific concepts.

**Ms Madhurima Panigrahi is the Science teacher at SDS Nodal Girls High School in Sambalpur, Odisha. Most of her students are first generation learners from urban slums surrounding the school.** When they join the school in Class 9 they have difficulty with the syllabus as their learning levels are very low. Additionally, most of the children have trouble adjusting to the Odia language. They belong to families who have migrated to Odisha from neighbouring States of Jharkhand and Bihar in search of work. Absenteeism is also a problem in the school as students join their parents at work, while others miss school due to frequent illness.

“I was trying my best to teach my students but I realised early

on that they were unable to benefit from my classes,” says Ms Panigrahi. “In fact, most of my students hated Science classes. I spoke to several of them, and understood that they were not able to ‘visualise’ what I was teaching. They could not understand what an atom meant, how electrons were exchanged, and hence they could not understand, for example, what a chemical formulation meant. It was too abstract for them.

“The same is true for concepts in Biology like cell division. Just looking at the picture of a cell hardly gave them an idea of how division works. With no laboratory and other learning tools it was difficult for me to generate interest or explain these concepts to them.

- Most students in the SDS Nodal Girls High School are first generation learners.
- The accelerated learning programme helped inspire one teacher to come up with innovative lessons and tailored support for students.
- The Class 10 pass rate for Science increased from 34% in 2016-2017 to 51% in 2017-2018.

To find out more about Transform Schools’ continuing support for teachers and students, visit [www.transformschools.in](http://www.transformschools.in)

**“Fortunately, things began changing once our school got an Information and Communication Technology (ICT) laboratory.** The Kusuma-supported accelerated learning programme helped us understand and gauge the existing learning levels of our students. We became aware of the learning gap that our students were facing, and offered tailored support to them through the learning programme.<sup>4</sup>

“We do not have a well-equipped Science laboratory but I realised that all the experiments in our syllabus are now available in

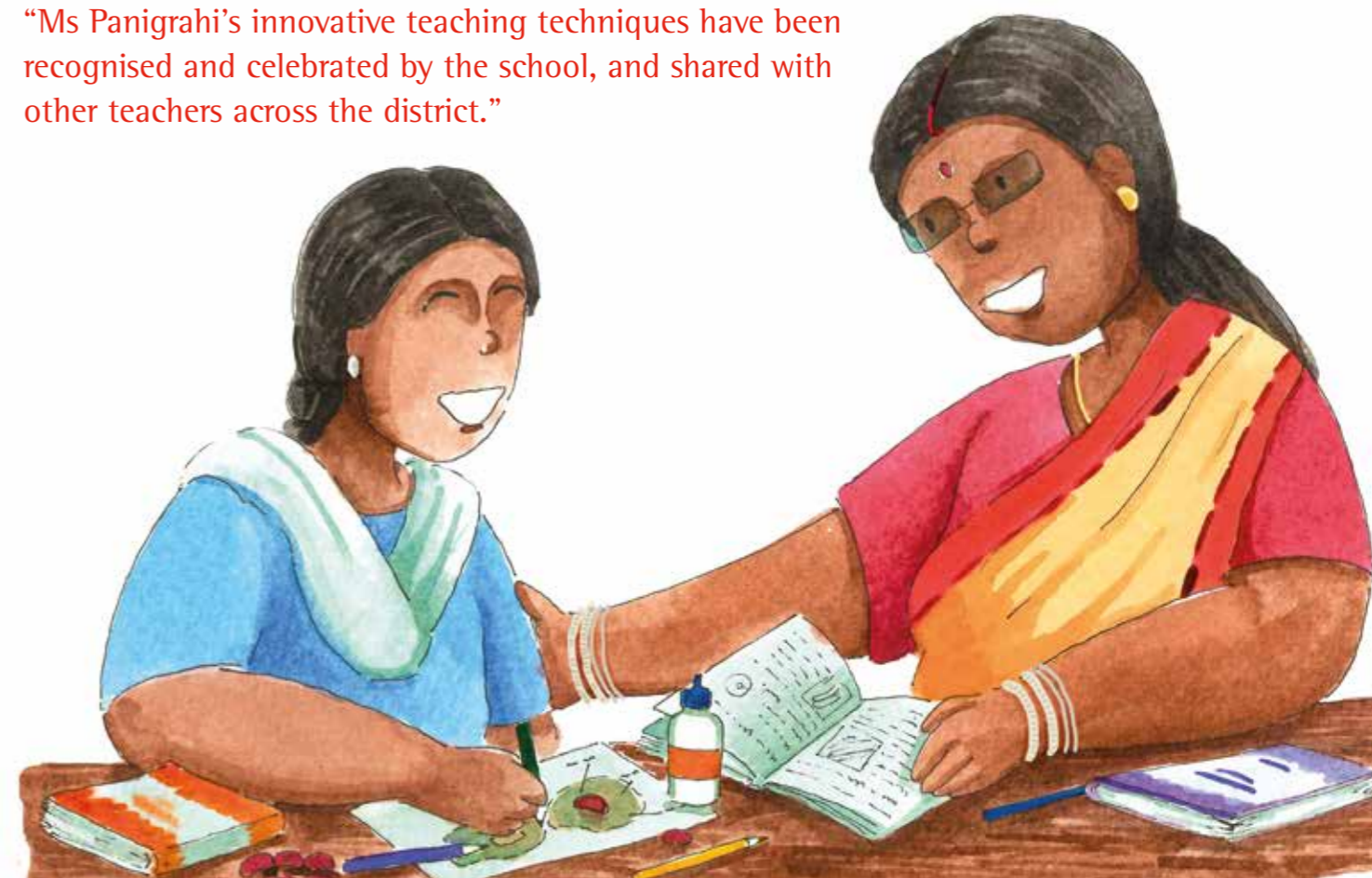
audiovisual formats on the internet. I began using our ICT laboratory regularly to show various experiments to my students. I saw a positive change in their response. I then created a library of videos for each topic in the syllabus,” says Ms Panigrahi.

“We enjoy Madhurima Ma’am’s classes especially when she takes us to the ICT lab,” shares one of her students. “I love how everything we merely read in our textbook comes alive on the screen! Where else will I ever see how cell division actually takes place?”

“Ms Panigrahi’s dedication has been inspirational,” says Ms Suchitra Mahapatra, the school’s Head Teacher. “The percentage of Class 10 students passing in Science has increased from 34% in 2016-2017 to 51% in 2017-2018.”

Ms Panigrahi’s innovative teaching techniques have been recognised and celebrated by the school, and shared with other teachers across the district during meetings hosted by Transform Schools. Ms Panigrahi is now a proud co-author of two publications for Science teaching, published by the District Education Office.

**“Ms Panigrahi’s innovative teaching techniques have been recognised and celebrated by the school, and shared with other teachers across the district.”**



<sup>4</sup> The programme aims to help Class 9 children attain learning levels appropriate for their class in four subjects: Hindi, English, Maths and Science. Government teachers are trained to deliver the session spanning less than 200 hours during school hours using teaching-learning resources developed by Transform Schools.

# Bringing Maths to life

A teacher uses local resources to help students excel in Geometry and Algebra.

**Mr Sibiram Panigrahi is the Head Teacher of the Murtuma government high school in the Nabrangpur district of Odisha, one of the most economically disadvantaged districts of India.**

Children in his school belong to families of migrant workers and tribal communities with low incomes. A large number of his students are first generation learners with learning levels varying drastically and many finding it hard to keep up with the syllabus for Class 9 and 10.

**“Transform encouraged me to look for more innovative ways of teaching.”**

“I had been struggling for 10 years. My effort to make students understand concepts from geometry and algebra were unsuccessful because they found these ideas too abstract,” says Mr Panigrahi. “I knew that my teaching was not helping my students. Thankfully that changed when I became associated with Transform Schools. Transform encouraged me to look for more innovative ways of teaching. In the process, I discovered some methods and

techniques which made my classes more participatory and interesting.

“The support helps teachers to develop a habit of developing lesson plans that are focused on garnering active participation of the students in learning processes. Trainers emphasised that the tools and process of teaching are as important as the subject matter,” says Mr Panigrahi. “The students can contribute to their own learning if the teacher is innovative and provides an environment conducive to learning.

