



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

October 2019

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 Kusuma Schools Partnership Initiative 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 commissioned by the Kusuma Trust UK, secondary data on Board examination results, and a post-intervention school survey conducted by CORD¹ 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 prior to the commencement of the KSPI. 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 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. 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, science or library 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)

	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	No. 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
7	Number of schools that have adequate science facilities kits/resources	1	18	8
8	Number of schools with adequate library facilities	4	22	10

Source: * Kusuma Foundation Performance Monitoring Evaluation Plan, 2018

** CORD post-intervention school survey, 2018.

¹ CORD, an independent research agency based in India, was commissioned by KTUK to undertake a post-intervention 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)

	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, online and other audio-visual 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 usually divide their time between administrative and teaching duties, and tend to be less motivated to provide effective school leadership.

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.

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

Subjects	Sambalpur			
	KSPI schools		Control schools	
	Baseline	Endline	Baseline	Endline
	2012-2013	2017-2018	2012-13	2017-18
Maths	8%	15%	8%	29%
Science	8%	19%	8%	4%
English	12%	19%	8%	20%

Source: Kusuma Foundation Monitoring Reports.

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 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 2017-18	Baseline 2012-13	Endline 2017-18
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 (see Table 5).

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

Subjects	Hardoi			
	KSPI schools (n=25)		Control schools (n=25)	
	Baseline	Endline	Baseline	Endline
	2013-2014	2017-2018	2013-14	2017-18
Maths	62%	78%	46%	68%
Science	64%	65%	25%	30%
English	62%	81%	40%	48%

Notes: 2. Figures for year 2012-13 are unavailable for Hardoi.

Source: Kusuma Foundation Monitoring Reports.

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 6: 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 2017-18	Baseline 2012-13	Endline 2017-18
7	10	14	14

Sources: Kusuma Foundation Monitoring Reports.

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 (KVTs). In 2014-2015, Kusuma recruited, trained and deployed 72 volunteer teachers to KSPI schools for Science, Mathematics, 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, mathematics 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 be born' in Sanskrit)² and the Secondary School Readiness Programme³ (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, mathematics 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 mathematics, 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 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 SSRP 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 stakeholders⁴. 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 schools⁵
- 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 comparison 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 and comparison schools in Hardoi district only.⁶ 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 student learning resources 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

² For more information on the Udbhav programme, go to www.kusumatrust.org

³ For more information on the Secondary School Readiness Programme, go to www.kusumatrust.org

⁴ 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).

⁵ For more detailed information, please go to: www.kusumatrust.org

⁶ Poor weather conditions prevented the completion of the evaluation in Sambalpur district. For further information go to www.kusumatrust.org

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, mathematics, science, social science, environmental science and Hindi/Oriya. 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 FC 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.

Section 7 page 13 discusses the impact of the SSRP on student scores in detail. Here, we will explore achievements and challenges in implementing the two programmes from interim and the end-of-programme evaluation.

Achievements

- 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
- 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 teacher 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
- Teachers need further training and support on how to integrate online and audio-visual 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 (TSUs) and Student Learning Units (SLUs). 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 materials⁷. 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,⁸ 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 up 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 Samblapur 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 (n=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 from school

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 Volunteers faced similar problems and yet reported that the resources helped them to teach more effectively

⁷ See www.kusumatrust.org for a summary of the 2015 baseline evaluation.

⁸ Conducted in Hardoi schools only. See www.kusumatrust.org for a summary of the 2016 follow-up evaluation.

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 (objective 5 – see below). 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 SSRP classes. According to Kusuma Volunteer Teachers, this grassroots activity often sparked parents' interest in the programme and has 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 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 support 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 programme⁹. 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 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

⁹ For further information, go to www.kusumatrust.org

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).

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 SAP	7	1	8
No. 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 SAP	7	1	8
No. of respondents	12	7	19

Source: CORD post-intervention school survey, 2018

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

Challenges

- High teacher vacancy rates posed a barrier to the effective functioning of School Management and Development Committees
- 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 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

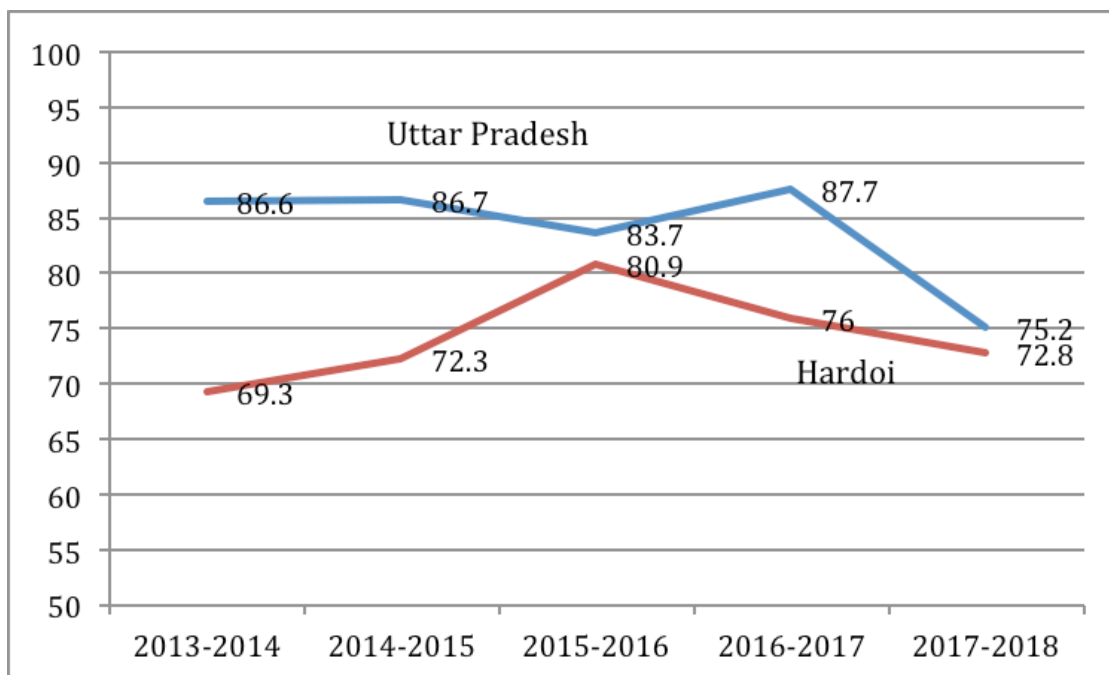
7. Improving student learning levels (objective 6)