“Teachers in Classes 9 and 10 face a unique challenge: our students are 14 years old but mostly first generation learners with inadequate knowledge of key fundamental mathematical concepts. They are unable to understand higher order concepts and their application in real life. I think most students do not understand Algebra and Geometry because they do not see the physical representation of the theorems and equations in the space around them.

“So, teachers need to bridge the learning gaps, give them

opportunities to manipulate concrete objects and gradually help them advance to a stage where they can understand mathematical concepts through representation and symbols. It requires planning and competence. The training supported me and other teachers in this journey. It gave us insights and tools to address classroom challenges and deliver our roles more effectively.”

- At the Murtuma government high school in Nabrangpur, student learning levels vary drastically.
- The accelerated learning programme helped Class 9 students attain appropriate learning levels.
- The school achieved a 100% pass rate in the Class 10 exam in 2018.

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**In partnership with the Odisha government, Kusuma supported secondary schools to help Class 9 students attain appropriate learning levels through an accelerated learning programme.** Mr Panigrahi also decided to apply the learning from the training to his ongoing teaching. Determined to offer a better learning experience, he started giving students activities where they could participate to help them understand concepts.

For example, he uses locally available wooden sticks to create Maths teaching tools. To find out the highest common factor (HCF) of 24 and 15 he asks the students to cut two sticks which are 24cm and 15cm each. He makes students compare the sticks and cut out the difference between the two which is 9cm. The 9cm stick is further compared with the 15cm stick and the difference is again cut out. This process continues until they reach a stick measuring 3cm, the number which is the HCF of 24 and 15. The process helped the students to calculate HCF and also to understand what HCF is.

He uses similar methods to explain other mathematical concepts such as quadratic and algebraic equations.

Mr Panigrahi’s school received the ‘Best School’ in the Nabrangpur block award, achieving a 100% pass rate in the Class 10 exam in 2018. Mr Panigrahi has been part of the District Resource Group (DRG) as well as a State level expert trainer. He considers the DRG to be a good platform to share his teaching techniques with a larger group of teachers.

Ankur Majumdar, a student mentored by Mr Panigrahi on a Science project named ‘Utilisation of Human Excrement and Environment Safety in the Railways’, got first position at the district as well as State level in INSPIRE, a competition organised by the Department of Science

and Technology, Government of India. Ankur was selected to travel to Japan as part of a youth exchange programme organised by the Japan Science and Technology Agency in 2016. Ankur is now a college student. He says: “Panigrahi Sir has been a real inspiration to me.”

“I believe all teachers want to excel in their role and help students but sometimes they lack direction, mentoring and support,” says Mr Panigrahi. “If they all have support like that provided by Kusuma to help them evaluate their teaching methods and learn effective ideas, it would go a long way in improving the academic performance of students.”

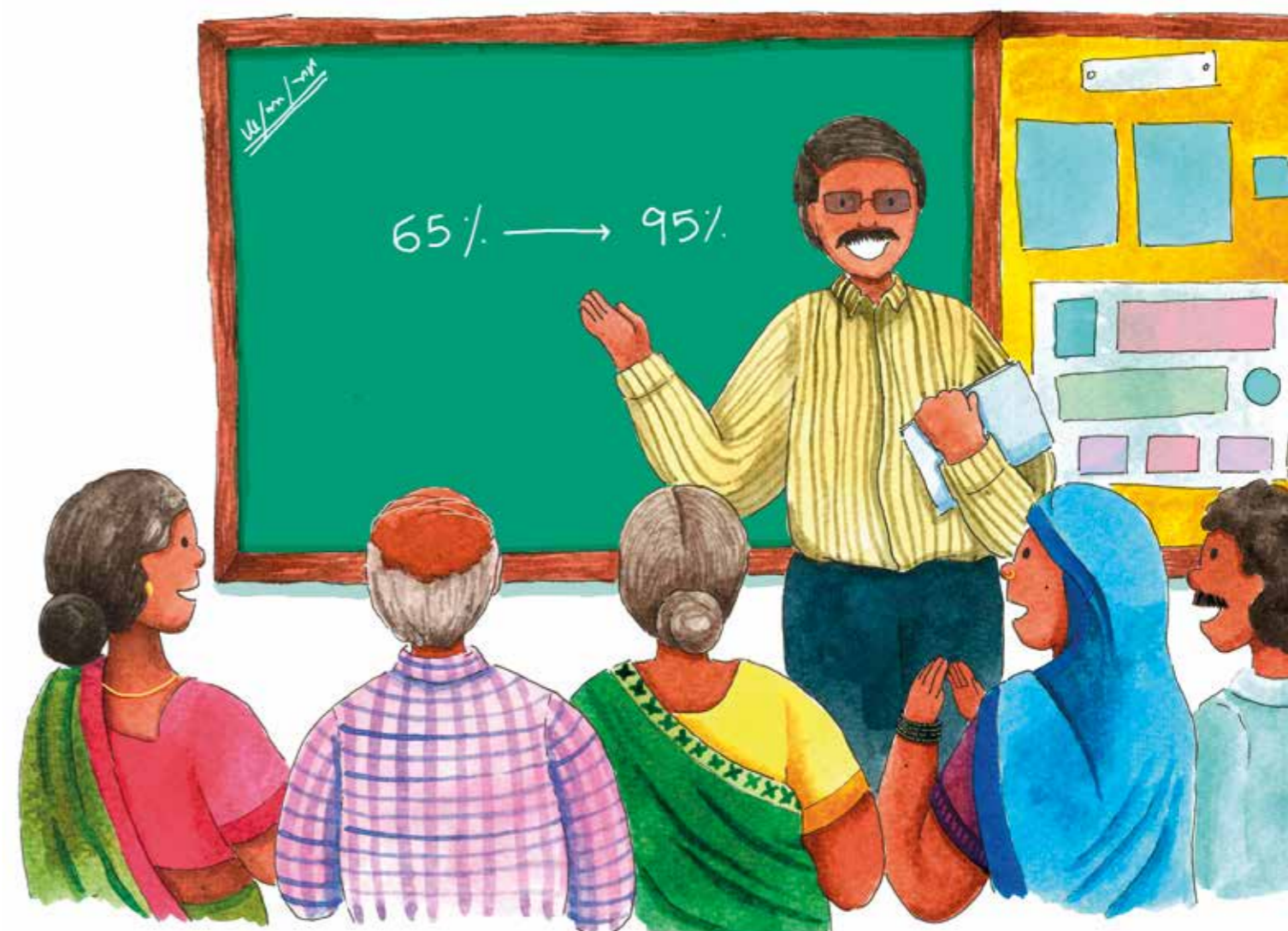
**“The training supported me and other teachers in this journey. It gave us insights and tools to address classroom challenges and deliver our roles more effectively.”**



# Acknowledgements

We would like to sincerely thank the following people and organisations for all their hard work, unwavering commitment to learning, and dedication to improving education. Together they have made the stories of change in this book possible.

- Students, teachers, Head Teachers and School Management and Development Committee members from our 50 partner schools
- State governments of Uttar Pradesh and Odisha
- District governments in Hardoi and Sambalpur
- Local communities of Hardoi and Sambalpur
- Kusuma Volunteer Teachers
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- Research organisations and researchers who have evaluated our work
- Delivery partners and facilitators in Hardoi and Sambalpur
- Staff, former staff and Trustees at Kusuma Foundation
- Staff, former staff and Trustees at Kusuma Trust UK and Transform Schools.



# End-of-programme evaluation of the Kusuma Schools Partnership Initiative



## 1. Introduction

This report is an end-of-programme evaluation of the Kusuma Schools Partnership Initiative (KSPI), funded by the Kusuma Trust UK and implemented by the Kusuma Foundation in India between 2012-13 and 2017-18. The KSPI comprised 50 government secondary schools (25 in Hardoi district, in Uttar Pradesh, and 25 in Sambalpur district, in Odisha) and was delivered in partnership with the State governments of Uttar Pradesh and Odisha.

## 1.1 Background

The KSPI was inspired by the Government of India's Rashtriya Madhyamik Shiksha Abhiyan policy (RMSA, 2009) which aimed to universalise access to quality secondary education. In line with the RMSA concept of 'model schools', the purpose of the KSPI was to establish exemplar government secondary schools and incubate innovative programmes that might be replicated at scale by the State governments of Odisha and Uttar Pradesh.

## 1.2 The Kusuma Schools Partnership Initiative (KSPI)

The main aim of the KSPI was to improve student learning and attainment. Specific objectives were to:

- 1 enhance the learning environment
- 2 improve the quality of teaching
- 3 provide better resources for teaching and learning

- 4 promote community and parental engagement in secondary education
- 5 support effective school governance.

Kusuma adopted a 'whole school approach' to school improvement. A package of interventions was delivered in 50 KSPI schools, including:

- 1 improvements to school facilities
- 2 teacher training to promote effective classroom practices
- 3 tailored teaching and learning resources
- 4 training and support for School Management and Development Committees
- 5 remedial education to help students reach grade-level learning.

The programme targeted students in the first two grades of secondary school (Grades 9 and 10) and their teachers.



### 1.3 Aims and objectives of the evaluation

This end-of-programme evaluation aims to assess achievements and challenges in delivering the KSPI against each of its objectives, assess evidence for impact, and highlight wider implications for education policy and provision.

#### Data sources

The evaluation draws on a range of quantitative and qualitative data, including baseline and endline monitoring data, programme documentation, interim independent evaluations and research<sup>1</sup> commissioned by the Kusuma Trust UK, secondary data on Board examination results,

and a post-intervention school survey conducted by CORD<sup>2</sup> in 2018.

#### Some provisos

A number of factors need to be taken into account when interpreting the data presented in this report. First, in Sambalpur district, KSPI (25) and control schools (25) were randomly selected before the KSPI started. These schools are comparable and therefore offer the most promising opportunity for assessing impact. In Hardoi district, the 25 KSPI and control schools were not randomly selected, they were mostly low-performing schools, and 'light touch' interventions were delivered in the 25 schools selected as 'control'

schools (henceforth referred to as comparison schools). As a result, there are difficulties in accurately assessing impact of the KSPI in Hardoi district and this shouldn't be directly compared with the impact in KSPI schools in Sambalpur. Second, disentangling the impact of different strands of the KSPI is difficult to achieve. Third, other government initiatives, such as teacher training programmes or the provision of school computers delivered in parallel to the KSPI, may have contributed to impact at the school level.

## 2. Enhancing the learning environment (objective 1)

As a first step, Kusuma focused on improving school facilities. The underpinning assumption was that better school resources (e.g. desks, chairs, blackboards, libraries and science laboratories), would provide a positive learning environment that might, in turn, facilitate improved teaching and learning.

### 2.1 School facilities in KSPI schools: baseline to endline

Pre-intervention, a survey was conducted in KSPI schools to assess the availability, safety and standard of school facilities.

### Sambalpur

Considerable progress was made in improving school facilities in Sambalpur KSPI schools. At baseline, all schools had safe classroom structures

and a majority had access to electricity but very few schools had adequate computer facilities, and online and other audiovisual facilities, functional toilets or a safe water supply. By 2017-18, these facilities

were in place in the majority of KSPI schools. However, the post-intervention school survey suggests that some KSPI schools struggled to maintain functional toilets and an adequate electricity supply (Table 1).

Table 1: School facilities in KSPI schools, 2012-2013 to 2018-2019 (Sambalpur)

School no.	Indicator	2012-2013 (out of 25 KSPI schools)*	2017-2018 (out of 25 KSPI schools)*	2018-2019 (out of 12 KSPI schools)**
1	Number of schools with functional toilets for boys and girls	2	16	4
2	Number of schools with electricity	20	25	7
3	Number of schools with safe running water facility	3	22	9
4	Number of schools with adequate classroom furniture	12	24	9
5	Number of schools with safe classroom structure for Class 9 & 10	25	25	Not available
6	Number of schools that have access to adequate computer facilities	1	19	9

Source: \*Kusuma Foundation Performance Monitoring Evaluation Plan, 2018

\*\*CORD post-intervention school survey, 2018

<sup>1</sup> See Appendix on page 47

<sup>2</sup> CORD, an independent research agency based in India, was commissioned by Kusuma Trust UK to undertake the school survey.

**Hardoi**

Monitoring data shows that KSPI schools in Hardoi district were in a very poor state at baseline but that extensive improvements had been made to school facilities by the

endline. However, as in Sambalpur, the post-intervention school survey highlights difficulties in sustaining some school improvements, such as access to adequate computer and science facilities, and a supply of electricity (Table 2).

Table 2: School facilities in KSPI schools, 2012-2013 to 2018-2019 (Hardoi)

School no.	Indicator	2012-2013 (out of 25 KSPI schools)*	2017-2018 (out of 25 KSPI schools)*	2018-2019 (out of 12 KSPI schools)**
1	Number of schools with functional toilets for boys and girls	7	24	10
2	Number of schools with electricity	3	19	5
3	Number of schools with safe running water facility	1	23	10
4	Number of schools with adequate classroom furniture	9	25	10
5	No. of schools with safe classroom structure for Class 9 & 10	11	24	Not available
6	Number of schools that have access to adequate computer facilities	0	20	7
7	Number of schools that have adequate science facilities kits/ resources	0	23	6
8	Number of schools with adequate library facilities	0	25	9

Source: \*Kusuma Foundation Performance Monitoring Evaluation Plan, 2018

\*\*CORD post-intervention school survey, 2018

Findings from post-intervention survey of key stakeholders (Head Teachers, classroom teachers, teacher mentors, Kusuma Foundation staff and students) echoed the results of previous evaluations in KSPI schools.

**Achievements**

- Kusuma was successful in delivering a comprehensive school improvement programme in KSPI schools that was guided by clear baseline data and targets for action
- Most teachers and students reported that improvements made to school facilities enhanced their enjoyment of, and engagement in, teaching and learning

**Challenges**

- Students reported that newly constructed toilets were not always accessible, clean or functional
- School libraries, science laboratories and computers were available but not always actively used by teachers
- Schools had difficulties in accessing and maintaining a

reliable supply of electricity. This limited the capacity of students and teachers to benefit from computer facilities, as well as online and other audiovisual educational resources.

**Key messages**

- Improvements made to school facilities are a useful first step but the potential benefit to students and teachers relies on their accessibility, active use and maintenance
- Improving and maintaining school facilities relies on effective school leadership and management by Head Teachers and School Management and Development Committees (SMDCs)
- Consideration could be given to the use of solar energy as a cost-effective, reliable and environmentally friendly source of power for schools

**3. Improving the quality of teaching (objective 2)**

Improving the quality of teaching was central to Kusuma’s strategy for school improvement. However, in the early stages of

the KSPI, it became apparent that high teacher vacancy rates posed a key constraint, particularly in Hardoi KSPI schools. In order to understand the context in which the KSPI was delivered, data is first presented on the level of teacher vacancies in Sambalpur and Hardoi districts and action taken by Kusuma to address this issue (see 3.1 below). Subsequently, the impact of Kusuma’s teacher professional development programmes is discussed (see 3.2).

**3.1 Teacher and Head Teacher vacancy rates**

As the KSPI focused on improving student attainment in three key subjects (Maths, English and Science), the availability of teachers in these subjects was critical to achieving impact. The number of permanent Head Teachers in post is also an important factor. Acting Head Teachers are on temporary contracts. They usually divide their time between administrative and teaching duties, and tend to be less motivated to provide effective school leadership.

## End-of-programme evaluation of the Kusuma Schools Partnership Initiative

### Sambalpur

At the time of the baseline, the teacher vacancy rate in English, Maths and Science in 25 KSPI and control schools in Sambalpur was low. However, the vacancy rate in KSPI schools increased towards the endline

in all subjects. In control schools, the teacher vacancy rate also increased, particularly for Maths and English but decreased for Science (see Table 3). The endline data suggests that the integrity of the intervention/control design was not sustained over time.

### Appointment of Head Teachers

A minority of KSPI and control schools had permanent Head Teachers in post at the baseline (Table 4). In both KSPI and control schools, the number of permanent Head Teachers in post declined by the endline.