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).

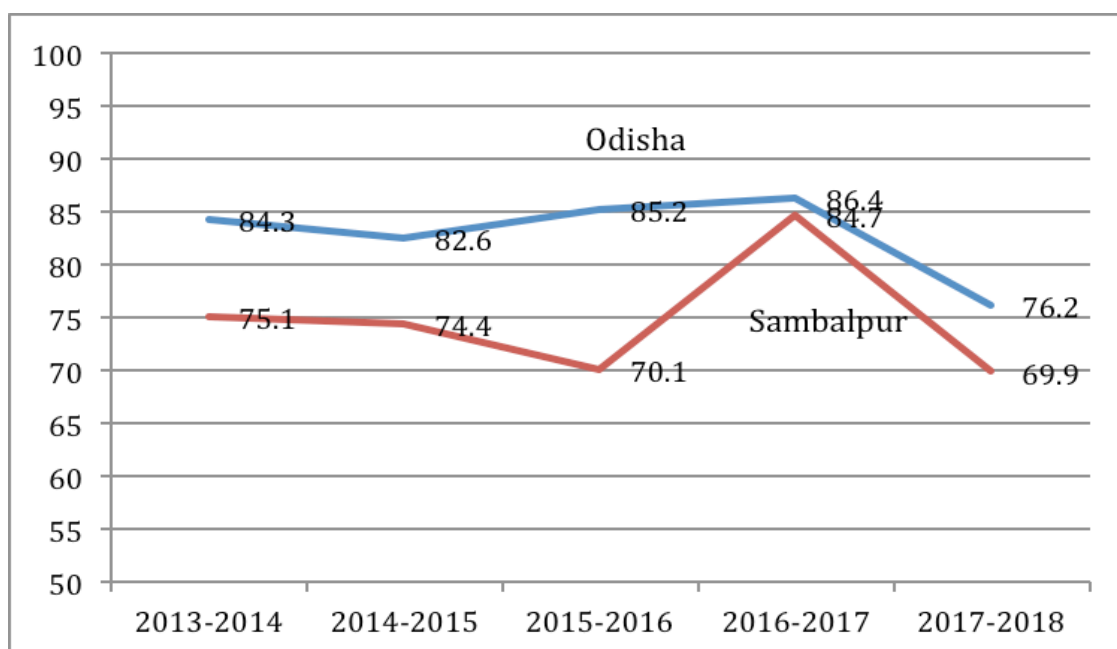
Chart 1: Pass rates in Class 10 Board Examinations: Uttar Pradesh and Hardoi district



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

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 2: Pass percentages 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 following table gives the pass percentages for English, mathematics and science, in control/comparison and intervention schools (Table 9) 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.

Table 9: Pass rates in English, mathematics 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
	Difference	-13.1	-4.8	-0.8	-0.9
Mathematics	Intervention schools	61.6	69.2	70.0	60.2
	Control schools	77.8	70.5	73.3	62.1
	Difference	-16.2	-1.3	-3.3	-1.9
Science	Intervention schools	67.6	69.8	70.0	60.4
	Control schools	84.9	71.9	73.3	62.3
	Difference	-17.3	-2.1	-3.3	-1.9

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

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. For example, Table 9 shows that the difference in pass rates between KSPI and control schools for mathematics 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 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 Programme¹⁰.

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 (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 (SLP)
 - The association is robust for mathematics across all phases and weakest for science
- The assignment of students into the Foundation Camp (FC) and SLP 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 (Utkarsh means to rise or soar). In 2019-2020, a randomised controlled trial, was conducted to assess the impact of the programme on student learning. The evaluation is funded by the Kusuma Trust UK and implemented by J-PAL South Asia.¹¹

Use of private tuition

An indirect impact of the Secondary School Readiness Programme or other school improvement programmes that might be investigated in the future concerns student use and cost of private tuition. As indicated earlier¹², 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 6 days a week, paying around Rs. 150-300 per subject per month. Students whose families could not meet the cost of tuition all round the year reported taking private tuition for 3 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.

¹⁰ For further information, see p7

¹¹ For further information, go to www.kusumatrust.org

¹² See p6 for further information

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

8. Concluding reflections


The Kusuma Schools Partnership Initiative 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 Remedial Programme, 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 need 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 and provided the basis for State governments to take a calculated risk in deciding to scale-up Kusuma's remedial education programme.

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.

Moving Forward

Lessons learned from the Kusuma Schools Partnership Initiative are being taken forward by People for Action (formerly the Kusuma Foundation) with financial support from the Kusuma Trust UK until 2021. Kusuma is excited that the legacy of its education programmes in Odisha and Uttar Pradesh has grown and, as People for Action flourishes, has the potential to have a positive influence on secondary education across India in the years to come.

For further information on the work of People for Action, please see www.transformschools.in

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