Table 3: Vacancy rate for subject teachers in KSPI and control schools, baseline and endline (Sambalpur)

Subjects	Sambalpur			
	KSPI schools		Control schools	
	Baseline 2012-2013	Endline 2017-2018	Baseline 2012-2013	Endline 2017-2018
Maths	8%	15%	8%	29%
Science	8%	19%	8%	4%
English	12%	19%	8%	20%

Source: Kusuma Foundation Monitoring Reports

Table 4: Number of permanent Head Teachers in KSPI and control schools, baseline and endline (Sambalpur)

KSPI schools (n=25)		Control schools (n=25)	
Baseline 2013-14	Endline 2017-2018	Baseline 2012-13	Endline 2017-2018
13	7	15	10

Source: Kusuma Foundation Monitoring Reports

### Hardoi

The subject teacher vacancy rate was much higher in KSPI schools than comparison schools at the baseline, reflecting the higher number of single-teacher schools for inclusion in the KSPI. By the endline, these vacancy rates had increased. The teacher vacancy

rate also increased by the endline but remained lower than for KSPI schools for the duration of the KSPI programme (Table 5).

### Appointment of Head Teachers

The number of permanent Head Teachers in post in Hardoi KSPI schools was very low at

the time of the baseline but slightly better at the endline. Comparison schools fared better in this respect – more than half of all comparison schools had a permanent Head Teacher in post at baseline and this figure remained unchanged at the endline (Table 6).

Table 5: Vacancy rate for subject teachers in KSPI and comparison schools, baseline and endline (Hardoi)

Subjects	KSPI schools (n=25)		Comparison schools (n=25)	
	Baseline <sup>3</sup> 2013-14	Endline 2017-2018	Baseline 2013-14	Endline 2017-2018
Maths	62%	78%	46%	68%
Science	64%	65%	25%	30%
English	62%	81%	40%	48%

Source: Kusuma Foundation Monitoring Reports

Table 6: Number of permanent Head Teachers in KSPI and comparison schools, baseline and endline (Hardoi)

KSPI schools (n=25)		Control schools (n=25)	
Baseline 2013-14	Endline 2017-2018	Baseline 2012-13	Endline 2017-2018
7	10	14	14

Sources: Kusuma Foundation monitoring data

<sup>3</sup> Data for 2012-13 unavailable for Hardoi



### Kusuma's response to teacher vacancies in KSPI schools

To address the shortage of teachers in KSPI schools, Kusuma established a 'substitute teacher pool' – Kusuma Volunteer Teachers. In 2014-2015, Kusuma recruited, trained and deployed 72 volunteer teachers to KSPI schools for Science, Maths, English, Social Science and Hindi/Odia: 45 volunteer teachers for Hardoi and 27 for Sambalpur schools, reflecting the different teacher vacancy rates in the two districts.

### Achievements

- The appointment of Kusuma Volunteer Teachers provided the foundation required to improve the quality of teaching and learning in Kusuma's three priority subjects (English, Maths and Science), particularly in Hardoi KSPI schools, and to assess the impact of Kusuma's programmes

### Challenges

- In Hardoi, an increase in the subject teacher vacancy rate between baseline and endline in KSPI schools may be an

unintended effect of appointing volunteer teachers

- In Sambalpur, the endline teacher vacancy rate in KSPI and control schools suggests that there were difficulties in sustaining the intervention/control design over time
- The low number of permanent Head Teachers in post constrained Kusuma's efforts to intervene effectively and sustainably in government schools

### Key messages

- An adequate number of Head Teachers and subject teachers are required to achieve and sustain quality school improvement programmes
- In the context of acute teacher shortages, there is a risk that volunteer or other substitute teachers may result in the redeployment of, or reduction in, the number of government teachers appointed to schools
- Schools that are heavily dependent on volunteer teachers are not sustainable in the long term

- Clarity on mutual obligations and expectations is required to sustain long-term partnerships between governments and NGOs delivering school improvement programmes

### 3.2 Teacher professional development

Two key teacher professional development programmes were delivered as part of the KSPI: the Udbhav programme (meaning 'to fly' in Sanskrit)<sup>4</sup> and the Secondary School Readiness Programme<sup>5</sup> (SSRP). Both programmes comprised four main elements: teacher training, the development of tailored teaching and learning resources, classroom-based mentoring, and peer networks to share good practice and provide support.

The main objective of the Udbhav programme was to promote interactive and activity-based teaching and group work among Science, Maths and English teachers in order to improve the attainment of students in Classes 9 and 10. These elements were also core to the later Secondary School Readiness Programme which provided guidance and practical

tools for supporting students with low learning levels to reach appropriate grade-level learning.

Kusuma Volunteer Teachers were involved in delivering the Udbhav programme in both districts in 2014-15. In Hardoi KSPI schools, Kusuma Volunteer Teachers taught the standard curriculum in Maths, Science and English using Udbhav-recommended teaching methods and delivered the Secondary School Readiness Programme. In Sambalpur, Kusuma Volunteer Teachers initially delivered the Udbhav programme and subsequently focused on delivering the Secondary School Readiness Programme.

The number of Kusuma Volunteer Teachers was reduced from 2016-17 in both districts and phased out by the end of the KSPI. Following the scale-up of Kusuma's Secondary School Readiness Programme by the Odisha State government in 2017-18, government teachers in all government schools were trained to implement Kusuma's Secondary School Readiness Programme. The programme was not scaled up by the State

government of Uttar Pradesh due to high teacher vacancies and inadequate resources.

### The Udbhav programme

A baseline evaluation was conducted in 2015 to identify the extent to which the Udbhav teacher training and mentoring led to improved teaching practices and, consequently, student learning. A follow-up evaluation was conducted one year later.

The evaluation methods comprised learning assessments of students in Classes 9 and 10 in English, Maths and Science, observations of teaching practice, and interviews with students, teachers and other key stakeholders.<sup>6</sup> Key findings were as follows:

- There was promising evidence that the Udbhav programme has a positive impact on teaching practice. More top-scoring teachers were located in KSPI schools than comparison or control schools<sup>7</sup>
- In both districts, a majority of KSPI students interviewed (64% and 66% in Hardoi and

Sambalpur respectively) said that they were actively engaged in classroom activities compared with a small minority of students in schools (10%) and control schools (36%) in these districts

- Government teachers in both districts said that overcrowded classrooms, multi-grade classes, low learning levels, and the need to complete the syllabus on time were key barriers to adopting Udbhav's recommended teaching practices
- Reflecting the composition of the school sample in both districts, student scores in KSPI schools were similar to control schools in Sambalpur but lower than comparison schools in Hardoi
- There was no or low positive correlation between teacher performance and student test scores
- The highest scoring students had access to private tuition

A follow-up evaluation of the Udbhav programme was conducted one year later in KSPI

<sup>4</sup> For more information on the Udbhav programme, go to [www.kusumatrust.org/project/tpd/](http://www.kusumatrust.org/project/tpd/)

<sup>5</sup> For more information on the Secondary School Readiness Programme, go to [www.kusumatrust.org/project/ssrp/](http://www.kusumatrust.org/project/ssrp/)

<sup>6</sup> The evaluation was conducted in a total of 100 schools: 50 KSPI schools (25 in Sambalpur and 25 in Hardoi) and 50 non-intervention schools (25 comparison schools in Hardoi and 25 control schools in Sambalpur).

<sup>7</sup> For more detailed information, please go to [www.kusumatrust.org/project/tpd-evaluation/](http://www.kusumatrust.org/project/tpd-evaluation/)

and comparison schools in Hardoi district only.<sup>8</sup> Key findings were as follows:

- Kusuma Volunteer Teachers were generally positive about the role of classroom mentors but government teachers were more resistant
- Students valued teachers who encouraged their active participation in lessons but were keenly aware that they found lessons difficult to understand regardless of the teaching method used
- Udbhav learning resources for students helped students to compensate for variability in the quality of teaching and teacher absence
- Average student scores were higher in KSPI schools compared with 'light touch' schools and this reversed the results of the baseline assessment
- Access to private tuition continued to have a significant impact on student test score results

Student feedback on the difficulties they experienced in understanding

what was being taught in school contributed to the development of Kusuma's Secondary School Readiness Programme.

### The Secondary School Readiness Programme

The Secondary School Readiness Programme (SSRP) is an innovative accelerated learning programme designed by Kusuma to bridge the learning gap for students in Class 9 (the first year of secondary school). Prior to the SSRP, remedial education programmes in India focused on students of primary school age. Kusuma therefore set out to develop its own tools for assessing student learning and build a remedial education programme to address the actual learning levels of students, which were very low. The intervention focuses on competencies in English, Maths, Science, Social Science, Environmental Science (EVS) and Hindi/Odia. The SSRP was first implemented in 2015-16 in the 50 KSPI schools in Hardoi and Sambalpur districts.

Baseline tests were conducted for different subjects which had questions designed for students of Grades 1 to 8. Depending on learning levels in the baseline assessments, students were

to be selected for different phases of the programme. The Foundation Camp at the start of the academic year focused on students with learning levels at Grade 3 and below. Subsequently, the Supported Learning Phase followed Foundation Camp and was focused on students at learning levels at Grade 8 and below. Finally, the Consolidation Camp included all students and focused, on the teaching of the Grade 9 syllabus.

Under the SSRP, government teachers and Kusuma Volunteer Teachers were trained to assess student learning levels and tailor their teaching to bring students up to appropriate grade-level learning. Participating teachers received an SSRP implementation guide, a teacher handbook and a set of supplementary teaching resources. Head Teachers and District Education Officers were given a one-day orientation on the content of the SSRP, monitoring framework and tools, and their role in the delivery of the SSRP.

The impact of the SSRP on student scores is discussed in detail on page 44. Next, we explore achievements and challenges in implementing the two programmes from interim and the end-of-programme evaluation.

### Achievements

- Kusuma Volunteer Teachers in both districts played a crucial role in implementing Kusuma's Udbhav and Secondary School Readiness Programme in KSPI schools
- The majority of students interviewed in the post-intervention school survey said that Kusuma Volunteer Teachers regularly conducted experiments and other learning activities, and explained concepts more clearly than most government teachers
- Students said that interactive styles of teaching were more enjoyable than traditional lecture methods and increased their confidence to participate in class
- The SSRP was developed as a well-structured and comprehensive system for assessing student learning levels and tailoring targeted teaching interventions to bring students up to grade-level learning
- Teachers found that the SSRP was very useful in helping them to understand and teach students at different learning levels

- Students said they found the SSRP classes interesting and engaging as the content of the workbooks was mostly in the form of stories

### Challenges

- The high teacher vacancy rate in Hardoi KSPI schools was a barrier to government teacher participation in Kusuma's teacher training programmes
- Government teachers tended to view Kusuma teacher training programmes and mentoring as targeted at Kusuma Volunteer Teachers
- Government teachers cited large classes, low learning levels, and the need to complete the syllabus on time as key constraints to implementing Kusuma's recommended teaching practices in the classroom. But some were also resistant to adopting new teaching methods
- Government teachers felt the SSRP reduced the time available to complete the standard curriculum and that the programme should be implemented in primary schools

- The timing of delivering the SSRP was a key issue: delays in implementation at the start of the school year reduced scope for the programme to be delivered as intended and achieve impact

- Students tended to attend all phases of the SSRP regardless of their learning levels due to a shortage of teachers and space in schools
- There were difficulties in recruiting skilled teacher mentors in both districts

### Lessons learned

- More emphasis could be given to training teachers in interactive and remedial teaching methods during pre-qualification teacher training
- Kusuma's teacher professional development model needs to be fully integrated in the in-service government teacher training by State Education Departments to improve its acceptance and use in government schools
- Further reflection is required on how to support teachers to adapt interactive and remedial teaching methods to their specific school and classroom contexts

<sup>8</sup> Poor weather conditions prevented the completion of the evaluation in Sambalpur district. For further information go to [www.kusumatrust.org/project/tpd-evaluation/](http://www.kusumatrust.org/project/tpd-evaluation/)

- Teachers need further training and support on how to integrate online and audiovisual resources into their classroom pedagogies

#### 4. Improved resources for teaching and learning (objective 3)

Udbhav teaching and learning materials were based on the Class 9 and 10 curriculum for Science, Maths and English and included subject-specific Teacher Support Units and Student Learning Units. These resources provided guidance for teachers on methods for explaining key concepts and topics covered in the school curriculum. Student workbooks were designed to support students to review information taught in class. Guidance for teachers was also provided as part of the Secondary School Readiness Programme.

##### 4.1 Udbhav teaching and learning resources

The baseline evaluation of the KSPI showed that, overall, teachers in KSPI schools in both districts were positive in their response to Udbhav teaching and learning materials.<sup>9</sup> A minority of teachers felt that Udbhav

materials covered basic concepts well but lacked sufficient detail for secondary-level education. However, given the low learning levels revealed in student assessments that were designed to evaluate the impact of the Udbhav programme, it is possible that Udbhav materials were, in fact, tailored to the learning needs of the majority of students.

In the follow-up evaluation of the Udbhav programme,<sup>10</sup> which was conducted in Hardoi schools only, Udbhav teaching and learning materials had an important role to play in helping students compensate for the high teacher vacancy rate and teacher absences in their schools. Students reported that they particularly liked picture stories, puzzles, word meaning exercises and 'fill in the blank' exercises. In focus groups, many students said that they referred to student workbooks regularly at home but that they were rarely used in classroom activities or given feedback on their work. This was confirmed by observations of teaching practice in the classroom.

Findings from the post-intervention survey of 12 KSPI schools in Hardoi and Sambalpur

districts (24 in total) echoed the themes of earlier evaluations. Overall, the Udbhav teaching and learning resources were available in the majority (17) of the 24 KSPI schools surveyed and were well-received by Head Teachers, government teachers, Kusuma Volunteer Teachers, and teacher mentors interviewed. However, in Hardoi KSPI schools, only a minority (5) of government teachers interviewed (15) said that they actively used them in the classroom, whereas all Kusuma Volunteer Teachers (12) said the Udbhav teaching resources enabled them to teach more effectively. Student resources were particularly valued by students who only had access to school textbooks.

##### Achievements

- Most Head Teachers, classroom teachers, Kusuma Volunteer Teachers and mentors appreciated Udbhav teaching and learning materials for helping teachers to teach, and students to understand, key concepts taught in the curriculum for Classes 9 and 10
- Students valued the Student Learning Units as helping them to review lessons in their

own time. This was particularly important for students in schools with high teacher vacancies and teacher absence

##### Challenges

- Government teachers were less likely than Kusuma Volunteer Teachers to actively use Udbhav teaching and learning resources in the classroom, particularly in Hardoi KSPI schools
- Students wanted more feedback from teachers on the work they completed in their student workbooks
- Although government teachers in Hardoi schools cited large class sizes, low learning levels and pressures to complete the curriculum on time as key barriers to using Udbhav teaching resources, Kusuma Volunteer Teachers faced similar problems and yet reported that the resources helped them to teach more effectively

##### Lessons learned

- Teacher attitudes and motivation played an important role in the take-up and active use of guidance, teaching and

learning resources provided by Kusuma

- Student learning could be improved if teachers routinely provided clear feedback on student assignments and workbooks

#### 5. Promoting community and parental engagement in secondary education (objective 4)

Promoting community involvement and parental engagement in secondary education was focused primarily on improving community involvement in school governance (see objective 5). That said, some efforts were made, particularly by Kusuma Volunteer Teachers, to make direct contact with students' families to explain the purpose of the Secondary School Readiness Programme and encourage parents to send their children to the programme classes. According to Kusuma Volunteer Teachers, this grassroots activity often sparked parents' interest in the programme and had a positive impact on student attendance.

##### Lessons learned

- Developing contact with students' families is time-

intensive but it could have a positive role to play in promoting community engagement in schools and improving student attendance

#### 6. Improving school governance (objective 5)

Government policy in India promoted effective school governance as an important driver of quality secondary education. Under the Rashtriya Madhyamik Shiksha Abhiyan framework (RMSA, 2009), School Management and Development Committees (SMDCs) are responsible for school planning and improvement. Community participation in school governance is seen as critical to strengthening the accountability of schools to the communities they serve.

The SUGAM programme was developed by the Kusuma Foundation in partnership with the State government of Uttar Pradesh to promote effective school governance in all government secondary schools across the State. The programme involved the development of tailored training resources, the training of master trainers, and the delivery of training courses

<sup>9</sup> For a summary of the 2015 baseline evaluation, go to [www.kusumatrust.org/project/tpd-evaluation/](http://www.kusumatrust.org/project/tpd-evaluation/)

<sup>10</sup> Conducted in Hardoi schools only. For a summary of the 2016 follow-up evaluation, go to [www.kusumatrust.org/project/tpd-evaluation/](http://www.kusumatrust.org/project/tpd-evaluation/)



for SMDCs in all government secondary schools in Uttar Pradesh over a three-year period (2015-2018). Additionally, KSPI schools received on-site support to help SMDC members to put this training into practice.

A post-intervention qualitative evaluation of the SUGAM programme was conducted in 2018 in 14 government secondary schools (8 in Hardoi and 6 in Lucknow districts respectively). Of the 8 schools in Hardoi district, 4 were KSPI schools. The evaluation highlighted lessons learned from delivering the school programme.<sup>11</sup> Key findings as they applied to all schools (including KSPI schools) are highlighted here. In addition, the impact of the additional support Kusuma provided to SMDCs in KSPI

schools in Hardoi district is also discussed.

### 6.1 Evaluation of the SUGAM programme

The main aims of the evaluation were to assess the extent to which training on school governance improved school planning and management in practice, explore barriers and facilitators to effective school governance, and identify examples of good practice. Key findings were as follows:

- Overall, SUGAM training improved the understanding of SMDC members about their roles and responsibilities
- Only a minority of schools had prepared a School

Annual Plan at the start of the SUGAM programme but completion was near universal by the end of the programme

- Only KSPI schools were offered post-training support and their School Annual Plans were more comprehensive and detailed than those of other schools
- Most non-KSPI schools reported a need for post-training guidance
- School Annual Plans were prepared with limited community involvement but Head Teachers had a key role to play in facilitating this
- High teacher vacancy rates and a lack of resources constrained active engagement in school planning as tasks could not be effectively delegated among SMDC members
- Low engagement in school improvement among district education officials meant that SMDCs were not provided with effective feedback on school planning or encouraged to build on positive improvements

### Post-intervention survey of KSPI and control/comparison schools

The post-intervention survey of KSPI and control or comparison schools showed that, in both districts, KSPI schools were more efficient at producing School Annual Plans and held SMDC meetings more regularly (Tables 7 and 8).

### Achievements

- SUGAM had a positive impact on SMDC members' understanding of their roles and responsibilities
- The SUGAM programme had a positive impact on the completion rate of School Annual Plans
- The additional support provided by the Kusuma Foundation to KSPI schools improved the standard of School Annual Plans completed by these schools
- Head Teachers who actively supported community engagement in school governance had a positive impact on the participation of community members

Table 7: School Annual Plan and SMDC meetings (Sambalpur)

School Annual Plan (SAP)	Intervention	Control	Total
Prepared School Annual Plan for the year 2018-19	12	9	21
SMDC meets quarterly to discuss progress of School Annual Plan	7	1	8
Number of respondents	12	12	24

Source: CORD post-intervention school survey, 2018

Table 8: School Annual Plan and SMDC meetings (Hardoi)

School Annual Plan (SAP)	Intervention	Control	Total
Prepared School Annual Plan for the year 2018-19	10	4	14
SMDC meets quarterly to discuss progress of School Annual Plan	7	1	8
Number of respondents	12	7	19

Source: CORD post-intervention school survey, 2018

<sup>11</sup> For further information, go to [www.kusumatrust.org/project/sugam/](http://www.kusumatrust.org/project/sugam/)

**Challenges**

- High teacher vacancy rates posed a barrier to the effective functioning of SMDCs
- Staff turnover of District Education Officials limited their knowledge of, or engagement in, the SUGAM programme

**Lessons learned**

- Head Teachers have a key role to play in improving school governance and community involvement and therefore increasing the number of permanent Head Teacher appointments is critical to improving school governance
- Most schools need post-training support to put new learning into practice

**6.2 The Head Teacher Development programme**

A Head Teacher leadership programme was delivered in the final year of the KSPI in response to evaluation evidence that effective school leadership is critical to school improvement and governance.

The Kusuma Foundation provided leadership training and support to Head Teachers in KSPI schools to enable them to improve school management and governance. Head Teachers were trained to observe teachers' classroom practice, identify areas for improvement, and prepare School Annual Plans in collaboration with School Management and Development Committees.

In Sambalpur, two retired heads of government schools were selected as Head Teacher coaches for the final year of the KSPI. In Hardoi, difficulties were experienced in recruiting individuals with relevant skills and consequently on-site support was not provided to Head Teachers in this district.

The post-intervention survey conducted in 2018 found that nearly all the KSPI Head Teachers (20 out of 24) interviewed appreciated the school leadership training they received. Initially, Acting Head Teachers on temporary contracts did not see the training as directly relevant to their role and were reluctant to participate in training on school leadership but this changed over time as a result of direct contact with Kusuma staff. Over half (14) participated in a district-wide

peer support group on WhatsApp and most found this useful.

**Achievements**

- Overall, Kusuma's school leadership programme was well-received by Head Teachers and addressed a hitherto unmet need
- On-site support and regular visits by Kusuma staff increased Head Teacher receptivity to the leadership programme over time

**Challenges**

- Kusuma staff experienced difficulties in encouraging Head Teachers to participate in training and accept the coaches appointed by Kusuma

**Lessons learned**

- Head Teacher leadership programmes should form an integral part of the initial training and professional development of Head Teachers

**7. Improving student learning levels (objective 6)**

The overarching aim of Kusuma's multiple interventions in KSPI schools was to improve student learning. Initially, student

attainment in Grade 10 Board examinations was selected as the benchmark for measuring student progress. Board examination results are more reliable than Class 9 or Class 11 results which are locally set and scored. However, Board examination pass rates are also susceptible to fluctuation due to a number of factors, such as variation in the difficulty of test papers,

scoring methods, or random checks on examination centres and other anti-cheating measures.

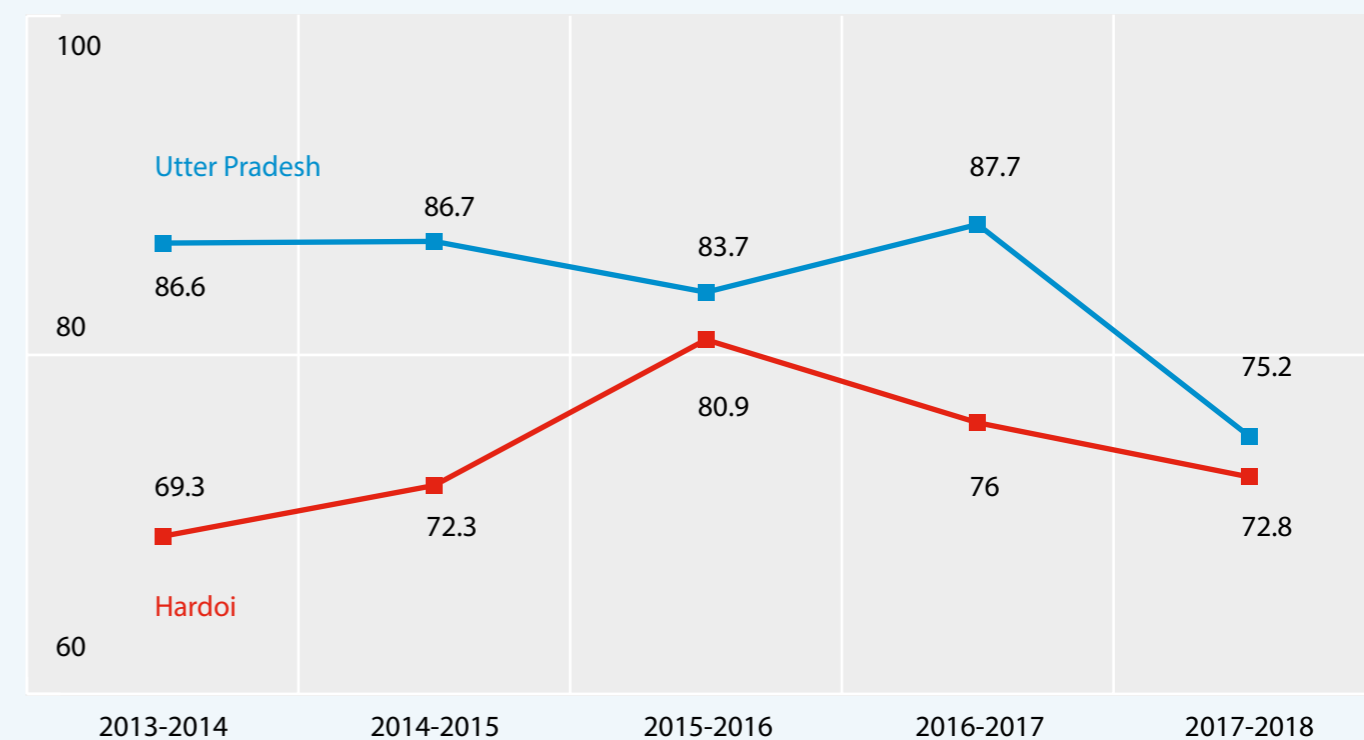
**State and district Class 10 Board examination results**

The State and district pass rate in the Class 10 Board examinations fluctuated over the five year period of the KSPI (2013-14 to 2017-18)

in Uttar Pradesh and Odisha. Pass rates moved towards convergence at the endline (Chart 1).

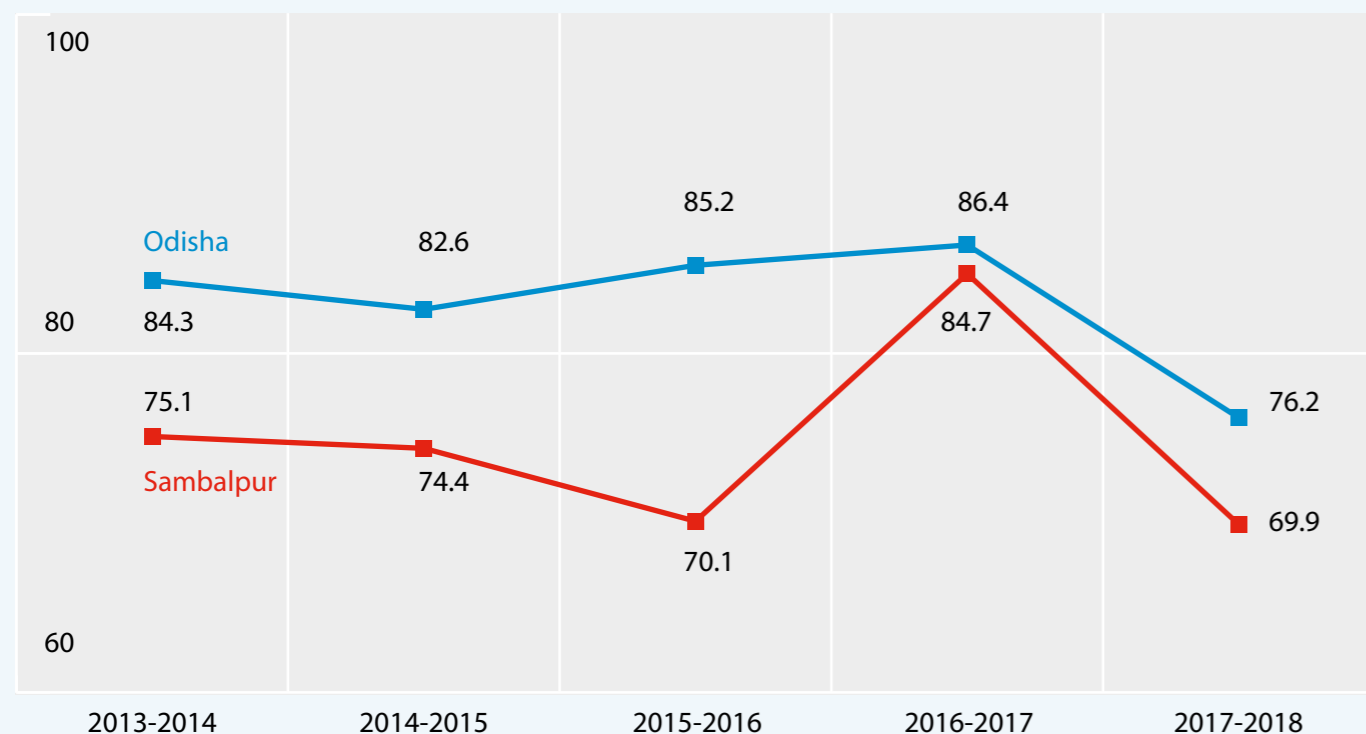
Similarly, the State pass rate in the Class 10 Board examinations in Odisha was higher than the Sambalpur district rate during the five years of the KSPI (2013-14 to 2017-18) and moved towards convergence in 2017-18 (Chart 2).

**Chart 1: Pass rates in Class 10 Board examinations: Uttar Pradesh and Hardoi**



Source: Board of Secondary Education, Uttar Pradesh. Data provided by the Kusuma Foundation

Chart 2: Pass rates in Secondary Board examinations: Odisha and Sambalpur



Source: Board of Secondary Education, Odisha. Data provided by the Kusuma Foundation

We now compare Class 10 Board examination results in KSPI schools with those of control schools in Sambalpur district and with comparison schools in Hardoi district.

**Class 10 Board examination results: KSPI and control/comparison schools**

The table on page 43 gives the pass percentages for English, Maths and Science, in control/comparison and intervention schools in Sambalpur and Hardoi districts for 2013-14 and

2017-18. In Sambalpur, the pass rate in KSPI and control schools was similar, reflecting the random selection of schools to these two groups. The decline in pass rates in all three subjects between baseline and endline in KSPI and control schools is consistent with a decline in pass rates at the State level over the same period.

In Hardoi, the pass rate for comparison schools was higher than intervention schools for all the subjects in 2013-14 and in 2017-18. However, given the non-random selection of intervention

and comparison schools in the sample, a difference-in-differences approach is used to assess relative trends in pass rates over time. Table 9 shows that the difference between intervention and comparison schools was much higher at the baseline compared with the endline. For example, the difference in pass rates between KSPI and control schools for Maths and Science was much higher at baseline (16% and 17% respectively) compared with the endline in 2017-18 (1% and 2% respectively). This suggests that

the trend towards convergence in pass rates was the result of the positive impact of Kusuma's interventions in KSPI schools.

**Student scores in Udbhav learning assessments**

This underlying positive trend in Board examination results in Hardoi KSPI schools was also reflected in the results of student assessments

conducted as part of the Udbhav programme. For example, average student scores in the baseline assessments conducted in 2015 were:

- 28% in KSPI schools and 27% in control schools in Sambalpur
- 24% in KSPI schools and 27% in comparison schools in Hardoi

In the follow-up evaluation conducted one year later in Hardoi district only, average student scores were higher in KSPI schools (32%) compared with 'light touch' schools (29%), despite the lower starting point at baseline.

Nevertheless, student scores in Udbhav learning assessments were far lower than might be suggested by the high pass rates

Table 9: Pass rates in English, Maths and Science in intervention and control schools in 2013-14 and 2017-18 (Hardoi and Sambalpur)

Subject	School type	Hardoi		Sambalpur	
		2013-14	2017-18	2013-14	2017-18
English	Intervention schools	72.4	68.3	72.5	66.1
	Control schools	85.5	73.1	73.3	67.0
	<b>Difference</b>	<b>-13.1</b>	<b>-4.8</b>	<b>-0.8</b>	<b>-0.9</b>
Maths	Intervention schools	61.6	69.2	70.0	60.2
	Control schools	77.8	70.5	73.3	62.1
	<b>Difference</b>	<b>-16.2</b>	<b>-1.3</b>	<b>-3.3</b>	<b>-1.9</b>
Science	Intervention schools	67.6	69.8	70.0	60.4
	Control schools	84.9	71.9	73.3	62.3
	<b>Difference</b>	<b>-17.3</b>	<b>-2.1</b>	<b>-3.3</b>	<b>-1.9</b>

Source: Calculated from Board results data collected and compiled by the Kusuma Foundation

achieved in Board examinations. In response, Kusuma focused on obtaining accurate assessments of *actual* student learning levels with the aim of measuring distance travelled by students as they progressed towards achieving grade-level learning. This was the core purpose of Kusuma's innovative Secondary School Readiness Programme (SSRP).<sup>12</sup>

#### Impact of the Secondary School Readiness Programme

The London School of Economics was commissioned to analyse pre- and post-intervention test scores in KSPI schools in Hardoi and Sambalpur districts in 2016-17. Key findings were as follows:

- Students experienced marked improvements between baseline and endline marks:
  - In Sambalpur, the average gain in test scores was highest in Odia (9.7% points) and lowest in Science (1.2% points)
  - In Hardoi, the average gain was highest in Hindi (13.3% points) and lowest in Environmental Studies (EVS) (3.03% points)
- While improvements in marks translated mostly into upward

movements across learning levels, there were also students who either moved down or remained at the same learning level

- There was a positive correlation between test score gains and attendance across all three phases:
  - The strongest association is found for the Supported Learning Phase
  - The association is robust for Maths across all phases and weakest for Science
  - The assignment of students into the Foundation Camp and Supported Learning Phase depending on baseline performance was not perfectly implemented. 91% (98%) of the students surveyed attended both phases in Sambalpur (Hardoi)

The evaluation concluded that experimental research is needed to provide causal evidence for the programme effects and shed light on the mechanisms through which SSRP affects student performance.

Having successfully incubated an innovative remedial education programme, the SSRP was scaled

up across Odisha as the 'Utkarsh' programme. In 2019-2020, a randomised controlled trial, was conducted to assess the impact of the programme on student learning. The evaluation was funded by the Kusuma Trust UK and implemented by J-PAL South Asia.<sup>13</sup>

#### Use of private tuition

An indirect impact of the SSRP or other school improvement programmes that might be investigated in the future concerns student use and cost of private tuition. As indicated earlier,<sup>14</sup> the evaluation of the Udbhav programme showed that the highest scoring students received private tuition. The use of private tuition could possibly decline in response to improvements to the quality of secondary schooling.

In Hardoi, the post-intervention household survey indicated that a large majority of students interviewed (26 out of 29) used private tuition for (in priority order) English, Maths and Science, reflecting the shortage of teachers in these subjects. All students accessed private tuition six days a week, paying

around Rs50-300 per subject per month. Students whose families could not meet the cost of tuition all year round reported taking private tuition for three months prior to the Board examinations.

In Sambalpur, fewer students accessed private tuition (16 out of 28) for one or more subjects and this probably reflects the lower teacher vacancy rate in this district. The amounts paid for tuition varied considerably with families paying between Rs200 to Rs500 per month.

#### Achievements

- There was a positive correlation between test score gains and attendance across all three phases of the SSRP
- The evaluation of SSRP provided proof of concept for the potential effectiveness of the programme and provided the basis for a larger scale evaluation using experimental research methods to prove impact
- Kusuma was successful in developing an innovative remedial education programme that seeks to

address a key problem in secondary education in India, and beyond

#### Challenges

- Reasons for scores declining or staying the same requires further investigation
- Student use of private tuition has a significant impact on student attainment regardless of the content of school-level interventions

#### Lessons learned

- A remedial programme is needed at the primary and

secondary level in the short and medium term, until learning levels of Class 9 students demonstrate that a remedial programme is no longer needed

- Government ownership of the SSRP is required to ensure that the programme is integrated into the government school system and implemented effectively
- Future evaluations of remedial education programmes could investigate the impact of the programme on the use and cost of remedial tuition for families



<sup>12</sup> For further information, see page 34

<sup>13</sup> For further information, go to [www.kusumatrust.org/project/jpal-ssrp/](http://www.kusumatrust.org/project/jpal-ssrp/)

<sup>14</sup> For further information, see page 33

## 8. Concluding reflections

The Kusuma Schools Partnership Initiative (KSPI) was an ambitious experiment that aimed to improve the quality of secondary education in Sambalpur district (in Odisha) and Hardoi district (in Uttar Pradesh). Prior to KSPI, there were very few models in place that aimed to improve secondary education in India. Although focused on the two districts of Sambalpur and Hardoi, lessons learned from the KSPI are of relevance to other States in India seeking to improve the education and the life chances of young people. In this document, the achievements and challenges of implementing and evaluating such a programme have been documented so that others may learn from Kusuma's experience. In this concluding section, we highlight some key overarching considerations.

First, improving student attainment in secondary schools relies on the combined efforts of many different stakeholders in district and State education departments, at the school level, in local communities and in specialist external agencies, such as Kusuma. Effective partnership working is therefore critical to achieving progress. Clarity of roles, obligations and

expectations underpins such effective partnerships. That said, there are challenges involved in sustaining partnerships over time. Staff turnover at the district and State level can lead to a loss of knowledge about, or approaches to, local school improvement programmes. Sustaining the integrity of an agreed evaluation design over time can also pose problems as schools show signs of intervention fatigue or frustration at being excluded from interventions for the purposes of research.

Second, Kusuma learned that systemic problems require systemic interventions. The appointment of Kusuma Volunteer Teachers provided the foundation for introducing Kusuma's innovative education programmes, such as the Secondary School Readiness Programme (SSRP), but such interventions are not sustainable over the long term. Indeed, Kusuma's efforts to compensate for teacher vacancies by funding substitute teachers may have had the unintended effect of reducing the number of teacher appointments in Hardoi district. We learned, therefore, that effective school improvement programmes require schools to have a full complement of teachers in post.

Third, while having teachers in post is an essential foundation for learning, it is not, in itself, sufficient for improving student outcomes. Teachers need to be present and engaged in the active use of effective teaching practices in the classroom. Achieving this also requires a systemic approach. Pre-service teacher training programmes are required that support creative classroom pedagogies of proven effectiveness. In-service training programmes could then reinforce, or update, teachers' subject knowledge and teaching expertise. Engaging government teachers in teacher professional development programmes requires buy-in at the school, district and State level, and needs to be brought into mainstream education provision.

Fourth, we also learned that school leadership plays a critical role in obtaining the buy-in of teachers to learning about effective teaching methods and sustaining their use over time. Head Teachers had an important role to play in supporting, encouraging and managing teachers for the overall benefit of students. Each strand of Kusuma's interventions, including improvements to school facilities, training in school planning and governance, and teacher

professional development programmes, relied for its effectiveness on skilled school leadership. Towards the end of the KSPI, Kusuma introduced a Head Teacher professional development programme and this approach to school improvement merits further development and attention by State education departments.

Fifth, Kusuma took an evidence-based approach to programme implementation and development from the outset. Clarity of purpose and clear indicators for measuring progress enabled Kusuma to learn from achievements and challenges encountered along the way, and to allow programmes to evolve in response to evaluation evidence. This evidence base was also critical to establishing the credibility of Kusuma's programmes with State government partners. It also provided the information needed for State governments to take a calculated risk in deciding to scale-up Kusuma's remedial education programme which has the potential to improve secondary education in India, and beyond.

Last, but not least, we learned that the views and experiences of students offer a rich source of insight into what is needed to

improve their school lives and their capacity to build a positive future for themselves. A quality secondary education provides the vehicle for the fulfillment of their aspirations and, collectively, all partners in the education system have a part to play in helping them to succeed.

### Addendum

*Lessons learned from the Kusuma Schools Partnership Initiative are being taken forward by Transform Schools with financial support from the Kusuma Trust UK until 2022. Kusuma is excited that the legacy of its education programmes in Odisha and Uttar Pradesh has grown and, as Transform Schools flourishes, will have a positive influence on secondary education across India in the years to come.*

*For further information on the work of Transform Schools, please see [transformschoools.in](http://transformschoools.in)*

## Appendix: evaluation studies

### 2015-16

Udbhav – Baseline evaluation. Report prepared by EduLever for the Kusuma Trust.

### 2016-17

Udbhav – Evaluation of Udbhav programme (2015-2016), Hardoi. Report prepared by New Concept Information Systems, New Delhi.

### 2016-17

SSRP – Baseline and endline tests for Secondary Schools Readiness Programme (August – Hardoi, October – Sambalpur).

### 2016-17

KSPI Mid-Term Review: A Qualitative Study (Hardoi).

### 2017-18

Improving school governance: Evaluation of the SUGAM programme (March-April 2018).